



Bridging Islam and Science: An Approach for Human Development

Siti Patonah, Mohamad¹; Durriyyah Sharifah, Hasan Adli²; Asmawati, Muhamad³; Shaikh Mohd. Saifuddeen, Shaikh Mohd. Salleh⁴

123 Universiti Malaya, Kuala Lumpur, Malaysia; ⁴Institute of Islamic Understanding Malaysia, Wilayah Persekutuan Kuala Lumpur, Malaysia.

Corresponding e-mail: sitipatonah@um.edu.my

Article Info

Article History:

Received: October

18th 2023

Revised: November

7th 2023 Accepted:

November 11st 2023

Abstracts

religion Islam a complete that provides is comprehensive guidance to its followers in various aspects of life. Islam encompasses not only a belief system but also a way of life that covers spiritual, moral, social, and legal aspects. Amid the current global crisis, it is crucial for the international community to acknowledge and comprehend the connection between Islam and sustainability. Islamic teachings have considerable relevance to the concept of Sustainable Development, as they provide ethical and moral guidance that can address social, economic, and environmental challenges. The primary objective of the Sustainable Development Goals (SDG) is to promote sustainable development that preserves the well-being of both the Earth and its human population; to address a wide range of global challenges and to ensure that development is conducted in a way that minimizes harm to the planet and its people. Concurrently, human development must be equipped with the right approach; a multifaceted process encompassing the entire lifespan and involving physical, cognitive, emotional, social, cultural, and environmental development. This paper will elucidate the Islamic viewpoint on human development and its relevance with the integration of Islamic principles and science within the educational framework. The integration of Islam and science in education is a crucial undertaking that fosters human development. It cultivates individuals, who possess the knowledge, values, and abilities to lead ethical and purposeful lives, while making constructive impacts on their communities and society in general.

Keyword: Human development; Islam and Science; Sustainability;

INTRODUCTION

Islam is a complete religion that provides comprehensive guidance to its followers in various aspects of life. Islam encompasses not only a system of belief but also a way of life that covers spiritual, moral, social, and legal aspects. Muslims believe that the messenger of Allah, Muhammad (peace be upon him, saw), completed his mission as the final prophet and messenger of Allah. This has been recorded in the Ouran1:

"...Today I have perfected your faith, completed My favour upon you, and chosen Islam as your way..."

Q.S. al-Maidah 5: 3

His role was to convey the message of Islam, including the Quran (the holy book of Islam) and his own practices and sayings, known as the Sunnah, to guide his followers. Whoever follows the guidelines of the Quran and the practices of the Prophet Muhammad (saw) as outlined in the Sunnah can lead to spiritual moral growth, as well as provide guidance for leading a righteous and fulfilling life. These two sources together provide a comprehensive guide for living a righteous and obedient life in accordance with Allah's will, as mentioned by the Prophet Muhammad (saw) in his farewell sermon (Khutbah al-Wada) (Farroog, 2018).

¹ All Quranic translation was extracted from https://guran.com

Yahya related to me from Malik that he heard that the Messenger of Allah, may Allah bless him and grant him peace, said, "I have left two matters with you. As long as you hold to them, you will not go the wrong way. They are the Book of Allah and the Sunnah of His Prophet. 2

This adherence to the Quran and Sunnah is seen as a means of achieving salvation in the Hereafter. Salvation in Islam is a complex concept, and it is based on faith, good deeds, and the mercy of Allah (Quasem, 2023). Even though the interpretations and beliefs regarding salvation and how it is achieved can vary among different Islamic traditions and schools of thought, the Quran and the Sunnah remain central sources of guidance for Muslims seeking to lead a life that aligns with their faith and values (Czerny, 2021).

This paper will review the integration of Islam and science from philosophical, historical, and the application of education system for human development that has been done at the Academy of Islamic Studies, Universiti Malaya, Malaysia. The significant of this paper is to explore the importance of bridging Islam and science, and how it can contribute to the development of a better society and align with the United Nations (UN) objective in achieving Sustainable Development Goals (SDGs).

Science is A Tool to Know Allah

Science is a systematic and methodological approach to understand the natural world through empirical observation, experimentation, and the formulation of testable hypotheses so that the required knowledge can be trusted (Dewan Bahasa dan Pustaka, 2023). Man used their senses to observe, think, and make sense of the world around them. The five primary senses (sight, hearing, touch, taste, and smell) play a crucial role in how individuals perceive, interact with, and understand their environment (Velasco & Ovrist, 2020).

