

## ECONOMICS OF ENTREPRENEURSHIP ACTIVITIES OF MUSLIM YOUTH CORPS IN KANO STATE, NIGERIA

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### ABSTRACT

*The majority of Nigerians live on less than \$1.90 per day, which clearly reflects Nigeria's high level of poverty. Sadly, the younger generation is being severely affected by this adverse situation. With the population of youth being approximately sixty-eight million, the country could reduce the level of poverty by further promoting youth engagement in entrepreneurship. The promotion of entrepreneurship could make a positive impact and encourage economic growth and development. This white paper is an attempt to investigate the economics of entrepreneurial activities of Muslim youth corps members in Kano state. Its focuses on -Identify various entrepreneurial activities by the Youth Corps members, Examine the factors determining their participation in entrepreneurship activities, and Suggest solutions to identified constraints of entrepreneurial activities. A multistage sampling technique was used to select sixty respondents among corps members and primary data was collected with structured questionnaires. The data was analyzed using descriptive and inferential statistics. The results revealed that more than 80% of the respondents were between 20 and 30 years of age. The majority of the respondents were male and 90% were non-native, while 40% engaged in entrepreneurship. The inferential statistics showed that age, level of parents' education, stipends received and membership of an association, determined participation in entrepreneurial activity. The study therefore recommends raising awareness on the importance of skill acquisition and implementation for income generation among the youth, as well as enactment and implementation of appropriate governmental policies to boost entrepreneurship of economic growth.*

**KEYWORDS: Poverty, Entrepreneurship, Youths, Economic growth.**

## 1. INTRODUCTION

Africa is blessed with an abundance of mineral resources, a young and skilled workforce and biodiversity and is the world's second largest and second most populous continent. These factors are expected to make its economies flourish and as such, raise the standard of living of its people. Yet many people in Africa are surrounded by poverty so much so that the term 'poverty' is often associated with Africa and African countries. It was such a norm that Africa is only perceived as having poverty, war, corruption and disease, that an eleven-year-old was once asked by her peers, "Did you go to school in Africa?" (Juvane, 2014).

Poverty is a state or condition in which a person or community lacks the financial resources and essentials to enjoy a minimum standard of life and well-being that is considered acceptable in a society (Poverty, 2017). It is worth mentioning that poverty does exist in Africa. For example, the majority of Nigerians live below the poverty line (Dauda, 2016; Khan & Cheri, 2016) and Nigeria is the most populous country in Africa (Mwaniki, 2018). Not only does poverty exist in Africa, but it is also increasing.

In a report by some campaign groups (2017), the authors indicated that the number of poor people in Africa is under reported and rising. Based on the report, the number of extremely poor people in Africa has increased to three hundred and eighty-eight million (388,000,000) compared to two hundred and eighty four (284,000,000) million in 1990. (*Honest Accounts 2017: How the world profits from Africa's wealth, 2017*)

There is no universally accepted definition of the term 'entrepreneurship'. Many scholars define entrepreneurship differently. For example, entrepreneurship has been described by Bade and Parkin (2013) as one of the factors of production and describes it as human resource that manages the land, labor and capital to produce goods and services. Robert and Albert (1989) defined an entrepreneur as someone who specializes in taking responsibility for and making judgmental decisions that affect the location, form, and the use of goods, resources, or institutions (Hebert & Link, 1989).

Wennekers and Thurik (1999) comprehensively define entrepreneurship in an attempt to link it with economic growth as "the manifest ability and willingness of individuals, on their own, in teams within and outside existing organizations, to perceive and create new economic opportunities (new products, new production methods, new organizational schemes and new product-market combinations) and to introduce their ideas in the market, in the face of uncertainty and other obstacles, by making decisions on location, form and the use of resources and institutions." (Wennekers & Thurik, 1999)

On the other hand, Montanye (2006) argued that the theory of entrepreneurship is one of the weakest links in modern economics (Montanye, 2006). He further stated that although the entrepreneur is nowadays viewed as a 'mildly heroic' figure, an entrepreneur had been reviled from classical antiquity. However, as Wennekers and Thurik (1999) argued, many economists and politicians now have an intuition that there is a positive impact of entrepreneurship on the growth of GDP and employment.

Wennekers and Thurik (1999) and Hebert and Link (1989) list some roles that an entrepreneur plays:

- The person who assumes the risk associated with uncertainty.
- The supplier of financial capital.

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- An innovator.
  - A decision-maker.
  - An industrial leader.
  - A manager or a superintendent.
  - An organizer and coordinator of economic resources.
  - The owner of an enterprise.
  - An employer of factors of production.
  - A contractor.
  - An arbitrageur.
  - An allocator of resources among alternative uses.
  - The person who realizes a start-up of a new business.

For this paper, entrepreneurship is considered as a human resource that manages the land, labor and capital to produce goods and services. Kevin (2013) believed entrepreneurship can be taught and learned as opposed to those that believed entrepreneurs are born. Consequently, Nigerians could explore entrepreneurship as a means of economic development.

A lot of literature exists on the relationship between the population and economic development. Although some theories suggest a negative relation between population growth and economic development, there are still some that argue in the positive.

A growing population will mean a young population and hence a huge labor pool and ‘a huge labor pool also means opportunities for rapid economic growth’ (Adekoya, 2013).

To help change the notion that “Africa is poor”, researchers believe that the promotion of active engagement in entrepreneurship by the youth will have the potential to improve the image of Africa on the world stage, and to upgrade the actual standard of living of its people. Consequently, the paper presents the findings of investigations of the economics of entrepreneurial activities engaged in by the Muslim youth corps members in Kano state. The paper, therefore, aims to:-

- Investigate corps members’ participation in entrepreneurial activity.
- Identify the entrepreneurial activities engaged in by the corps members in the study area.
- Examine the factors determining their participation in entrepreneurship activities.
- Highlight some of the constraints faced by entrepreneurs in the study area.
- Suggest solutions to the identified constraints of entrepreneurial activities.

## **2. REVIEW OF LITERATURE**

The survey research design was adopted for this work. This is because a survey research design allows data to be obtained from a sample of the population for study and analysis purposes. Subsequently, the findings from the representative sample can be generalized through inference to

the general population. Questionnaires were used as a means of collecting data. Some corps members were served questionnaires. The number served and those returned were recorded. The response from the survey was codified for statistical analysis, then analyzed based on its contents. Stratified random sampling technique was also used. Corps members were stratified into those that are involved in entrepreneurial activities and those who are not.

In total, sixty respondents among members of the National Youth Service Scheme (NYSC) Muslim Corpsers' Association of Nigeria (MCAN) were randomly selected. Twenty-four (24) of the respondents engage in entrepreneurship activity, while thirty-six (36) of them do not, representing 40% and 60% respectively.

Corps members were selected for this work because only graduates are called upon to serve. This ensured that all the participants were knowledgeable with an awareness of what would likely benefit them. Also, the NYSC is a program that involves the youth. NYSC is "a mandatory one-year national service for all universities and polytechnic graduates that are thirty (30) years of age or less and not serving in the military" (About the Scheme, 2017).

This study was conducted in Kano State which has approximately 9.4 million people as per its 2006 national census. Ibrahim (2014) estimated that the Kano population as of 2013 was 29,050,081. The high population of the state provides a large market for almost any commercial activity. Kano is the most populous state in Nigeria. More than 95% of the people in Kano are Muslims, and more than 99% of its indigenous people are Muslims. Hence the selection of the Muslim Corps for the representation of the population.

### **3. RESEARCH METHODOLOGY**

This section presents the data extracted from the field work and the analysis of the information gathered. A total of sixty questionnaires were completed by Muslim youth corps members who were serving the Kano metropolitan area during the 2016 – 2017 service year. Descriptive statistics was used to describe the respondents' involvement in entrepreneurial activity. Likewise, inferential statistics was used to examine the factors determining participation of respondents in entrepreneurial activities in the study area, and then enumeration of some constraints to entrepreneurial activities in the study area. The paper concludes with some recommendations for governments, researchers and stakeholders.

#### **3.1 Participation of Respondents in Entrepreneurial Activity**

The research found that only 40.0% of the respondents were engaged in entrepreneurial activity, while 60.0% do not, as indicated in Table 1. This means that there are more young people that could add value to their community by engaging in productive activities.

Since the respondents were selected highly educated persons, and less than half of them do engage in entrepreneurship, it implies that the number of people that engage in entrepreneurship among the rest of the youths that are less educated is expected to be much lower. Considering that the population percentage of young people in Nigeria is high (60%), it means the future is bright with the right efforts by government and individuals.

#### **3.2 Entrepreneurial Activities Engaged-in by the Respondents**

The entrepreneurial activity in which the corps members participated include financial services, food services, personal services (inclusive of laundry services, personal, hair styling), repair

services, rental services, farming, tailoring, trading, and Information Technology services. It was discovered, as shown in Table 2, that 7.1% of the total entrepreneurial activity engaged by the Muslim corps members in the study area was financial services, while 25.0% of the activity was in food services.

Lodging, transport, and tourism and recreational services were not among the entrepreneurial activity engaged by corps members in the study area. Personal services (which includes laundry, personal tutor, hair styling, etc.) constituted 14.3% of all the entrepreneurial activity engaged by the respondents. Repair services and rental services constituted 10.7% each, while other activity constituted 32.1% of all the entrepreneurial activity. The 'other activity' categories include farming, tailoring, trading, and Information Technology. Apart from the activity mentioned, there are many others that could add value to people in order to make life easier.

### 3.3 Factors That Determine Corps Members Participation in Entrepreneurial Activity

Table 3 indicates that the age of the respondents, educational level of parents, monthly stipends from home and being a member of an association are the determinants of participation in entrepreneurial activity in the study area. Age of the respondents, educational level of parents and being a member of an association positively influenced corps members' participation in entrepreneurial activities, while monthly stipends from home negatively affected it.

At 10% level of significance, the probability that corps members will participate in entrepreneurial activity in the study area increases as the age of the respondents and their parents' educational level increases. Since association with people of knowledge advanced one's knowledge and awareness, it will be expected that the respondents that come from the elite homes will be more likely to understand their societies and benefit from entrepreneurial involvement in the society. Also, as age increases, peoples' needs expand, especially in the poverty-stricken communities. For example, a wage earner after 10 years of receiving the same amount of income cannot be able to cater for his needs with that income in the tenth year the same way as he had done in the first or second year of the job. Hence, older respondents are more likely to be involved in entrepreneurship due to their understanding and needs.

Likewise, being a member of an association at 1% level of significance increases the likelihood of participation in entrepreneurial activity by the corps members. This is because there exists a direct relationship between being a member of an association and participation in entrepreneurial activity.

Associating with people, especially people with experience, tends to motivate and influence individuals to take more risk in achieving their goals. Interaction with people of experience and knowledge influences people. Entrepreneurs learn, vet and improve their ideas by the assistance acquired through a network of colleagues, seniors and sometimes even people that are on lower level.