In contrast, some of the metaphysic knowledge (such as ontology, cosmology, and causality) cannot be proven by this empirical observation and our senses (Ribeiro, 2019), especially information that is based on religious belief, which goes beyond the scope of empirical observation and the physical sense. Metaphysical beliefs are typically concerned with questions that pertain to the spiritual, supernatural, and transcendent, which may not be accessible or provable through scientific and empirical methods. For example, the existence

² Muwatta Malik, Book 46: The Decree, Sunnah.com

of God, the afterlife, and the nature of the soul can be known based on sacred texts, teachings, or personal spiritual experiences (Chuks, 2020).

The idea that science is a means to know Allah (swt) and discover the truth often referred to as "al-ayat al-kawniyyah" (signs of the universe) and "al-ayat al-manzurah" (clear or manifest signs). It is a concept that aligns with the Islamic belief that the natural world and the universe are filled with signs and evidence of the Creator (Pamil & Munir, 2020). These signs are seen as a means for believers to recognize and understand Allah's existence, wisdom, and attributes.

In Islam, the Quran emphasizes the concept of "ayat" (signs) to reflect on the natural world and recognize Allah's creation. The universe, itself, is often considered one of the most significant signs of Allah's existence and power. Through scientific inquiry, observation, and reflection, Muslims believe they can gain a deeper understanding of Allah's creation and, by extension, gain a better comprehension of the Creator (Kitota, 2023).

"Indeed, in the creation of the heavens and the earth and the alternation of the day and night there are signs for people of reason"

Q.S. Ali Imran 3: 190

"We will show them Our signs in the universe and within themselves until it becomes clear to them that this Quran is the truth. Is it not enough that your Lord is a Witness over all things?"

Q.S. al-Fussulat 41: 53

Indeed, the Quran repeatedly emphasizes the importance of reflection, observation, and contemplation as a means for human beings to recognize the signs of Allah's creation and to gain a deeper understanding of the natural world and the Creator (Tawil & Akar, 2021). Allah (swt) repeated many times in the Quran for man to think and observe the signs via sighah; (i) Will you not then reflect? (Al-An'am 6:50), (ii) Do they not then reflect (Muhammad 47:24), (iii) Will you not then understand (Al-An'am 6:32), and (iv) Do they not even reflect (Al-Ghashiyah 88: 17). These serve as reminders for believers to engage in critical thinking, particularly in relation to the Quran, which contains the signs (ayat) of Allah's creation and wisdom (Sayed, 2018; Ibrahim, 2020).

Human beings hold a special and elevated status among all Allah's creations due to their intellectual ('agl) and moral faculties (Rohman, Kusuma & Firdausi, 2022). This unique blend of physical, intellectual, and moral attributes, makes them the stewards or vicegerents (khalifah) of the Earth:

"Remember when your Lord said to the angels, "I am going to place a successive human authority on Earth." They asked Allah, "Will You place in it someone who will spread corruption there and shed blood while we glorify Your praises and proclaim Your holiness?" Allah responded, "I know what you do not know".

Q.S. al-Baqarah 2: 30

This verse highlights the role of human beings as stewards of the Earth and suggests that their intellectual and moral faculties enable them to fulfill this role.

Science Complement Islamic Practices

The core of worship is rooted in faith and devotion; demonstrated as the basic norms of Islamic practice, which are the five pillars of Islam, namely, the declaration of faith (syahada), prayer (solat), almsgiving (zakat), fasting (sawm), and pilgrimage (hajj). The need for science in performing these practices plays an essential role in facilitating and enhancing the practice of worship for Muslims.

For example, when Muslims need to perform solat, geographical knowledge is important for determining the direction of the giblah (the Kaaba in Mecca) from any location. Astronomical knowledge is needed to determine the accurate prayer times, which are calculated based on the position of the sun, moon, and Earth (Niri, Wahab, Nawawi & Nayan, 2019). In addition, before solat, Muslim need to do the ablution (wudhu) involving the use of absolute water (Mutlak water). The wudhu must not use Musta'mal water (though pure water but cannot be used "to purify"), Musyammas water and or Mutanajjis water (water that has contacted or mixed with najis or filth, and less than the determined specific volume of 2 kullah). Thus, the ablution activity needs the understanding on water quality, cleanliness, and hygiene based on scientific principles in this practice (Jamil, 2022).

Regarding medical related considerations, Muslims with medical conditions may need to consider the advice of healthcare professionals and apply medical sciences when making decisions about fasting, performing Hajj, or other religious practices. For example, during the fasting in the month of Ramadhan, scientific knowledge about nutrition, human physiology, and health is needed to ensure that fasting is done safely and healthily, especially for pregnant women (Uludag & Goral Turkcu, 2022) or people with diabetes (Almulhem et al., 2020).

While these practices of worship are rooted in faith, science also plays a vital role in facilitating and supporting religious practices. The integration of scientific knowledge into worship enhances the practical aspects of a Muslim's religious life and ensures that religious obligations are performed accurately and responsibly.