To succeed in reaching a desired social level, entrepreneurs need to "establish a diverse network of individuals who think big and understand what it takes to arrive at that level". As Reid Hoffman, founder of LinkedIn, told a group of entrepreneurs in Cambridge, "Talk to as many people as you can. What you want are the people who will tell you what is wrong with your idea. They are the ones you can learn from." (Johnson, 2013)

Conversely, at 5% level of significance, the likelihood that corps members will participate in entrepreneurial activity decreases as their monthly stipends from home increases. This does not follow the fortiori. It may be because many of these graduates lack the required entrepreneurial.

skills needed for such activities, particularly those from elite homes, and the fact that their needs are met, which makes them afraid of losing the comfort they enjoyed when they dive into entrepreneurial world.

A lack of entrepreneurial understanding and adhering what one is accustomed to prevents many from starting a new business. This follows the logic presented by Bade and Parkin (2013) presented in comparing US and Peruvian citizens that there were more entrepreneurs in Peru than in the United States.

### **3.4 Some Identified Constraints to Entrepreneurship in the study area**

Some of the major issues towards engaging in entrepreneurship activity mentioned by many respondents were financial constraints (43.1%), high transportation cost (29.4 %), communication problem (15.7 %) and absence of motivation/enabling environment (11.8 %) (See Table 4).

Other identified constraints were multiple taxation from governmental institutions, poor standards of living of the people, poor supply of raw materials and basic services, lack of governmental policies that would encourage entrepreneurship, many debtors, inefficiency of governmental supervisory agencies, absence of central database where information will be readily available for researchers or entrepreneurs and absence of support of entrepreneurs by the government and community.

## **4. RESULTS & DISCUSSION**

The purpose of this study was to examine the economics of entrepreneurial activity of Muslim Youth Corps in Kano State, Nigeria with a view to promoting entrepreneurship among the youth for sustainable economic development and reduction of the poverty level in the populace. The research was based on the concept that economic development leads to the reduction of poverty in society, and that entrepreneurship is among the factors that drive the economy towards development and growth. It was also on the belief that the young people in every community have a great role to play in the well-being of that community.

The research found that only 40% of the respondents are engaged in entrepreneurship. Therefore, the need to double efforts in involving more youths to entrepreneurship is required. Furthermore, it was found that farming, tailoring, trading, financial services, food services, personal services and information technology related services were among the activities engaged in by the youth corps members.

Age of the respondents, parental level of education and social association were found to have a positive relationship with entrepreneurship. On the other hand, stipend received the home has a negative relationship with entrepreneurship. Moreover, some of the constraints identified were unavailability of capital, poor standards of living, transportation related issues, and absence of a central database where information is readily available for researchers or entrepreneurs.

## **5. CONCLUSION & RECOMMENDATIONS**

This study aimed to examine the economics of entrepreneurial activity of Muslim Youth Corps in Kano State, Nigeria with a view to promoting entrepreneurship among the youth for sustainable economic development and reduction of the poverty level in the populace. Generally, this study found that only 40% of the respondents are engaged in entrepreneurship. The study suggests that

there should be a massive campaign for awareness to enlighten young people of the need to actively engage in entrepreneurship for their personal and national development. There should also be individuals or groups in communities that will be responsible for guiding aspiring entrepreneurs to realizing their aims. This can be done by supporting those individuals and groups through government initiatives that will also provide guidance, necessary skills, and advice to the youth in the field of entrepreneurship.

The government should encourage youth in entrepreneurship through providing interest-free loans to entrepreneurs and small business start-ups as well as streamlining taxes or even providing tax holidays to new businesses. There is also the need for the enactment of policies that will provide an enabling environment for entrepreneurs and act as a form of shield to them from the volatility of the market.

The government may concentrate spending of their major infrastructural projects to ensure accident-free roads and connection of most rural areas to the cities, so that this network will enhance development there by reducing poverty from the grass roots. Government should also ensure that its agencies are discharging their duties as effectively as possible.

Furthermore, there is an urgent need for Government-academia coalition to support research and development, particularly through the promotion of entrepreneurship, and implementation of research findings for national development.

Finally, there still exists the need to investigate ways and means to encourage and support entrepreneurship among young people and, to investigate the connection between individual actions and macroeconomics.



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## APPENDICES

### TABLES

**Table 1: Distribution of Respondents by involvement in entrepreneurial activity**

Engaged in Entrepreneurship	Frequency	Percentage
Yes	24	40.0
No	36	60.0
<b>Total</b>	<b>60</b>	<b>100</b>

*Note:* Source: Field Survey, 2018. The 'Yes' represents those corps members that consider themselves to be involved in entrepreneurship. While the 'No' are for those corps members that do not consider themselves to be involved in entrepreneurial activity.

**Table 2: Distribution of Respondents by Entrepreneurial Activity**

Entrepreneurial Activity	Frequency	Percentage
Financial services	2	7.1
Food services	7	25.0
Lodging services	0	0
Personal services (laundries, making hair, Personal tutor)	4	14.3
Recreational & tourism services	0	0
Rental services	3	10.7
Repair services	3	10.7
Transport services	0	0
Others	9	32.1
<b>Total</b>	<b>28</b>	<b>100</b>

*Note:* Source: Field Survey, 2018

**Table 3: Factors Affecting Participation in Entrepreneurial Activities**

Entrep	Coef.	Std. Err.	z	P>z	[95% Conf. Interval]
Rds	-1.046046	.8899084	-1.18	0.240	-2.790234 .6981424
Sex	-.1332584	.3706388	-0.36	0.719	-.859697 .5931803
Age	2.654565*	1.508270	1.76	0.090	-1.043205 1.174119
Ms	.1989331	.6235451	0.32	0.750	-1.023193 1.421059
Educ	-.4975628	.542695	-0.92	0.359	-1.561225 .5660998
edu_pt	.4496755*	.2310458	1.95	0.052	-.0031659 .9025169
polyg	-.3262533	.483179	-0.68	0.500	-1.273267 .6207602
hm_inc	-1.00031**	.042585	-2.349	0.019	-.0000959 .0000339
pri_ass	.0000247	.0000338	0.73	0.466	-.0000416 .000091
hh_sz	.002709	.0468333	0.06	0.954	-.0890827 .0945006
assc	.1275656***	.03842	3.32	0.005	-.6568108 .911942
cons	-1.471408	1.722115	-0.85	0.393	-4.846692 1.903876

*Note:* Source: Author's Computation

Dependent Variable: Participation in entrepreneurial activities

\*\*\* Significant at 1%, \*\* Significant at 5%, \* Significant at 10%

**Table 4: Distribution of Respondents According to Constraints to Entrepreneurial Activity**

Entrepreneurial Activity	Frequency	Percentage
Financial constraints	22	43.1
High transportation cost	15	29.4
Communication problem	8	15.7
Absence of motivation/enabling Environment/ Personal tutor)	6	11.8
<b>Total</b>	<b>51</b>	<b>100</b>

*Note:* Source: Field Survey, 2017

\*Multiple Responses

## USE OF COMPLEMENTARY THERAPIES BY MUSLIMS: HALĀL OR HARĀM?

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### ABSTRACT

*With the increasing reliance on complementary therapies as a means to treat ailments that Muslims are struggling with today, it is important to understand if such approaches are halāl or harām by considering the various options from an Islām perspective. There are several therapies that are practiced in ways that are very much in line with Islām and are compatible with Islām practices, such as herbal remedies, acupuncture and cupping. There are other treatments that are more controversial such as homeopathy, hypnotherapy, yoga and reflexology as they include elements of harām through reliance on substances, such as alcohol, or they have a basis in beliefs that are incompatible with Islām. Whilst some have argued that these elements can be removed to make the therapeutic approach halāl, caution is urged on relying on a practise that has its original basis in something that is incompatible with Islām. This especially holds true when there are plenty of alternatives that are halāl and compatible with Islām that derive the same benefits as those that are questionable.*

**KEY WORDS:** Complementary therapy, Islām, Halāl, Harām, Homeopathy, Hypnotherapy, Reflexology, Yoga, Acupuncture, Cupping, Herbal remedies.

## 1. INTRODUCTION

Generally, Muslims approach medicine and health care in various ways. There are those that rely on traditional medical treatments; a few continue to rely on a mixture of Qur'ānic verses, water, local herbs, oil, or honey for their medical treatments; and the vast majority of Muslims fall somewhere in between these two groups. However, there is another group of Muslims who are now engaged in complementary or alternative therapies. The World Health Organization (WHO) describes complementary therapy as 'a broad set of health care practices that are not part of a country's own tradition, or not integrated into its dominant health care system.' (WHO, 2002). Complementary therapies broadly fit into one of two categories: natural products or mind-body practices. A number of "orientalist" ways to deal with ill health and chronic illness are now being practiced by some Muslims which include homeopathy, meditation, Yoga, hypnotherapy and reflexology. The failure of orthodox medicine to deal or manage their chronic illness or problems has led them to search for the 'ultimate' cure or respite. However, old therapies bring new dangers! It is estimated that up to 80% of the global population have tried complementary therapies (WHO, 2002). It is therefore of upmost importance that, as Muslims, we understand what these therapies entail and if they are compatible with Islām.

There are many complementary therapies available these days, but here the focus is on some of the more popular, usually Eastern or Oriental therapies, as these are used more commonly, as well as generating much more controversy for the Muslim in seeking cure. Whilst there are some complimentary therapies that are seemingly compatible with Islām, especially as they are very similar to those practised in Islām, such as herbal treatment, acupuncture and cupping that hold their basis in similar theories to the pressure points used in the Islāmic practice of *hijamah*, as well as a simultaneous focus on the spiritual mind and body interaction. However, there are several more that are far more controversial, such as homeopathy, Yoga, reflexology and hypnotherapy. They are controversial for the Muslim as there are differences of opinion amongst the scholars as to whether they are *halāl*, *harām* or if a medium can be struck where a potentially *harām* practise can be justified or practiced in a way that is compatible with Islām. Some researchers have even developed a conceptual model of Traditional Arabic & Islāmic Medicine (TAIM) that aims to combine both Prophetic and Islāmic medicine with cultural practices to some extent as a means to interconnect the two (Azaizah, Saad *et al.*, 2010; Al Rawi and Fetters, 2012). The aim of the paper is to examine whether some of these selected complementary therapies are congruent with Islāmic beliefs and practices.

Based on these queries, the ultimate question we want to answer here is 'Are complementary therapies *halāl* or *harām*?' On the surface, the conclusion may have elicited that they are in fact allowed to seek cure and healing.

## 2. METHODOLOGY

The present study used qualitative research method and it is totally based on the secondary data. Especially, evidence from Islamic literatures and the sources of Islamic knowledge are the sources of data used.

### 3. ANALYSIS AND DISCUSSION

Usamah bin Sharik رضي الله عنه that "I saw the Bedouins asking the Prophet صلى الله عليه وسلم 'O Messenger of Allāh! Is there any sin if we do not seek treatment?' He said: "Seek treatment, O slaves of Allāh! For Allāh does not create any disease but He also creates with it the cure, except for old age." (Ibn Mājah (a)). In another hadīth, the Prophet صلى الله عليه وسلم said: "Seek healing, O slaves of Allāh, but do not seek it in that which is harām, for Allāh does not make the healing of my *Ummah* in that which He has forbidden to it" (Islamqa 2000).

The Messenger of Allāh صلى الله عليه وسلم states the following in a narration by Abu Hurayrah رضي الله عنه "There is no disease that Allāh has created, except that He also has created its treatment." (Al-Bukhāri (a)). However, the above hadīths raise the question about what constitutes halāl and harām in these complementary therapies? Does seeking cure through such therapies contradict trusting Allāh's will? According to the following hadīths, complementary therapies may not be acceptable because they are "harām". The Messenger of Allāh صلى الله عليه وسلم said: "Allāh has sent down the disease and the cure and has made for every disease the cure. So, treat sickness, but do not use anything harām." (Abū Dāwūd (a)). This may be the case but taking a closer look at the practice of such therapies there is evidence of ways in which they include things that may be deemed harām, such as using harām substances, and inclusion of practices that indicate seeking cure from a source attributed to other than Allāh (Shirk). Some of the complementary therapies include:

#### Homoeopathy

It was at the end of the eighteenth century that a German doctor named Samuel Hahnemann developed the rules of homoeopathy. Homeopathy brings together the best of both worlds, hence it's modern-day appeal. It is a combination of both natural medicine and orthodox science, Homoeopathy is a kind of medical treatment that is based on the principle of "like cures like." The theory of homeopathy is that a natural remedy using small doses of substances stimulates a person's immune system, working with, rather than against the human body to heal itself. This means giving the patient small doses of the same thing that causes the sickness. It is stated that "some plants, for example, cause rashes on the skin, so homoeopathic doctors treat the rash with the same plants. Onions cause tearing in the eyes and make the nose run, so onion is used to treat nasal secretions caused by the cold. (Islamqa, 2011 (a)).

Sometimes the medication may contain poisonous substances or alcohol. With regard to poisonous substances, there are diverging opinions about its uses. Whether the poison in the medication is harmful or beneficial, some scholars forbid its consumption of poison in either large or small amounts. However, other scholars permit its use but laid down strict criteria with regard to that. The scholars on the permissible side stated that "that the effect of this poison should be examined, and the extent to which it will benefit the patient's body; it is also essential that that be done in the light of numerous experiments so as to have peace of mind regarding the outcome; and these medicines should only be used to ward off a greater harm" (Islamqa, 2011). Ibn Qudaamah رحمته الله (may Allāh have mercy on him) said: "With regard to medicines that contain poison, if it is thought most likely that drinking or using it will result in death or insanity, then it is not permissible to use it. If it is thought most likely that it is safe and there is the hope of benefit from it, then it is better to permit taking it, to ward off what is more dangerous, as is the case with other

medicines.” That is, the principle of the greater evil is repelled by the lesser evil (*ad-Darar al Ashadd Yuzaalu bi-darar al Akhaff*).

The main issue regarding the use of homeopathy is the use of alcohol in the substance as a carrier and means to preserve the medicine. With regard to using medicines that contain alcohol, as in homeopathic medicines, there are also divergent opinions among scholars. Many scholars have explicitly acknowledged that medicine containing alcohol is *harām* citing various *ahādīth* as evidence, generally citing the blanket ban on alcohol in any form. Simak narrated that he heard 'Alqamah bin Wa'il narrate from his father, that he witnessed the Prophet ﷺ being asked by Suwaid bin Tariq – or Tariq bin Suwaid – about *Khamr*, and he forbade it. So he said: "We use it as a treatment." So the Messenger of Allāh ﷺ said: "It is certainly not a treatment, rather, it is a disease." (At-Tirmithi (a)).

Some scholars claimed that it is lawful to use homeopathic medicine that contains alcohol because the “quantity of alcohol is very less in homeopathic medicines and now many alcohols are made of potato, vegetables and coals etc. hence you can use homeopathic medicines for treatment. It is lawful as per the Shari’ah (Darul Ifta, Fatwa: 1111/1113/N=1433). According to (Zaidi, 2012), “In homeopathy, remedies are made from mixing alcohol to extract the herb and to dilute the solution to the required potency. Once at the right potency a drop of the solution is placed on a sugar/lactose pill to be used as a carrier. In such a case, it would be permissible to consume. However, if the medicine is wetted in alcohol (with or without reason), meaning that after the medicine is made it is submerged, coated, or in any way mixed with alcohol, then it would not be permissible.” That is, when there is a mixture of the herbal plant and a very small amount of alcohol as an ingredient, and that the alcohol has gone through change through this process (*istihala*), then it is permissible to consume the medications.

Other scholars have the view that “when alcohol is mixed with other medicines, it either has a clear, strong and obvious effect, or it does not. If its effect is clear, strong and obvious, the mixture is *harām* and using this medicine is *harām*. If the alcohol does not have that effect on this medicine, it is permissible to use it.” (Islamqa 2011a). For a fatwa of the scholars of the Standing Committee, *Fataawa al-Lajnah al-Daa’imah* (22/110) (Islamqa, 2005): “It is not permissible to mix medicines with intoxicants, but if it is mixed with alcohol, if drinking a lot of it will cause intoxication, it is *harām* to handle it and drink it, whether a small amount or a large amount. If drinking a lot of it will not cause intoxication, then it is permissible to handle it and drink it.”

Shaykh Ibn‘Uthaymeen رحمه الله in *Liqa'aat il-Baab il-Maftoohah*, 3/231 (Islamqa, 2005). said: “With regard to some medicines that contain alcohol, if the effect of the alcohol in the medicine can be seen in the form of intoxication, then it is *harām*, but if no effect is seen, and the alcohol is only added to it as a preservative, then there is nothing wrong with it, because the alcoholic content does not have any effect.”

In terms of the effectiveness of homeopathy, there has been mixed results from clinical studies but with clear trends that there is no positive effect (McKenzie, 2013). Many homeopathic medicines contain poisonous or dangerous substances if the doses are not controlled. A series of meta-analyses that have suggested that the therapeutic claims of homeopathy lack scientific justification and pose a number of counter-therapeutic risks, including the causing of deaths (Freckelton, 2012). It is evident that there are more harms than benefit when using homeopathic medicines. Ultimately, as with the numerous scenarios that may produce this same controversy,

one might instead prefer to leave what is uncertain and instead seek treatment with something known to be *halāl* and beneficial according to the Qur'ān and Sunnah. This includes the use of honey or black seed, depending on the condition that the person is suffering from, as well as taking a more preventative approach by exercising, following a healthy diet, sleeping well and seeking psychological and spiritual interventions.

### Hypnotherapy

Hypnotherapy is a type of complementary medicine of guided hypnosis, or a trance-like state. It is used to treating a number of conditions including neurotic disorders, addictive behaviours sexual dysfunction and undesirable behaviours. The efficacy of hypnotherapy as therapeutic interventions has questions on a long-term basis. There is no evidence to support its efficacy in a number of disorders including chronic anxiety disorders (Pelissolo, 2016), pain of childbirth (Jones *et al.*, 2012) or post-natal depression (Sado *et al.*, 2012).

Islāmīc contemporary scholars have ruled that the issue of hypnotherapy is related to the use of the *Jinn*. The scholars stated that “It is not permissible to seek the help of the *Jinn* or any other creatures in trying to find out matters of the Unseen, whether that is by calling upon them, trying to please them or any other method. Rather that is *shirk* because this is a kind of worship, and Allāh has taught His slaves to worship Him alone and say,

- ***You (Alone) we worship, and You (Alone) we ask for help (for each and everything)***” (Al-Fatihah (The Opening) 1:5) (Islamqa. 2002).

There is evidence from a hadīth that the Prophet ﷺ said to Ibn ‘Abbaas رضي الله عنه: “. If you ask, then ask Allāh [alone]; and if you seek help, then seek help from Allāh [alone] (At-Tirmithi (b)).

The second point, the scholars pointed out is that “Hypnotism is a kind of fortune-telling or magic whereby the hypnotist uses the jinn to overpower the subject and then speak through his tongue and give him strength to do things by means of controlling his faculties. This is if the jinni is sincere towards the hypnotist and obeys him in return for the things by means of which the hypnotist draws close to him. So, the jinni makes the subject obey the wishes of the hypnotist to do things or tell him things, through the help of the jinni. Thus, using hypnotism as a means of finding out where stolen goods are hidden, or where a lost item is, or as a means of treating disease or of doing anything else is not permissible. Rather it is *Shirk*, for the reasons stated above, and because it implies turning to someone other than Allāh and goes beyond the ordinary means which Allāh has created for His creatures and permitted them to use.” (Islamqa. 2002).

The Fatwas of the Permanent Committee (Fatwa no. 1779) stated that hypnosis [hypnotherapy] is a type of soothsaying, in which a hypnotist seeks the help of a *Jinn* and makes him overpower a hypnotized person and talk through him. The *Jinn* gives the hypnotised person power to do certain actions if he agrees to obey the hypnotist and is truthful with him in return for mutual benefits. Accordingly, the *Jinn* causes the hypnotised person to obey the hypnotist in any actions or to give any information asked from him if it is being honest with the hypnotist. It is therefore not permissible to utilise hypnosis or to use it to find a stolen or lost object, to cure a sick person, or to do anything through a hypnotised person. In fact, this is *Shirk*, due to what was previously mentioned and because it entails resorting to other than Allāh in matters that are beyond those



ordinarily permitted by Allāh for His Creation.” This is clear, hypnotherapy and all its forms are harām.

## Yoga

The practice of yoga is also common amongst many Muslim women as a form of health exercise. Muhammad ‘Abd al-Fattaah Faheem stated that “Yoga in the sacred Indian language means union and contact with God, for example, union between the body, the mind and God which helps man attain knowledge and wisdom and develops his thought by developing his knowledge of life; it protects him from sectarianism, religious fanaticism, narrow mindedness and short sightedness when searching; it makes him live a life of contentment both physically and spiritually.” There are many Muslims, especially in the Indian subcontinent, who believe that yoga is a form of *ibādah* in Islām and is quite permissible. It is claimed that yoga is a desirable act for Muslims as evidenced in the second sutra of the Yoga Sutras and should be undertaken as a spiritual pursuit (Rahman, 2012). He stated that “*Yogas Chitta Vritti Nirodhah* means yoga is: ‘stopping all the modulations of the mind’. Ceasing all the outward activities of the mind and reposing in Allāh is the ultimate goal of Islām. So, any act done to reach such a state cannot be un-Islāmic. In fact, it represents the highest form of *ibādah* (prayer).” *Laa hawla wa laa quwwata illa Billaah (There is no power or might except with Allāh)*.