Ian Barbour Theory on Religion and Science Interaction

lan Barbour, a prominent American scholar, and physicist made significant contributions to the field of religion and science, particularly in the area of how these two seemingly distinct domains can interact and engage with one another. He proposed a framework that delineates four primary ways in which religion and science can be connected. He called this framework the Four Models of Interaction: (i) the Conflict Model, (ii) the Independence Model, (iii) the Dialogue Model, and (iv) the Integration Model (Fitria & Al-Giffari, 2021). These models help to explain the various ways in which religious and scientific worldviews can intersect and coexist. The four models are conflict, independence, dialogue, and integration.

The first model, the "Conflict Model", suggests that religion and science are inherently in opposition and are perpetually in conflict with one another. According to this perspective, scientific discoveries challenge religious beliefs, and vice versa. However, Barbour argued that this model is overly simplistic and not representative of the entirety of the relationship between religion and science (Azkia et al., 2021).

The "Independence Model", or the second model, represents the distinct domains of science and religion that operate independently of each other. Each has its own sphere of influence and addresses different questions. This view suggests that there is little interaction or overlap between the two realms, but they can coexist without significant conflict. Barbour saw some merit in this model but also recognized that there are instances of interaction and mutual influences between science and religion (Fuller, 2020).

As for the third model, it proposes that religion and science can engage in constructive dialogue, whereby its proponents seek common ground and explore ways to enrich the perspectives of both religion and science. The "Dialogue Model" acknowledges that science and religion can address different aspects of human experience and knowledge and, when in dialogue, can mutually inform and deepen each other. Barbour encouraged this model and believed it could offer a productive path for exploring the relationship between the two domains (Damper, 2022).

The last model is the "Integration Model", which posits that religion and science can be integrated, either by finding ways to incorporate religious insights into scientific understanding or by incorporating scientific discoveries into religious understanding. In this model, the goal is to create a unified worldview that combines elements of both domains. Barbour saw potential in this model, particularly when it led to a more holistic and comprehensive understanding of the universe (Lee, 2022).

Disciplines of Knowledge

In this modern academic and scientific landscapes, there are researchers who use the approach of working on different disciplines of knowledge together; commonly referred to as multidisciplinary research, interdisciplinary research, and transdisciplinary research. These researchers are recognizing the value of integrating knowledge and methodologies from different disciplines to address complex and multifaceted challenges. Even though the benefits of breaking down disciplinary silos and working across fields are often seen as outweighing the challenges, but this interdisciplinary research is likely to continue to play a crucial role in advancing knowledge and addressing real-world problems.

Figure 1 shows how one discipline interacts with another discipline to create a new norm of research, for example, multidisciplinary research, interdisciplinary research, and transdisciplinary research. Each type of research represents different approaches to the interaction between various disciplines. Each type of research has its own unique characteristics and objectives, and they all play important roles in advancing knowledge and addressing complex challenges.

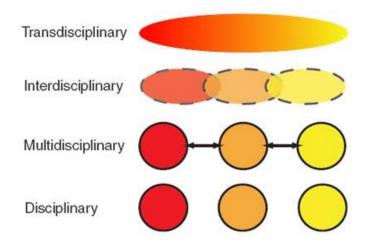


Figure 1: Model of multi-, inter-, and trans-disciplinary research

Source: Shaikh Mohd Saifuddeen

While interdisciplinary research offers many opportunities and advantages, it also comes with several challenges that researchers must address to successfully harmonize knowledge from different disciplines. These challenges include identifying research topics, issues of methodology, funding and recognition, data integration, decision-making, and so on (Ding, Pulford & Bates, 2020). For example, each discipline may have its own set of research methods and techniques. Thus, integrating these methods can be challenging, as they may be incompatible or require modifications so as to work together effectively (Bammer et al., 2020). In overcoming these challenges, this group of researchers must first need to understand the methodologies involved.

Other problems might come because of communication barriers. Researchers from different disciplines may use specialized terminology and concepts that are unfamiliar and seemingly foreign to their interdisciplinary collaborators. Effective communication can be a significant challenge, and miscommunication can lead to misunderstanding or misinterpretation (Wada et al., 2020).

In summary, researchers engaged in interdisciplinary work must be prepared to navigate these challenges and be patient, open-minded, and flexible in their approach. Establishing effective communication channels, defining roles and responsibilities within the team, and securing appropriate funding and institutional support are essential steps in addressing these challenges and achieving successful interdisciplinary research outcomes

Islamic Ethics and Principles in Bridging Islam and Science

Science from the Islamic framework is an important branch of knowledge that has a rich tradition in Islamic history and philosophy. In Islamic tradition, the pursuit of knowledge is highly valued, and this includes scientific knowledge. The relationship between science and Islam is characterized by a combination of respect for empirical inquiry and a strong foundation in ethics and moral principles.

Applications of science from an Islamic perspective are made on the premise of "what should be done", which leads to the prudent application of science and technology by considering the application's implications for humans and nature. On the other hand, the applications of science from a secular

perspective are made on the premise of "what else can one", which leads to unlimited applications of science and technology.

Thus, it is crucial for a Muslim to understand the Islamic rules and apply them in their practices in situations involving conflicts or contradictions (Chowdhury, 2018), especially concerning both human welfare and nature. There are some key points to consider on how to navigate such a complex situation:

Ethical Considerations: Islamic ethics emphasize the importance of making ethical decisions that consider the well-being of all living beings, including humans and nature (Kalemci & Kalemci, 2019). This involves considering the ethical principles of justice, compassion, and responsible stewardship of the Earth (Khalifah).

Balance and Moderation: Islam encourages balance and moderation in all aspects of life, including the use of natural sources, i.e. wasathiyyah. This means that excessive consumption, waste, or harm to the environment is discouraged (Kasdi, 2019), while a moderate approach is encouraged.

"They are those who spend neither wastefully nor stingily, but moderately in between."

Q.S. al-Furgan 25: 67

Conservation and Sustainability: Islamic teachings emphasize the concept of "Hifz al-Baga," which means the preservation and sustainability of resources. This principle encourages the responsible use of resources to ensure availability for future generations. The Arabic term called Al-Hima is a concept that protects natural resources such as land, water, and wildlife from being exploited. It aims to prevent the overuse and degradation of natural resources and to ensure their long-term sustainability and the well-being of communities that depend on these resources (Alviansyah & Haq, 2022)

Respect for All Creation: Islam teaches respect for all of Allah's creation, and this includes nature. The Quran describes all creatures as part of communities, like humans; thus, highlighting the interconnectedness of life. Hence, mistreating, or harming nature is seen as contrary to Islamic values (Barrasso et al., 2020).

Ijma (Consensus) and Qiyas (Analogical Reasoning): Islamic jurisprudence (figh) allows for the use of consensus and analogical reasoning to address new

or complex issues. This flexibility can be employed to find solutions that align with Islamic principles in modern contexts.

Consultation and Ijtihad: Consulting with knowledgeable scholars and engaging in the process of litihad (independent juridical reasoning) can help in resolving complex issues. Scholars can provide guidance on how to apply Islamic rules to contemporary situations (Ullah, Shafi & Ali, 2023).

Individual Responsibility: Every Muslim is individually responsible for their actions. Understanding and applying Islamic rules in ethical dilemmas involving human welfare is a personal responsibility. Every action that a man does will be asked and taken responsibly as Allah affirms in the Quran:

> "Do people think they will be left without purpose" Al-Quran 75: 36

Public Engagement: Engaging with the wider community and society to address environmental and ethical challenges is important. This includes advocacy for responsible environmental practices and supporting initiatives that promote sustainability.

Prayer (Solat), Supplication (Doa) and Reflection: Muslims are encouraged to seek guidance through prayer, supplication and reflection. Making informed and ethical decisions often involves personal contemplation and seeking Allah's guidance.

Human Development to Reach Sustainable Development Goals (SDGs)

Sustainability is a concept that emphasizes responsibility and a balanced approach to various aspects of life and the environment, with the goal of ensuring that the needs of the present are met without compromising the ability of future generations to meet their own needs. Thus, its primary objective is to ensure that development is conducted in a way that minimizes harm to both the planet and its people The SDGs established by the United Nations in 2015, represent a global agenda to address various interconnected challenges, including poverty, inequality, environmental degradation, peace, and justice, while preserving the well-being of both the Earth and its human population (Fonseca, Domingues & Dima, 2020).

The concept of sustainability is applied in various contexts, including environmental sustainability, sustainable development, sustainable energy, sustainable consumption, sustainable agriculture, sustainable business, sustainable transportation, and sustainable building. In general, SDGs cover

three key dimensions and/or perspectives: (i) environmental, (ii) social, and (iii) economic sustainability.

Concomitantly, human development must be equipped with the right understanding. It encompasses the entire lifespan and is a multifaceted process that involves physical, cognitive, emotional, social, cultural, and environmental development. Thus, human development and the achievement of SDGs are closely intertwined.

Indicators that often measure human development (e.g., life expectancy, education, and income) are essential component and normally considered as a driving force behind the SDGs. In the history of the Islamic Golden Age (Prasetiawan, 2019), which spanned roughly from the 8th to the 13th century, Muslim scholars made significant contributions to human development in various fields of knowledge. This era was marked by a flourishing of intellectual, scientific, and cultural achievements in the Islamic world. Muslim scholars not only preserved and translated classical Greek, Roman, and Persian texts but also made groundbreaking advancements in diverse disciplines (Afridi, 2013).