Yoga is both a spiritual and physical exercise, so at first glance one might assume that yoga is halāl and perhaps even beneficial since it is both physical exercise and a means to get close to God, Allāh. However, upon studying the practise further, there are other issues to consider. The Islāmic ruling on practising yoga is that “it is not permissible for the Muslim to practice yoga at all, whether he does it on the basis of belief or imitating others, or because he is seeking a particular so-called benefit. That is due to a number of reasons.” (Islamqa, 2011). A summary of the reasons is given below:

“Yoga is contrary to *Tawheed* and involves associating other deities with Allāh, may He be exalted, and because it involves prostrating to the sun and repeating its names. Allāh says:

- ***Say, "I have only been commanded to worship Allāh and not associate [anything] with Him."*** (Ar-Ra`d (The Thunder) 13:36).
- ***If you should associate [anything] with Allāh, your work would surely become worthless, and you would surely be among the losers."*** (Az-Zumar (The Troops) 39:65).

The whole essence of yoga involves the imitation of idol worshippers and resembling them. It is narrated by Ibn ‘Umar رضي الله عنه that the Prophet صلی الله علیه وسلم said: “Whoever imitates a people is one of them.” (Abū Dāwūd). Ibn Taymiyyah رحمته الله said: “Imitating them in outward matters leads to imitating them in attitude and actions” Some of the yoga practices are harmful from a health and psychological point of view. It is narrated by Abu Saeed Saad ibn Maalik Ibn Sinaan al-Khudri رضي الله عنه that the Prophet صلی الله علیه وسلم said: “There is not to be any causing of harm nor is there to be any reciprocating of harm.” (Ibn Mājah (b)). Other reasons include: “It is a waste of time doing something that does not bring anything but harm and loss in this world, and calamity and despair in the Hereafter. It is a clear call to imitate animals and detracts from human dignity, such as:

adopting nakedness, resting on all fours in most of the exercises and the special posture in the third and eighth exercises. Many of those who tried to practice what is called scientific yoga or behavioural therapy fell into the pit of drugs and addiction, and this remedy has been proven to be ineffective and of no benefit. This activity is based on lies and charlatanry; its promoters rely on deceit and twisting the facts in spreading it. A few of those who practice yoga, or some other esoteric or deviant trends may perform extraordinary feats, people are deceived by it. But in most cases, they are only using devils among the jinn as in the case of magic and so on, and this is harām according to Islām.” (Islamqa, 2011(c))

Despite the clear ruling on yoga, some Muslims would argue that by just doing the exercise is not harmful or harām. It has been suggested that “while merely doing the physical movements of yoga without the worshipping and chanting might not be against religious beliefs, Muslims should avoid practising it altogether as “doing one part of yoga would lead to another.” (The National Fatwa Council of Malaysia). It was narrated that Abu’d-Darda’ رضي الله عنه said: The Messenger of Allāh صلی الله علیه وسلم said: *“Allāh has created the sickness and the remedy, so treat sickness but do not treat sickness with anything that is harām.”* (at-Tabarāni).

As with previous therapies addressed here, it is a practice that falls in the grey area and therefore is best avoided. The same benefits experienced by the yoga practitioner can be achieved in halāl ways. The spiritual element can be attained through prayer and *dhikr* and the physical elements through exercise and stretching. It is important to note here also that if exercised that are normally done and accepted by sports scientists are Islāmically acceptable even if they may resemble that of those performed in yoga.

### Reflexology

Reflexology is also part of the alternative or complementary therapies. Reflexology is a form of 'touch therapy' with ancient origins. Practitioners of reflexology postulate that the body contains an invisible life force, or *Ch'i* and the blockage of this invisible energy field can prevent healing. This view of reflexology is rooted in Eastern mysticism and is popular in the New Age movement. In reflexology, pressure is applied to the feet and hands using specific thumb, finger and hand techniques. There is no evidence in the medical literature of its efficacy. It is stated that “Reflexology works on three levels: the physical, the mental, the spiritual” (Berkson, 1992, p.12). The spiritual dimension of reflexology is based on “a healing force from the universe [which] is called upon and used, by both the client and the practitioner”. (Berkson, 1992 p.115).

The basic philosophy behind reflexology has roots in the Taoist Chinese view of the life force *Ch'i* and the concept of *Chakras* in the Hindu practice of yoga. Furthermore, it is stated that “Amongst the shrines and temples of Vishnu, there is a footprint painting. Ancient Sanskrit symbols are painted on the feet. These symbols correspond to modern day reflex points.” (Google search). That means the reflex points in the foot are based on Hindu symbols. According to Mookerjee (1971), the feet symbolise the unity of the entire universe and he stated that “all the elements of the universe are represented by the signs, and they also indicate the many aspects of the Ultimate One” (p.54). These symbols and concepts are totally incompatible with the belief of God as the only true God, Almighty, Creator, Healer and Source of Life.

These considerations of the spiritual aspects associated with reflexology alone should nullify it as a choice for Muslims and as believers, we should have nothing whatsoever to do with New Age

belief. Currently, there is no known Fatwa on the use of reflexology. The best action for a Muslim is to avoid this form of treatment even if it is claimed to be a mixture of reflexology with value-added Islāmic element, coined as “Islāmic Foot Reflexology”.

An-Nu'man bin Bashir رضي الله عنه said: "I heard the Messenger of Allāh ﷺ say: *"That which is lawful is plain and that which is unlawful is plain, and between them are matters which are not as clear. I will strike a parable for you about that: indeed Allāh, the Mighty and Sublime, has established a sanctuary, and the sanctuary of Allāh is that which He has forbidden. Whoever approaches the sanctuary is bound to transgress upon it, Or he said: 'Whoever grazes around the sanctuary will soon transgress upon it, and whoever indulges in matters that are not clear, he will soon transgress beyond the limits.'"* (An-Nasā'i).

In a similar method to *hijamah* and acupuncture, reflexology targets certain key points, on the foot in this case, to achieve maximum benefit for the recipient whilst also relaxing the muscles. There are some Muslims who practice delivering reflexology suggest that just because some people attach a spiritual meaning to reflexology, it does not nullify the acceptability of a Muslim practicing or receiving this type of treatment in search of physical treatment. With a distinct lack of Fatawas issued on this topic, it may be argued that we cannot completely discredit this approach. According to Shaykh Dr. Muhammad Anwar Sahib Al-Madani, Lecturer in Islāmic Jurisprudence at the Islāmic Online University, “Reflexology is acceptable Islāmically and there is no evidence to discredit it.” Allāh knows best.







### Herbal Remedies

More than a thousand years ago, Islāmic scientists and scholars used herbs as medicine based on recipes and formula. It has been reported that “Islāmic medical texts usually had at least one section on herbs and other natural remedies, and another consisting of instructions for compound remedies, with descriptions of the geographical origin, physical properties, and methods of application. Many formularies were composed as larger independent collections of simples (single herbs with medicinal value) and compound recipes. Some were written specifically for use in hospitals.” (Tschanz, 1998).





The uses of herbs for cures in the natural world stemmed directly from the Prophet Mohammed ﷺ. According to Sheikh ‘Abd-Allaah ibn Jibreen رحمته الله, it is permissible to use herbal remedies because the Prophet ﷺ said: *“Seek healing, O slaves of Allāh, but do not seek it in that which is harām, for Allāh does not make the healing of my Ummah in that which He has forbidden to it.”* (Islamqa, 2001). Sheikh ibn Jibreen رحمته الله added that “Seeking healing with herbs comes under the heading of permissible things. This does not contradict the idea of putting one’s trust in Allāh (*Tawakkul*). It was narrated that a man said, “O Messenger of Allāh, what do you think of medicines with which we seek healing, and *Ruqyah* (incantations) which we use for healing-do they change the decree of Allāh?” The Prophet ﷺ said: *“They are part of the decree of Allāh,” for example, Allāh decrees that a person falls sick, then He decrees that this disease needs treatment, and that if it is treated with medicines or herbs, he may be healed by Allāh’s leave. So there is no reason why we should not use these medicines, including the use of needles and herbs.*” (Islamqa, 2001).

In fact, in Arabian medicine, there are over 250 different herbs available for treatment of illness (Saad et al., 2005). There are in fact many a hadīth that specifically tell us which herbs to rely in for certain conditions.



### **Honey for abdominal pain.**

Narrated Abu Sa'id Al-Khudri : A man came to the Prophet  and said, "My brother has some abdominal trouble." The Prophet  said to him: *"Let him drink honey."* The man came for the second time and the Prophet  said to him, *"Let him drink honey."* He came for the third time and the Prophet  said, *"Let him drink honey."* He returned again and said, "I have done that". The Prophet  then said, *"Allāh has said the truth, but your brother's `abdomen has told a lie. Let him drink honey."* So, he made him drink honey and he was cured. (Al-Bukhāri, (b)).



### **Black seed for illness and analgesia properties (Al-Ghamdi, 2001)**

Narrated Khalid bin Sa'd : We went out and Ghalib bin Abjar was accompanying us. He fell ill on the way and when we arrived at Medina, he was still sick. Ibn Abi 'Atiq came to visit him and said to us, "Treat him with black cumin. Take five or seven seeds and crush them (mix the powder with oil) and drop the resulting mixture into both nostrils, for `Aisha  has narrated to me that she heard the Prophet  saying, *"This black cumin is healing for all diseases except As-Sam."* Aisha  said, "What is As-Sam?" He said, "Death." (Al-Bukhāri, (c))




### **At-Talbinah (barley, milk and honey) for grief**

Narrated 'Urwa: Aisha  used to recommend at-Talbinah for the sick and for such a person as grieved over a dead person. She used to say, "I heard Allāh's Messenger  saying, *'at-Talbinah gives rest to the heart of the patient and makes it active and relieves some of his sorrow and grief.'*" (Al-Bukhāri, (d))



### **Saut (type of salt)**

Narrated Ibn `Abbas : The Prophet  was cupped and he paid the wages to the one who had cupped him and then took Su'ut (Medicine sniffed by nose). (Al-Bukhāri, (e)).



### **Indian incense for pleurisy**

Narrated Umm Qais bint Mihsan : I heard the Prophet  saying, *"Treat with the Indian incense, for it has healing for seven diseases; it is to be sniffed by one having throat trouble, and to be put into one side of the mouth of one suffering from pleurisy."* Once I went to Allāh's Messenger  with a son of mine who would not eat any food, and the boy passed urine on him whereupon he asked for some water and sprinkled it over the place of urine. (Al-Bukhāri, (f)).

### Kohl for eye problems


Narrated Umm Salama : The husband of a lady died, and her eyes became sore and the people mentioned her story to the Prophet . They asked him whether it was permissible for her to use kohl as her eyes were exposed to danger. He said, *"Previously, when one of you was bereaved by a husband she would stay in her dirty clothes in a bad unhealthy house (for one year), and when a dog passed by, she would throw a globe of dung. No, (she should observe the prescribed period 'Iddah) for four months and ten days.'* (Al-Bukhāri, (g)).

### Al Mann for eye diseases

Narrated Sa'id bin Zaid : I heard the Prophet  saying, *"Truffles are like Manna (i.e., they grow naturally without man's care) and their water heals eye diseases."* (Al-Bukhāri, (h)).