During the Islamic Golden Age, science and Islamic scholarship were seen as complementary rather than conflicting. The quest for knowledge, including scientific knowledge, was viewed to better understand and appreciate the sign of God's creation. This approach fostered a culture of inquiry, learning, and intellectual advancement that had a profound and lasting impact on both the Islamic and Western intellectual traditions. The interaction between Islam and science during this period represents a harmonious and productive relationship between faith and reason.

Muslim scholars like Ibn Sina (Wahidi & Sopari, 2018), Al-Farabi, Ibn Al-Nafis, Al-Khawarizmi, and many more not only influenced the Islamic world but also had a profound impact on the broader development of human development. The legacy of this period continues to be celebrated for its role in advancing human development and knowledge.

Islamic perspectives on human development emphasize the achievement of well-being (falah), which literally means success in this world (dunya) and the hereafter (akhirat). This is grounded by the basic Islamic principles, including (i) the belief in the Oneness of God (Tawheed), (ii) the principle of creation (fitra) in a natural state of purity and submitting oneself to the Creator, (iii) the custodianship of the world (khalifa), and (iv) mizan (balance, proportion, and justice) (Le Duc, 2023), which promotes the idea of conducting good deeds and actions to fulfill obligations to Allah (swt) and fellow humans, and also lead a

balanced life while maintaining harmony during interactions with others (Gheitani et al., 2019).

Human development in Islam also considers Islamic ethics and law as encapsulated in the concept of the Objectives of Islamic Law (Magasid al-Shariah) as essential needs in achieving the SDGs. Magasid al-Shariah can serve as a guiding framework for Muslims and Islamic institutions in their pursuit of sustainable development. The Islamic ethics and Magasid al-Shariah represent the concept of (i) Justice and Equity ('Adl and Qist), (ii) Preservation of Life (Hifz al-Nafs), (iii) Sustainability and Stewardship (Khalifah), (iv) Human Dignity (Karamah), (v) Education and Knowledge ('Ilm), (vi) Ethical and Responsible in Dealings (Ehsan and 'Adl), (vii) Social Welfare and Compassion (Ehsan and Rahmah), and (ix) Partnerships and Collaboration (Tawheed and Ta'awun) (Rama & Yusuf, 2019), which relate to the SDGs.

For instance, the preservation of life (Hifz al-Nafs) prioritizes the preservation of human life (Ramadhani, Munadhiroh & Hamidy, 2022). This aligns with the SDG 3 (Good Health and Well-being) which aims to ensure healthy lives and promote well-being for all by providing access to healthcare, clean water, and sanitation. The concept of stewardship (Khalifah) in Islam emphasizes being responsible for the world and the earth that aligns with SDG 12 (Responsible Consumption and Production) and SDG 13 (Cilmate Action), which promote sustainable consumption and efforts to combat climate changes. This act can also be correlated to the Islamic value on trust or responsibility or accountability (Amanah), where human will be held accountable for how they fulfill these responsibilities in this life and in the Hereafter:

"Every soul will be detained for what it has done" Q.S. al-Muddaththir 74: 39

Islam values human dignity (Karamah) and emphasizes the importance of upholding the dignity of every individual (Malik, 2023). This concept is deeply rooted in Islamic ethics and is reflected in various aspects of Islamic teachings and principles. Human dignity is in line with SDG 1 (No Poverty) and SDG 2 (Zero Hunger) as eradicating poverty and hunger is central to upholding human dignity and well-being. In summary, Islam strongly emphasizes the dignity of every individual and provides ethical and moral guidelines that promote respect, equality, justice, and compassion.

Model of Integration of Islam and Science in the Education System

Integrating Islam and science in the education system, particularly in Malaysia, is an ongoing and significant initiative aimed at harmonizing religious teachings with modern scientific knowledge. Islamic studies are compulsory subjects for Muslim students in Malaysian schools to ensure they receive Islamic theology, ethics, and values alongside their secular education. The non-Muslim students are made compulsory to attend classes for moral education.

When the Muslim students move on to the higher education school level, like secondary school or pre-university level, they have the option to choose programmes and areas of study. This is an important phase in a student's academic journey, as it allows them to focus on their interests and career goals. For example, Maktab Rendah Sains MARA (MRSM), one of the education systems in Malaysia offers six programmes under their education system such as IGSCE, IB MYP, Technical, Bitara, Premier, and Ulul Abab. The Ulul Albab programme particularly integrates a STEM-based national curriculum with an Islamic syllabus including Tahfiz Al-Quran. There are also other Islamic school programmes (known as sekolah agama) that receive a comprehensive Islamic education, in addition to their regular academic curriculum that prepares them to engage with the modern world and contribute to society (Siren et al., 2018). While integrating Islam and science in education, it is also emphasized to the student the importance of maintaining a balance and respecting the social surrounding with diverse religious and cultural backgrounds of the population.

Majority of universities in Malaysia conventionally segregate disciplines or programmes. However, a few higher education providers like International Islamic University Malaysia (IIUM) and Universiti Sains Islam Malaysia (USIM) have been established to include Islamic aspects in all the programmes being offered. Universiti Malaya, one of the premier universities in Malaysia leads the pack by awarding Bachelor of Islamic Studies and Science as an undergraduate degree.

The programme with the interdisciplinary approach is specifically offered by the Academy of Islamic Studies (Akademi Pengajian Islam Universiti Malaya, APIUM). The Applied Science with Islamic Studies (Sains Gunaan dengan Pengajian Islam, SGPI) includes the Foundation in Islamic Studies and Science programme, a feeder for the SGPI. This interdisciplinary programme involves the participation of a few faculties. In addition to APIUM, itself, the Centre for Foundation Studies in Science (Pusat Asasi Sains Universiti Malaya, PASUM) assists in the teachings of science related foundation courses, especially the practical sessions. The follow-up to this level involves the Faculty of Science with

its specific departments (e.g., the Institute of Biological Sciences, and Physics Department). and the Faculty of Computer Science and Information Technology. For postgraduate studies, the SGPI programme will share the supervision with other departments; enabling collaborations of lecturers with diverse backgrounds affiliated to corresponding faculties.

Since its establishment in 2002, SGPI has undergone several curricular changes. In fulfilling the latest format programme requirements and its duration by the Ministry of Education Malaysia, SGPI had to scale down its original of almost equivalent emphasis of Islamic studies and basic science courses. Currently, basic courses of Islamic studies made up 17 credit hours, in addition to the basic science courses of 34 credit hours, to prepare the competency in Islamic studies and science at foundation level. Another 6 credit hours are allocated for the university courses that contribute to communication and comprehension skills in the English language.

In the academic session of 2023, the programme accepted the 22nd cohort of foundation students; easily demonstrating the continued demand for this integration programme of disciplines. SGPI has produced nearly 800 graduates in its nearly 20-year history. Based on the report of "Employability and Advancement of Graduates of the Applied Sciences Programme with Islamic Studies programme" by S.M. Saifuddeen (2022), the graduates of SGPI are affiliated with various employment sectors, working in numerous fields, as referred to in Table 1:

INDUSTRY	JOB
Education	Science teachers, asatizah, lecturers
Research	Science officer, religious officer, halal
	laboratory analyst,
Uniformed	Kor Agama Angkatan Tentera, police officer,
officer	immigration officer
Information	Software engineering, technician
technology	
Oil and gas	Engineer
Medical	Laboratory analyst
Food and	Executive halal, halal standard developer,
beverage	halal industry consultant
Environmental	Officer
management	

Table 1: Summary of wide-ranging job of scopes of SGPI alumni P-ISSN: XXXX-XXXX | E-ISSN: XXXX-XXXX

The data show that the integration of Islam and science in the education system has contributed to human development, which is able to conquer many aspects of life. Thus, the integration of Islam and science serves as a bridge between religious values and scientific understanding, showing that the two can coexist and complement each other, and open up more opportunities for the students to explore.

CONCLUSION

It is clear that the integration of Islam and science in the education system, as seen in various countries such as Malaysia, has the potential to contribute significantly to human development. This integration allows individuals to gain a well-rounded education that encompasses both religious and contemporary knowledge. It fosters ethical values, critical thinking, and a balanced approach to life. As a result, it can have a positive impact on various aspects of life including personal development, community well-being, and contributions to society.

In conclusion, the integration of Islam and science in education is an important endeavor. It contributes to human development by nurturing wellrounded individuals, who are equipped with the knowledge, values, and skills to lead ethical and meaningful lives while making positive contributions to their communities and society as a whole. The world certainly welcomes similar education system, which assists in collective effort of SDGs.

Acknowledgment

The authors would like to thank all the lecturers from the Applied Science with Islamic Studies Programme, who provided data or access to the resources of students of this programme. Special thanks to the Head of Programme (HoD), Dr. Abdul Halim Ibrahim and former HoD, Dr. Madiha Baharuddin, former administrative assistant Madam Rohani Mohamed Arifin and alumni who generously provided their time and insights to fill up the survey.