### Acupuncture

The name acupuncture is derived from the Latin words 'acus' meaning 'needle' and 'punctura' meaning 'to puncture' which is exactly what the practice involves. Working very much in the same way as cupping/Hijamah, with treatment serving to restore the natural balance in the body through a process of unblocking energy channels. In line with this, it is suggested that disease is caused by blood stagnation which impairs the flow of blood depriving organs from vital nutrients which leads to sickness. Acupuncture works by increasing blood flow to these areas, encouraging the release of opioids, or pain killing agents. There is no clear evidence to suggest it is harām as no substances such as alcohol are used, and no foreign religious practices or incantations are used as in other complementary therapies as it has no basis in old religious or spiritual beliefs. According to Sheikh Ahmad Kutty (2016) "There is nothing in Islām to forbid Muslims from resorting to alternative therapies or treatments so long as they do not involve beliefs or practices inimical to Islām. Acupuncture is one of such practices; it has been an integral part of traditional medicine in certain parts of the world like China; and it has been found to be effective and beneficial in some cases."

Shaykh 'Abd-Allaah ibn Jibreen  said, with regard to the "Chinese needles" (i.e., acupuncture), if it is proven that this is beneficial, or if its benefit outweighs its harm – if it causes any harm – then there is nothing wrong with using this. And Allāh knows best. (Islamqa, 2001)

### Cupping

Cupping, known as "hijamah" in Arabic, is just another method of applying acupressure to the pressure points. It is used in Islāmic medicine to treat a wide number of complaints including bronchitis, pneumonia and back pain. This is performed with the use of cups, not needles, to create a vacuum on the skin over the pressure point. Dry cupping works much like acupuncture in terms of redirecting blockages to the lymphatic drainage system to clean it within the body. Whereas wet cupping sees this blood removed manually from the body through small incisions made to the surface of the skin under the cup.

There is little controversy in the use of cupping for Muslims as Prophet Mohammed  was an advocate of cupping and often used the method himself. This is documented numerous times in the Sunnah. It is narrated Abu Hurayrah  that the Prophet  said: The best medical treatment

you apply is cupping (Abu Dāwud (c)). It was narrated from Abu Hurayrah رضي الله عنه that the Prophet صلى الله عليه وسلم said: “If there is any good in any of the remedies you use, it is in cupping” (Ibn Mājah (c)).

Narrated Jabir bin `Abdullah رضي الله عنه: I heard the Prophet صلى الله عليه وسلم saying, “*If there is any healing in your medicines, then it is in cupping, a gulp of honey or branding with fire (cauterization) that suits the ailment, but I don't like to be (cauterized) branded with fire.*” (Al-Bukhāri (i)). Narrated Ibn

`Abbas رضي الله عنه: The Prophet صلى الله عليه وسلم was cupped on his head for an ailment he was suffering from while

he was in a state of Ihram. at a water place called Lahl Jamal. Ibn `Abbas رضي الله عنه further said: The Messenger of Allāh صلى الله عليه وسلم was cupped on his head for unilateral headache while he was in a state of

*Ihrām*. (Al-Bukhāri (j)). Preventative *hijamah*, as prescribed by the Prophet صلى الله عليه وسلم, is done on the 17th, 19th and 21st of every lunar calendar month. It is stated by Dr. Magda Amir, an expert in the practice and study of *hijamah*, or cupping therapy that “Our body is affected by the moon, just as the tides are,” she elaborates. “Because of the lunar magnetic field, when the moon is full [on the 15th day], all the toxins in our cells are accumulated beneath the surface of the skin. Applying *hijamah* in three even intervals after the full moon “detoxifies the body monthly.” There is evidence to suggest that *hijamah* is highly effective in treating the severity and frequency of tension and migraine headaches, conditions that Western medicine has difficulty treating (Ahmadi *et al.*, 2008).

#### 4. CONCLUSION

To answer to the question, ‘Are complementary therapies *halāl* or *harām*?’ it says that some are *harām*, some are permitted, and some are doubtful even when practiced in a “*halāl*” way.

However, it is recommended to avoid the complementary therapy approaches which are in the grey areas as there are also plenty of *halāl* alternatives as proposed in the Prophetic Medicine (*‘Al-Tibb an-Nabawī*). In summary, Muslims need to be cautious in using complementary or alternative therapies because some of them are contrary to belief in the Oneness of Lordship (*Tawheed ar-Rubūbiyyah*). There are some that show little evidence to suggest that they are *harām*, such as herbal remedies, acupuncture, cupping and possibly reflexology, yet others are far more controversial, such as homeopathy, hypnotherapy, and yoga. It is important that we fully understand the basis behind these therapies and how they work in order to make informed decisions in accordance with the Qur’ān and Sunnah, along with scholarly advice on such practices. Some have ruled that they are *halāl* under certain conditions if practised in a certain way, but many scholars have said that they are *harām* as they have the potential to be practised in a way that is incompatible with Islām, either due to the use of *harām* substances, or they have a basis in beliefs contrary to Islām.

Having considered evidence both for and against the practise of each of the most commonly used, yet in Islāmically controversial complementary therapies it can be concluded overall there is a choice. If in doubt, refrain from using that particular complementary therapy. With each therapy, there are alternative options that are embedded in Islāmic principles and entirely *halāl* as well as yielding the same benefits as those that are more controversial. When we have such vast, rich and



proven methods available to us in the form of Prophetic medicine, we must ask ourselves if seeking other such cures is even necessary, bearing in mind that the practise of those left to us by our beloved Prophet ﷺ, are those that can only draw us closer to him and our Creator. So why neglect them unnecessarily over other available treatments that are compatible with Islām? In addition, we need to beware of medicines that contain poisonous substances or alcohol, unless the amount is small, and it is proven that medicine is beneficial for most patients according to confirmed studies and proven results. It is recommended to use *Ruqyah* as prescribed in the Shari'ah, composed of Qur'ān and *athkār* and *du'ās* that are narrated in Shari'ah; read them over yourself and seek the help of Allāh, asking Him to ward off sickness from you. And we advise you to use medicines that Islām has stated are beneficial and useful, such as honey and black seed. There is nothing wrong with referring to doctors concerning specific amounts and how to use them" (Islamqa, 2011a). Allāh Knows Best, الله اعلم (Allāhu A'alam).



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## HIDDEN DEFECTS IN HADĪTH AS A BRANCH OF HADĪTH SCIENCES

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### ABSTRACT

*The religion of Islām is derived from two divine sources; Qur'ān and ḥadīth of the Prophet ﷺ. The second source, ḥadīth, has been meticulously preserved by scholars through various means that have been codified and organised and are well-known as ḥadīth sciences. This is an extensive field which requires one to have an abundance of knowledge in order to master it. One of the highest and most complicated of its branches is the knowledge of hidden defects, termed as 'ilal al ḥadīth. In this paper, the term 'ilal al ḥadīth is explained and its significance is brought to light. There have been a handful of classical scholars who mastered this art and have made an impact on this science. They will be mentioned with their accomplishments. The hidden defect can occur either in the text (matn) of the ḥadīth or its chain (sanad). This aspect is discussed in detail and examples of causes (ilal pl.) are explored in this paper.*

**KEYWORDS:** 'Illah, Muḥaddith, Ma'lūl, Sanad, Matn

## 1. INTRODUCTION

*Ḥadīth* science is a meticulous field, which deals with authenticating the *Sunnah* of the Prophet Muḥammad ﷺ. The scholars used detailed criteria and principles to grade narrations (*aḥādīth*), thus, narrators (*muḥaddithīn*) have been able to categorize narrations into authentic (*ṣaḥīḥ*), sound (*ḥasan*) and weak (*ḍaʿīf*). This helped preserve the knowledge and teachings of the Prophet ﷺ and allowed Muslims to use these narrations for deducing rulings, while filtering out any unauthentic and fabricated narrations. *ʿIlal al-ḥadīth* is a branch of this knowledge used for categorizing *aḥādīth*.

### Defining *ʿilal al-Ḥadīth*

Linguistically *ʿillah* (singular of *ʿilal*) is derived from the root words *ʿayn, laam, laam* (ع ل ل). *ʿAlla ya ʿillu* means ‘to be or fall sick’ (Lane’s, n.d.). *ʿAlīl* is a sick person and *ʿillah* is sickness, disease, defect or deficiency (Wehr, n.d.). Technically in its general sense, it means any defect that affects the authenticity of a narration. A narration (*ḥadīth*) which has a defect (*ʿillah*) is called *Muʿallah* (Al-Bustānī, n.d.). According to narrators, there is a slight difference in the definition, they have a more specific definition: an obscure, hidden reason which blemishes the authenticity of a *ḥadīth* (aṭ-Ṭaḥḥān, 2004). In this study, we will use the term in its specific sense, as the narrators (*muḥaddithīn*) used it. Thus, for a *ḥadīth* to be *maʿlūl* it should fulfil two conditions:

- a) The defect should be hidden.
- b) It should affect the authenticity of the *ḥadīth*.

Ath-Thahabi رحمه الله defines *ʿillah* in a similar manner and excludes the narration from defective (*maʿlūl*) category if it is narrated by a weak narrator and in a different chain by a trustworthy narrator (*thiqah*). Since this weakness does not affect the final ruling of the narration, therefore it is not considered a defect (*ʿillah*) (Ath-Thahabi, 2001). Ḥākim رحمه الله defines the scope of this discipline and says that this science is applied on authentic narrations by trustworthy narrators, because clearly the inauthentic narrations (*mardūd aḥādīth*) do not need such detailed examination (Kamali, 2005). So, a *ḥadīth* which is apparently narrated by trustworthy sources (*thiqāt*), has an unbroken chain of transmission (*muttaṣil*) and can be passed as an authentic narration (*ṣaḥīḥ ḥadīth*) qualifies for further analysis for a hidden fault.

### Significance

This is one of the most profound criteria which only the scholars of highest level can achieve after an exhaustive study of *aḥādīth*. It requires that one should be familiar with the language and style of the Prophet ﷺ, because a hidden defect – *ʿillah* – can occur in the text (*matn*) of the narration. Also, one should be an expert in the science of *jarḥ wa taʿdīl*, for an *ʿillah* can occur in the *sanad* (Al-Shahrazuri, 2011). Very few have mastered the science of *ʿilal* and are known as *nuqād*, amongst them are: ʿAlī ibn al-Madīnī, Aḥmad bin Ḥanbal, Al-Bukhārī, Abi Ḥātim and ad-Daraqutnī (aṭ-Ṭaḥḥān, 2004), Yaḥya bin Maʿīn, Ibn Shaybah, Abu Zurʿah and Al-Bazzār (Yusuf al-Jadī, 2003).