REFERENCES

Books:

- Fuller, M. (2020). Science and Rligion in A Global Context. Routledge International Handbook of Religion in Global Society, 478-487.
- Jamil, S. (2022). Halal Wastewater Recycling: Environmental solution or religious complication?. In Religious Environmental Activism (pp. Routledge
- Quasem, M. A. (2023). Salvation of the soul and Islamic devotion. London: Taylor & Francis
- Ribeiro, A. (2019). Archaeology and the new metaphysical dogmas: comments on ontologies and reality. In Forum Kritische Archäologie (Vol. 8, pp. 25-38).
- Relief, I. 2014. An Islamic Perspective on Human Development. United Kingdom: Islamic Relief Worldwide.
- Velasco, C., & Obrist, M. (2020). Multisensory experiences: Where the senses meet technology. Oxford University Press

Journals:

- Afridi, M. A. (2013). Contribution of Muslim Scientists To The World: An Overview Of Some Selected Fields. Revelation and Science, 3(01).
- Almulhem, M., Susarla, R., Alabdulaali, L., Khunti, K., Karamat, M. A., Rasiah, T., ... & Nirantharakumar, K. (2020). The effect of Ramadan fasting on cardiovascular events and risk factors in patients with type 2 diabetes: a systematic review. Diabetes research and clinical practice, 159, 107918.
- Alviansyah, L., & Haq, M. A. I. (2022). Pembukaan Hutan Sebagai Hunian Perspektif Hukum Islam. Media Keadilan: Jurnal Ilmu Hukum, 13(1), 245-259.
- Azkia Hashimi, A. M., Hashimi, S. N. H., Ibrahim, M., & Rahman, K. (2021). Understanding the Consensus and Conflicting Aspects in Religion and Science: A Review. Multicultural Education, 7(9).
- Bammer, G., O'Rourke, M., O'Connell, D., Neuhauser, L., Midgley, G., Klein, J. T., ... & Richardson, G. P. (2020). Expertise in research integration and implementation for tackling complex problems: when is it needed, where can it be found and how can it be strengthened? Palgrave Communications, 6(1), 1-16
- Barrasso, R., Bonerba, E., Ceci, E., Roma, R., Alò, A., Mottola, A., ... & Bozzo, G. animal welfare (2020).Evaluation of the during religious slaughtering. Italian Journal of Food Safety, 9(1).

- Chowdhury, M. (2018). Emphasizing morals, values, ethics, and character education in science education and science teaching. MOJES: Malaysian Online Journal of Educational Sciences, 4(2), 1-16.
- Chuks, M. F. (2020). The Metaphysical Understanding Of Road Junction As A Symbolic Sacred Space In Traditional Religion. American Journal of Multidisciplinary Research & Development (AJMRD), 2(2), 34-45.
- Czerny, M. (2021). Religion as a Source of Islamic Ethics and its Impact on the Islamic Accounting System. Acta Universitatis Lodziensis. Oeconomica, 4(355), 28-46.
- Damper, R. I. (2022). Science and Religion in Conflict, Part 2: Barbour's Four Models Revisited. Foundations of Science, 1-38.
- Ding, Y., Pulford, J., & Bates, I. (2020). Practical actions for fostering crossdisciplinary global health research: lessons from a narrative literature review. BMJ Global Health, 5(4), e002293.
- Faroog, M. O. (2018). The farewell sermon of prophet Muhammad: An analytical review. Islam and Civilisational Renewal, 9(3), 322-342.
- Fitria, V., & Al Giffari, H. A. (2021). The language of science and religion: An approach to understand the encounter between science and religion according to Ian G. Barbour. Humanika, Kajian Ilmiah Mata Kuliah Umum, 21(1), 55-68.
- Fitria, V., & Al Giffari, H. A. (2021). The language of science and religion: An approach to understand the encounter between science and religion according to Ian G. Barbour. Humanika, Kajian Ilmiah Mata Kuliah Umum, 21(1), 55-68.
- Fonseca, L. M., Domingues, J. P., & Dima, A. M. (2020). Mapping the sustainable development goals relationships. Sustainability, 12(8), 3359.
- Gheitani, A., Imani, S., Seyyedamiri, N., & Foroudi, P. (2019). Mediating effect of intrinsic motivation on the relationship between Islamic work ethic, job and satisfaction, organizational commitment in banking sector. International Journal of Islamic and Middle Eastern Finance and Management, 12(1), 76-95.
- Ibrahim, M. A. (2020). Earth's Formation from The Quranic Perspectives Based on Surah Al-Ra'd Verse 3. International E-Journal of Advances in Social Sciences, 5(15), 1321-1326
- Kalemci, R. A., & Kalemci Tuzun, I. (2019). Understanding protestant and Islamic work ethic studies: A content analysis of articles. Journal of Business Ethics, 158, 999-1008.