ʿAlī ibn al-Madīnī said that it might be after 40 years of studying a *ḥadīth* that he finds an *ʿillah* in it. (Al-Muṭayri, n.d.) Baghdādī, Ḥākim and Ibn Ṣalāḥ said it is the most noble of all the various *ḥadīth* sciences. ʿAbdur-Raḥmān bin Maḥdi compared the knowledge of *ʿilal* with inspiration due to its undetectable and subtle nature and said, “Our knowledge of this science seems like divination to the ignorant people.” (Mosleh, 2014). Ibn Rajab رحمه الله lists the scholars who perfected

this knowledge, the first who excelled was Ibn Sirīn رحمه الله, and he says there were very few scholars who reached this level throughout history. Finally, he quotes Ibn al-Qayyim رحمه الله who wrote in his book *Al-Mawdū'āt*: 'there are very few who understand this, rather, it has become non-existent (Al-Muṭayri, n.d.).

Yusuf al-Jadī' (2003) quotes 'Abdur-Raḥmān bin Mahdi that knowing an '*illah* of a *ḥadīth* is more beloved to me than writing down twenty *aḥādīth* which I do not have. As mentioned above, there are few scholars who mastered this knowledge mainly for the reasons summarized below:

1. '*Illah* is a hidden fault and does not appear except after profound study for a very long time.
2. It requires meticulousness and subtle understanding. Ibn Daqīq رحمه الله said this knowledge, unlike what people think, requires more than just memorizing and narrating.
3. One should possess a vast amount of memorized information.
4. Knowledge of trustworthy narrators and levels within them, and in the event of conflict, be able to prioritize one above the other based on sound knowledge of their background.

Furthermore, the subject of '*ilal* itself is complicated because there are various reasons a *ḥadīth* can have a hidden defect and these cannot be listed as a checklist. Al-Ḥafiz Abū Ya'la al-Khalīlī said that '*illah* occurs in the *ḥadīth* in various forms and it is not possible to enumerate and limit it (Yusuf al-Jadī', 2003).

This field is also noteworthy in proving the falseness of the claims made by Orientalists that *aḥādīth* of the Prophet ﷺ cannot be used as a source because they were not preserved, rather, were lost over the years. In fact, the scholars went to great lengths to preserve them and successfully sifted out even the minutest or the most concealed form of discrepancy. Secondly, another false claim is made that scholars only checked the *isnād* and did not pay heed to the *matn*. This will be disproved with examples given for '*ilal* found in the *matn* to the extent that any additional words which were not part of the original narration were pointed out.

## 2. REVIEW OF LITERATURE

Mostly an '*illah* occurs in the chain. Its various forms can be: by making a *mawqūf ḥadīth marfū'*, making *mursal muttaṣil* or due to various forms of *tadlīs*. Ibn Ṣalāḥ رحمه الله concludes that '*illah* can affect the text of the *ḥadīth* but sometimes it does not. In the *matn* it can occur in the form of *idrāj* (addition made by one of the narrators) and is not indicated that it is not part of the saying of the Prophet ﷺ, or slight changing of the original words or mixing up words of two different *aḥādīth*.

Yusuf al-Jadī' (2003) eliminates two types of terminologies often wrongly referred to as '*ilal*; *nāsikh wa mansūkh* and *mushkil al-aḥādīth*. Whereas Ibn Ṣalāḥ رحمه الله expands the use of this term to even include *ṣaḥīḥ ma'lūl* as used by some scholars and he mentions that At-Tirmithi رحمه الله uses the word '*illah* to refer to *naskh* too. There is a slight variation between scholars on the usage of this word in a wider sense, therefore, one would have to check the scholar's style before understanding the context he used it in.



### Examples of 'ilal in chain

The learned *muḥaddithīn* know the narrators, their background, and their character, thus are able to identify a strong *sanad* from a weak one. The experts of 'ilal can tell if there is any hidden defect in the *sanad* from the above-mentioned ones. They can even recognize the styles of various narrators. An example of this is mentioned by Ibn Rajab رحمته الله about a narrator named Sinān bin Sa'd رحمته الله, who is said to report from Anas bin Mālik رحمته الله. Imām Aḥmad رحمته الله says that he left narrating from the said narrator because his narrations resemble sayings of Ḥasan al-Baṣrī رحمته الله rather than the *aḥādīth* of the Prophet صلی الله علیہ وسلم.

To identify an 'illah in a chain, Ibn al-Madīnī رحمته الله says that all the *isnād* of that particular *ḥadīth* have to be analyzed. He collected all the *ruwāt* for each Companion, then pointed out a discrepancy that occurs commonly in *aḥādīth* famously quoted by Sufis as being narrated from Ḥasan al-Baṣrī رحمته الله who narrated directly from 'Alī رحمته الله. Whereas Ibn al-Madīnī رحمته الله pointed out that Ḥasan al-Baṣrī رحمته الله did not meet 'Alī رحمته الله, and there is a small possibility that they might have met in Madīnah when Ḥasan رحمته الله was a child. (Islāmic-awareness.org, n.d.)

Sometimes, the narrator quotes his contemporary whom he has met, but the narrator has not actually heard that particular *ḥadīth* from him. For example, Yaḥya bin Kathīr رحمته الله met Anas bin Mālik رحمته الله and therefore he narrated from Anas رحمته الله:

“When the Messenger of Allāh صلی الله علیہ وسلم broke his fast in someone's house, he would say: may those who fast break their fast with you and eat your pure food and the angels pray for you (or peace descends on you).”

After a thorough study it was revealed that though Yaḥya was the contemporary of Anas رحمته الله and did meet him, yet, he never heard this particular *ḥadīth* from him. Therefore, despite the *sanad* appearing to be sound there is a discrepancy there. (Kamali, 2005)

An example of an 'illah which does not discredit the *matn* is when a trustworthy narrator (*thiqah rāwī*) is replaced by another *thiqah rāwī* as indicated in the coming example (Muḥammad 'Abbās, 2004). It was narrated from Sufyān رحمته الله, from 'Abdullāh bin Dīnār رحمته الله, from Ibn 'Umar رحمته الله, from the Prophet صلی الله علیہ وسلم who said: “Two traders have the choice as long as they have not separated...” reported by an-Nasā'ī and others. However, another narrator – Ya'la bin 'Ubayd رحمته الله – mistakenly replaced the name of 'Abdullāh bin Dīnār رحمته الله by 'Amr bin Dīnār رحمته الله. Upon investigation it was found that both Dīnārs are trustworthy (*thiqah*) and therefore the text (*matn*) remains unblemished and the *ma'lūl* chain of Ya'la does not affect it.

On the contrary, if a weak narrator is mistaken for a *thiqah* then the 'illah discredits the chain and the text. Abdur-Raḥmān bin Yazīd bin Jābir and Abdur-Raḥmān bin Yazīd bin Tamīm are two narrators from Shām who came to Kufah. The former is trustworthy (*thiqah*) while the latter is a weak narrator. Ḥammād bin 'Usāmah met the latter and heard from him and upon asking his name he was told Abdur-Raḥmān bin Yazīd. Ḥammād bin 'Usāmah assumed it was Ibn Jābir. Apparently, a *thiqah* – Ḥammād bin 'Usāmah – is narrating from another *thiqah* – Abdur-Raḥmān

bin Yazid bin Jābir – and the *sanad* seems solid. However, the minute, hidden discrepancy was pointed out by Al-Bukhārī <sup>رحمته</sup> and Abū Ḥātim <sup>رحمته</sup> and the chain with its text was discredited.

### Examples of *‘illah* in text

In some instances, a chain (*sanad*) can be solid with no weakness, but the text (*matn*) is either criticized due to its content or language or its style being different than the speaking style of the Prophet <sup>صلی اللہ علیہ وسلم</sup>. The following *ḥadīth* was criticized for its *matn* due to its content:

*"Allāh created the land on Saturday; He created the mountains on Sunday; He created the trees on Monday; He created the things entailing labour on Tuesday; He created the light (or fish) on Wednesday; He scattered the beasts in it (the earth) on Thursday; and He created Adam after the afternoon of Friday, the last creation at the last hour of the hours of Friday, between the afternoon and night."* (Ṣaḥīḥ Muslim, *Hadith* 2149)

Ibn Taymiyyah <sup>رحمته</sup> said: "Men more knowledgeable than Muslim, such as al-Bukhari <sup>رحمته</sup> and Yahya b. Ma'in <sup>رحمته</sup>, have criticized it. Al-Bukhari <sup>رحمته</sup> said, "This saying is not that of the Prophet <sup>صلی اللہ علیہ وسلم</sup>, but one of Ka'b al-Ahbar'." The authenticity of this *ḥadīth* is debated. Ibn Al-Jawzi <sup>رحمته</sup> agrees with Muslim <sup>رحمته</sup> while Bayhaqi <sup>رحمته</sup> sides with Al-Bukhārī <sup>رحمته</sup>. Al-Bukhārī's own two teachers differed over this *ḥadīth*, Ibn Maḍīnī <sup>رحمته</sup> did not find fault with it while Ibn Ma'in <sup>رحمته</sup> did. The *‘illah* which compromised the authenticity of the text (*matn*) is said to be the contradiction with the Qur'ānic texts which mention that creation of the heavens and the earth was in six days, each of which may be like a thousand years. The *ḥadīth* only indicates creation of the earth, in days which are shorter than those referred to in the Qur'ān. (Islāmic-awareness.org, n.d.)

It is also possible for an *‘illah* in the *matn* to not affect the authenticity of the *ḥadīth*. If a narration is narrated with slight difference of words but all of the words mean the same, then this *‘illah* does not weaken the *sanad* or the *matn*. Whereas, in the following example it makes a difference because the words have different meanings, and a mistake was made due to similar sounding words.

On one occasion, *jizyah* was collected from Bahrain, the Prophet <sup>صلی اللہ علیہ وسلم</sup> addressed the people after *fajr* and said:

*"By Allāh, I do not fear poverty for you, rather I fear that you will enjoy ease and plenty like those who came before you, and that you will compete with one another as they did, and you will be destroyed as they were."* (Ibn Mājah, *Book* 36, *hadith* 72)

The last words were reported as: *fa-tulhikum kamā alhakahum* (it will distract you just as it distracted them.) while the authenticated words are: *fa-tuhlikukum kamā ahlakahum* (it will destroy you as it destroyed them). Slight difference occurred in the wording because the words sound similar and thus an error was made in narrating. (Kamali, 2005)



If different wordings were narrated due to a misunderstanding on part of the narrator, then the *sanad* and the *matn* is discredited. It is narrated by Al-Bukhārī:

*Narrated Anas bin Malik: The Prophet <sup>صلی اللہ علیہ وسلم</sup>, Abu Bakr and `Umar used to start the prayer with "Al ḥamdu lil-lāhi Rabbi l-`ālamīn".* (Al-Bukhārī, *Book* 10, *Hadith* 137)

In one of the narrations, it says:



*“They did not recite bismillāh ir-raḥmān ir-raḥīm neither in the beginning of the recitation nor at the end of it.”*

This is a misinterpretation of the original *ḥadīth* and makes it *ma'lūl*. In another version, it is reported that:






Anas b. Malik  had narrated to him: I observed prayer behind the Messenger of Allah  and Abu Bakr and Umar and 'Uthman. They started (loud recitation) with: Al-hamdu lillahi Rabb al-'Alamin and did not recite Bismillah ir- Rahman-ir-Rahim.

Later, it was established that the part about not reciting *basmalah* was an addition to the rest of the authentic narration. (Kamali, 2005) This is an example of *'illah* due to *idrāj*.






### Examples of *'ilal* in text and chain





The following *ḥadīth* has a defect in *sanad* and *matn*, narrated by Yūnus, from Zuhri, from Sālim, from Ibn 'Umar , from the Prophet :

*“One who captures one unit of the Friday or other prayers, has captured the whole.”*

Rāzi  stated that the correct chain is: Zuhri , from Abū Salama , from Abū Hurayrah , from the Prophet . Secondly, the word 'Friday' is extra. The original wording was:

*“Whoever captures one rak'ah of a prayer has captured it”* (Kamali, 2005).

Many scholars have written books dedicated to the topic of *'ilal al-ḥadīth*. One of such collections is *Kitāb ul- 'ilal* by Ibn Abī Ḥātim  which lists *ma'lūl aḥādīth* according to *fiqh* topics. It collects comments of Ibn Abī Ḥātim's father, *ḥadīth* critic (*nāqid*) Abū Zur'ah  and other scholars (Abū Ḥātim, 2006). It is a useful resource in locating *aḥādīth* related to specific chapters of *fiqh* and getting the perspective of Abū Zur'ah , a well esteemed scholar specialized in the field of *'ilal*. An-Naḥḥās  (2009) has collected the opinions of Imām Aḥmad bin Ḥanbal  on various *aḥādīth* in *Al-Jāmi' li- 'Ulūm al-Imām Aḥmad- 'ilal al-ḥadīth*. These were collected from a wide range of books and sources and include the *aḥādīth* he deemed to be *ma'lūl*.

Another comprehensive compilation of *'ilal al-ḥadīth* is *'Ilal Ad-Daraqutni-al- 'Ilal al-Wāridah fīl-Aḥādīth an-Nabawiyyah*. It is distinguished because it categorized *aḥādīth* based on the Companion who narrated them, similar to a *musnad*. Zayn-ullāh (1985) lists some of the qualities of ad-Daraqutni's book such as: he presents more chains for a certain *ḥadīth* than Ibn Maḍīni's  compilation on *'ilal*, he focuses more on the *'ilal* while the book *Kitāb al- 'Ilal wa Ma'rifa ur-Rijāl* of Imām Aḥmad  goes into detail about biography and *jarḥ wa-ta'dīl* of narrators rather than explain the *'ilal* and *Al- 'Ilal al-Kabīr li-Tirmithi* quotes other scholars and their views of a particular *ḥadīth* while ad-Daraqutni  gives various the chains and points out the *'illah*. The advantage that the book of ad-Daraqutni  has over many other collections is the number of chains he has collected for each *ḥadīth*.

Ibn al-Madīnī رحمه الله (1980) compiled *Al-ʿIlal* where he lists *aḥādīth* according to the last narrator who collected the *ḥadīth* and explains the chains and where the discrepancy occurs. In the end he lists the *aḥādīth* and labels them by their content. It is a scholarly work and a detailed reference.

Ibn Rajab رحمه الله (1987) wrote a *Sharḥ* of *ʿIlal at-Tirmidhi*. This is a very diverse book comprising of Imām At-Tirmidhi's work and categorization of *aḥādīth*, explanation of terms used by him, a vast resource of *maʿlūl aḥādīth* collected by him, information on *isnād*, *jarḥ wa taʿdīl* of narrators listed by their names. Ibn Rajab further adds to the list of commentary on narrators. In the end he derives a set of nineteen rules based on the study of narrators to easily identify discrepancies in the *isnād* as mentioned by scholars.

Amongst the contemporary books is *Tahrīr ʿUlūm al-Ḥadīth* by Yusuf al-Jadī (2003) which is a simple yet detailed explanation of the guidelines of this science. He has a complete chapter dedicated to the types of *ʿilal* as defined by the *nuqūd* and he gathers all possible *ʿilal* to his best ability. He covers the art of *ʿilal* and the method of application in a separate chapter which is very useful for understanding how the scholars reached their conclusions. Another very famous contemporary book is *Muqaddimah Ibn Ṣalāḥ* (1986) which defined *ʿillah*.

### 3. RESEARCH METHODOLOGY

Initially, the importance and significance of the field *ʿilal al-ḥadīth* was researched from classical and contemporary books. Basic terminologies of the science of hidden defects in *aḥādīth* were outlined and defined. The subtle nature of this science was outlined with the fact that there were very few scholars who mastered this art. These names were listed, and their works were discussed in the literature review of the paper. Then, its application was discussed with examples taken from various sources to help point out the different types of *ʿilal* that can possibly occur.

### 4. RESULTS AND DISCUSSION

The *aḥādīth* of the Prophet ﷺ hold an extremely crucial and central position in the religion of Islām. To purify this source of knowledge from any alteration or fabrication, one of the tools used is the identification of *ʿilal* found in them. This service has been done by great scholars in the past. Since it is a very challenging art, very few have reached the level of defining *ʿilal in aḥādīth*.

It is a very valuable and vital science, and many books are dedicated to define the rules and regulations of this field. Many books have been compiled to separate the weak, *maʿlūl aḥādīth*, for future reference and for the benefit of the public. Yet, most of the literature is only available in Arabic.

### 5. CONCLUSION

Finding *ʿilal in aḥādīth* is a very difficult task and has been done by the most knowledgeable scholars in the past. Only the *aḥādīth* categorized as *ṣaḥīḥ* are qualified for this minute inspection because weak or rejected *aḥādīth* do not need to be further investigated and the ruling about them is clear. There are various types of *ʿilal* which can be found in the *matn* or the *sanad* of a *ḥadīth*. Depending upon the type of the *ʿillah*, it might weaken a *ḥadīth* which seems as authentic at first glance or might not affect the authenticity after all. For finding out whether a *ḥadīth* has an *ʿillah*

or not, there are plenty of classical and contemporary books which can be used for investigating the ruling regarding a particular *ḥadīth*. These books have collected the comments of *nuqād*, like Abū Zur‘ah, Ibn Ma‘īn, Bukhāri Ibn al-Madīni, Aḥmad bin Ḥanbal, Abi Ḥātim, ad-Daraqutni and others to give a complete picture of a given *ḥadīth* and its ranking. They are very resourceful for Arabic speakers and provide in-depth insight into *aḥādīth* related to *fiqhi* and *aqīdah* matters.

Finally, this science in its detailed form is a refutation of the incorrect claims made by Orientalists trying to attack one of the major sources of Islāmic knowledge.

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## DETECTION OF MAIZE STREAK VIRUS USING RASPBERRY PI COMPUTER

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### ABSTRACT

*Maize is one of the most common food crops grown annually around the world whereby the grains are further processed and used for local foods, manufacturing of cereals, animal feeds and many other uses. As a common food crop some challenges such as virus attacks are faced by farmers in the plant growth process, which can result in poor grain yield on harvesting. In this paper, we present a novel algorithm for detecting a common virus known as maize streak virus (MSV). The proposed algorithm uses an image processing technique to detect the presence of MSV on maize leaves. Therefore, MSV is detected by capturing the images of maize leaves and then sending them to a Raspberry Pi computer which runs an image processing algorithm to determine if the maize plant is infected with the MSV.*

**KEYWORDS:** Image Processing, Python, OpenCV, Virus Detection Algorithm, Raspberry Pi.

## 1. INTRODUCTION

A severe viral disease of maize is known as the maize streak disease (MSD) which is caused by the maize streak virus (MSV) and is mostly experienced in regions like the Indian Ocean Islands, South of the Sahara in Africa, Mauritius and some others (van Regenmortel & Mahy, 2009). This disease is a major source of insecurity when it comes to the plant yield and also the threat it possesses of spreading to areas that are not affected with the virus. Thus, it should be monitored and taken care of in order to prevent potential problems. The Raspberry Pi is a powerful and cheap credit card sized computer board which basically operates like a normal PC with Interfaces designated for Input and Output devices such as keyboard, mouse, camera, display unit.

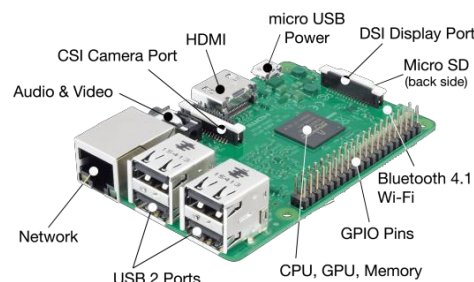


Figure 1. Components of the Raspberry Pi 3 Model B

It is a 64-bit system based on the Broadcom architecture at the speed of 1.2GHZ, with RAM size of 1GB and a micro SD card slot which serves as the hard drive and has the operating system stored.(Maksimović, Vujović, Davidović, Milošević, & Perišić, 2014) Image processing is a phenomenon that involves processing an acquired image which can be a photograph or a frame taken from video into its raw digital data and then having some operations carried on the data in order to manipulate the image or extract information from it (Barbedo, 2013) (Young, Gerbrands, & Van Vliet, 1998). Extraction of information is exploited in areas such as agriculture to detect plants that are infected with diseases without the need for manual inspection by a human. With respect to MSV, the main symptom is the yellowing of the leaves which is known as chlorosis (Martin & Rybicki, 1998). This chlorosis can be small in spots or covering the whole leaf depending on the severity of the infection, this is the main criteria that was used in determining if a leaf is infected or not in this work.

Application of some agricultural techniques can be found in the holy Qur'ān in the story of Prophet Yūsuf عليه السلام on the interpretation of the King's dream, he gave a recommendation in (12:48) where Allāh ﷻ says: ***"Yusuf said: "For seven consecutive years, you shall sow as usual and that which you reap you shall leave it in the ears, (all) except a little of it which you may eat.""***. From Tafsīr Ibn Kathīr the wisdom in Prophet Yūsuf's speech is explained as him providing them with a means of having the harvest stored and preserved in good health so that they would be able to make use of the stored harvest over the period of famine that would befall the kingdom. As such, application of our knowledge to preserve the good health status of plants or their harvest which will be of benefit to humanity is a good act in Islām.

Also from the Hadīth of the Holy Prophet ﷺ we have the story on the pollination of date palm trees, after the migration to Madīnah, he saw the people there pollinating the date-palm trees by hand, and he said to them, *"If you do not do this, it should still be fine."* So, they did not do it, and the crop failed, producing only bad dates. He passed by them and said, *"What is wrong with your date-palms?"* They said, *"You told us such-and-such."* He said, *"You know best about the affairs*

*of your world.” (Reported by Muslim, 4358).* Here the Messenger of Allāh ﷺ tried to encourage us to do research when it comes to affairs that have to do with worldly matters, which has to do with analyzing and observing our problems and then finding solutions that will assist in optimal development in various fields such as agriculture. This is related to the MSV detection done in this paper with the aim of growing plants that are healthier and increase the yield in their products.