- Kasdi, A. (2019). Wasathiyyah Islam as the road to moderatism in Indonesia. Al-Albab, 8(2), 179-192.
- Kitota, A. M. (2023). The Role of Al-Kawniyyat Verses in The Glorious Qur'an On Contemplation and Scientific Discoveries: The Neglected Treasures. Journal of Quranic Sciences and Research, 4(1), 10-15.
- Le Duc, A. (2023). Responsibility as a Primary Environmental Virtue in Islam. Asian Journal of Philosophy and Religion, 2, 187-206.
- Lee, S. (2022). Religion and Science in Context of Islam and Korean Christianity. Theology and Science, 20(2), 235-246.
- Malik, B. A. (2023). Dignity Embodies Duty": Islamic Perspective on Combating "Hate Speech. Muslim World Journal of Human Rights, 20(1), 19-45.
- Muis, A. M. R. A., Alias, M. S., Kamaruding, M., & Mokthar, M. Z. (2018). Islamic perspective on human development management: A philosophical approach. International Journal of Academic Research in Business and Social Sciences, 8(4), 543-552.
- Niri, M. A., Wahab, R. A., Nawawi, M. S. A. M., & Nayan, A. R. (2019). Perspektif Integrasi Ilmu Terhadap Isu Menentukan Awal Waktu Solat Subuh: The Knowledge Integration Perspective on the Issue of Determining the Time for the Beginning of Fajr Prayer. Jurnal Figh, 16(2), 253-288.
- Pamil, J., & Munir, A. A. (2020). Ayat-ayat Kauniyah dan Prinsip-Prinsip Pengkajiannya: Studi Deskriptif Analisis dengan Pendekatan Tafsir Tematik. Journal of Hupo_Linea, 1(1), 12-27
- Prasetiawan, A. Y. (2019). Perkembangan Golden Age Dalam Perspektif Pendidikan Islam. TERAMPIL: Jurnal Pendidikan Dan Pembelajaran Dasar, 6(1), 100-114.
- Rama, A., & Yusuf, B. (2019). Construction of Islamic human development index. Journal of King Abdulaziz University: Islamic Economics, 32(1).
- Ramadhani, M. R. T., Munadhiroh, Z., & Al-Hamidy, A. D. (2022). Urgensi Vaksinasi Covid-19 Sebagai Wujud Implementasi Hifz Al-Nafs (Studi Kasus Pesantren Modern Al-Amanah Junwangi Krian Sidoarjo). Jurnal Penelitian, 15(2), 249-278.
- Rohman, A., Kusuma, A. R., & Firdausi, M. A. (2022). The Essence of Aql as Kamāl Al-Awwal in the view of Ibnu Sīnā and its Relation to Education. Jurnal Dialogia, 20(1), 176-205
- Sayed, I. S. (2018). Allah's Wondrous Creatures, the Holy Qur'an and Technological Inventions: Ultrasound Imaging, IIUM Medical Journal Malaysia, 17(1).

- Siren, N. R. H., Azmi, I. A. G., Jalil, S. J. B. A., & Ab Majid, A. (2018). Kepelbagaian Pengurusan Sekolah Agama Rakyat Di Malaysia (Diversity of Community Religious School Management in Malaysia). Journal of Al-Tamaddun, 13(1), 45-56.
- Tawil, S. F. M., & Akar, C. (2021). Exploring The Repository Of Religious Texts to Explore The Universe: Risale-i Nur Approaches. The Journal of Risale-i Nur Studies, 4(1), 28-39.
- Ullah, M. S., Shafi, H. M. K., & Ali, M. (2023). "مين قرآن وسنت كى روشنى " The importance of Collective Ijtihad in the Light of the Quran and Sunnah. Journal of Quranic and Social Studies, 3(1), 39-49.
- Uludağ, E., & Göral Türkcü, S. (2022). Ramadan fasting as a religious obligation: A qualitative study on opinions and experiences of Muslim pregnant women about fasting in Turkey. Journal of religion and health, 61(4), 2960-2974.
- Wada, M., Grigorovich, A., Fang, M. L., Sixsmith, J., & Kontos, P. (2020). An exploration of experiences of transdisciplinary research in aging and technology. In Forum: Qualitative Social Research (Vol. 21, No. 1, p. 12). Institut für Qualitative Forschung.
- Wahidi, W., & Sopari, O. (2018). Konsep Urin Menurut Ibnu Sina: Kajian atas Kitab al-Qanuun fith-Thibb. Jurnal Pendidikan Islam, 4(2), 339-372.

Reports:

SM Saifuddeen, SM Salleh. 2018. "Kebolehpasaran dan Kemenjadian Graduan Program Sains Gunaan dengan Pengajian Islam."

Website:

- Applied Science with Islamic Studies https://apium.um.edu.my/applied-science-with-islamic-studies.html
- Dewan Bahasa dan Pustaka. 2023. Sains. https://prpm.dbp.gov.my/cari1?keyword=sains
- Maktab Rendah Sains Mara, https://www.mara.gov.my/en/index/education/mjsc/mrsm-education-system-program/?lang=en