## 2. REVIEW OF LITERATURE

Literature such as Patil and Kumar (2011) in which a method was proposed for studying plant disease traits with the aid of image processing, which showed how much it can ease the work of scientists. However, there is room for a much better performing algorithm with the aid of genetic algorithms or neural networks. Barbedo (2013) made a survey which includes various methods that are used to detect, classify, and quantify plant disease using image processing giving an insight to various methodologies used in different literatures to solve the problem, but gave just a brief overview of how these methodologies work. Sethupathy and Veni (2016) proposed a disease detection method for mango leaves using the OpenCV Library, which uses the K-means algorithm for disease segmentation and the SVM classifier is further used for classification of the disease. Impressive results were presented from the proposed algorithm however it has a drawback of background dependent image process which affects how the segmentation is done properly and the image is not acquired in real time.

Marathe and Kothe (2013) proposed an AI technique which uses K means clustering, which begins by acquiring the image after which enhancement and restoration is done, and finally the image is analyzed in a computer to extract data used to determine the condition of the plant. This proves to be advantageous over detection with the naked eye when observing a large area however the image processing is done with MATLAB which implies the need for a powerful computer to be running the algorithm continuously which might cost a lot. A simple and efficient algorithm is presented in this paper which is focused on the detection of maize streak virus and easing the work of the farmer especially in situations where the farm area is of several hectares.

## 3. SYSTEM ARCHITECTURE AND METHODOLOGY

The system basically consists of a Raspberry Pi with a stable DC power supply, the Raspberry pi camera module which is attached to the board via a ribbon cable to the CSI port serving as the input for the image to be processed and a display unit which shows the image undergoing the image processing stages and also displays the health status of the leaf that is being analyzed.

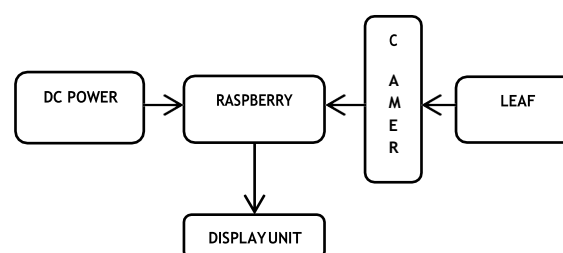


Figure 2. Block System Architecture

Capturing the image is the first step in the process and colored images can be represented by a matrix of the different color channels (RGB) which is represented in OpenCV as (B, G, R), in each pixel as integer value ranging from 0 to 256 on the three different channels, which comes together to give the specific color of the pixel (Pesco & Bortolossi, 2012). The Image below shows an example of a 3X3 pixels image.

1	4	7
2	5	8
3	6	9

Figure 3. A 3X3  
Pixels PNG Image

The pixel 1, 2 and 3 are represent by row 1, row 2 and row 3 on matrixes A such that the first column represents the B channel, the second column represents the G channel, and the last column represents the R channel of its corresponding pixel. Same applies to pixels 4, 5, 6 and pixels 7, 8, 9 represented by matrix B and C, respectively. This image can be further decomposed in its matrix representation as;

$$\begin{bmatrix} 1 & 4 & 7 \\ 2 & 5 & 8 \\ 3 & 6 & 9 \end{bmatrix}$$

Decomposition into individual B, G, R channel is done next where each channel matrix represents the same pixel position in the image, splitting the image above into B, G, R channels we obtain;

$$\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{bmatrix}$$

The splitting of channels is done in the algorithm in order to obtain the channel with the most dominant color in maize which is the green channel. After obtaining this channel thresholding takes place which is the process of segmenting an image into different components (Sahoo, Soltani, & Wong, 1988) and the type of technique applicable is dependent on the desired result as for this algorithm the binary threshold and binary inverse threshold techniques are used in order to obtain the healthy component of the leaf and the disease infected component of the leaf. These can be mathematically represented as;

$$\begin{matrix} ( ) \{ & ( ) & ( ) \\ ( ) \{ & ( ) & ( ) \end{matrix}$$

Where ( ) and ( ) represents the binary threshold and inverse binary threshold respectively, ( ) is the location of pixel with coordinates as row and column. In the detection algorithm a Health to Virus Ratio ( ) constant is introduced which is derived from healthy leaf samples by summing up the binary thresholds of all the healthy leaf samples and then diving by the inverse binary thresholds of all the healthy leaf samples and then diving by the inverse binary thresholds of the leaf samples which gives an average that can be used to determine the condition of other leaves (Sasakawa, Kuroda, & Ikebata, 1991). This can be represented by

$$\frac{\sum \sum}{\sum \sum} ( )$$

Where is the total number of healthy samples and N the total number of pixels belonging to the Image. With the acquired leaf samples and application of equation (3), an of 1.8 was obtained which is used as the constant to run the algorithm. Having understood the basic overview of the system, the image processing algorithm is as follows;

#### Leaf Status Detection Algorithm

Input : Camera Image

Output : Leaf Health Status

Initialization

- 1: B,G,R = split image (Input) to BGR channels
- 2: BT = Binary Threshold (G, threshold limit)
- 3: IBT = Inverse Binary Threshold (G, threshold limit)
- 4:  $\frac{\sum \sum}{\sum \sum} ( )$
- 5: If (  $\frac{\sum \sum}{\sum \sum} ( )$  ) then  
leafstatus = Not Infected  
else  
leafstatus = Infected
- 6: Print (leafstatus)

The above algorithm was implemented in Python code and then run on the Raspberry Pi to generate some results which will be discussed in the next section.

## 4. RESULTS & DISCUSSION

After the setting up The Raspberry Pi system was set up as shown in figure 2. A DC Power source of 5V 2A was used to power up the Raspberry Pi model B, the camera was connected to the CSI slot on the board and the display was connected via the HDMI port. The algorithm was implemented with Python which included importation of the Opencv Library and some modules form Matplotlib which were used to display some of the Image processing steps. To train the system 5 infected and 5 non infected samples were used to obtain the HvR which was set as a constant in the program. The Binary (BIN) threshold and Inverse binary (INV-BIN) threshold are

necessary for the computation of the HvR and their values are obtained by equation (1) and (2) respectively which is implemented in code with some in built functions with the OpenCV library. In addition, a masked image was added to the output which has the pixel value of the processed infected area set as 0 (black) on the original image in order to illustrate the areas where the algorithm was able to detect chlorosis. Random images of healthy and unhealthy leaves are used for testing and below is some of the outputs of the algorithm.

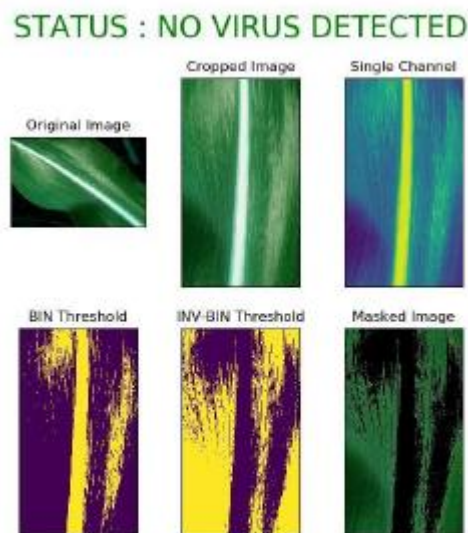


Figure 4. Process on a healthy leaf sample

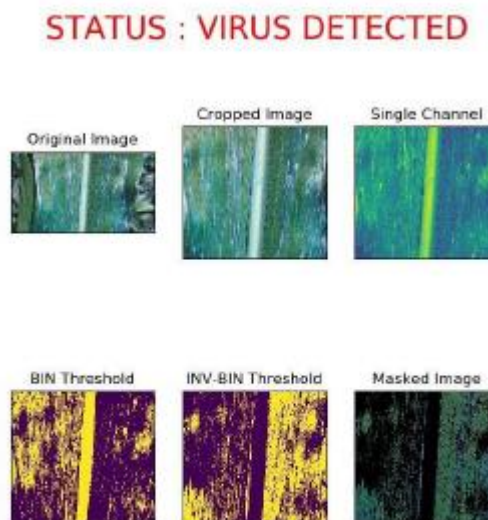


Figure 5. Process on an unhealthy leaf sample

In Figure 4, a healthy leaf is passed into the system which goes through all the processes as explained earlier which the output of each step being showed in order to explain the whole process. The masked image is added to illustrate the magnitude of the green portion which is healthy and can also be used as means of identifying if the leaf is healthy or not, comparing with

that of figure 5. which is an unhealthy leaf it can be seen clearly that masked imaged in Figure 4 has a lot of dark spots which is an indication of MSV as intended with the algorithm.

## **6. CONCLUSION**

This work shows how the traditional method of MSV detection can be done in a computerized way to help ease the intensive labor required for farmers especially when it comes to inspection of large farm areas. Normally a farmer uses his eyes get the visual representation of the leaves after which the human intellect is able to differentiate the infected leaves from the non-infected ones by their color, this is done in a computerized way by having a camera which serves as the human eye and gets the visual representation of the image after which it is sent to the Raspberry Pi where the algorithm works on the image received from the camera serving as the intellectual process in humans thus able to differentiate the infected leaves from the non-infected leaves just as humans do.

The Algorithm designed for the detection of MSV proved to be successful with the numerous leaf samples that were used in the system as such the algorithm can be applied in assisting a farmer in getting his duties done. However, we intend to look further into the tendency of erroneous detections and how to mitigate them using more advanced image processing techniques which can also improve the precision.



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## UMMATIC SECURITY: CONTEMPORARY CHALLENGES AND THEIR CONCEPTUAL AND EMPIRICAL DIMENSIONS

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### ABSTRACT

*In the contemporary world, like any other nation, the Muslim Ummah as a whole is governed by international relations (IR) theory or theories, which define the relations between states, communities, people, cultures, and institutions. Despite being free from the reign of colonial powers, the Muslim Ummah still lags behind the rest of the developed world in political and socioeconomic stability and prosperity. The present paper analyzes various IR theories to determine whether the lack of progress of the Muslim Ummah is due to the application of these theories or if it is the irrelevance of these theories which hinder the process. Furthermore, it addresses the key challenges that the Muslim Ummah faces and introduces Islām as an IR theory.*

**KEYWORDS:** Muslim world, International Relations, IR theories, Realism, Muslim identity, Islāmic IR.

## 1. INTRODUCTION

The Muslim Ummah used to be a world superpower. It used to be a modern and innovative nation. Today, the Muslim world in general is comprised of states that can be identified as the less or least developed in the world with no real contribution to global development (Matthews, 2016). While history remembers the past glory of the Ummah and its' desire to return to those golden times, we see no progress. The Muslim world still lags behind the rest of world in almost everything, from security to stability. Muslim leaders have a responsibility to explore the major shortcomings of the Ummah in order to find solutions to the current crisis and bring about significant progress.

International Relations (IR) is the study of relations between states, communities, people, cultures, and institutions. There is a high probability that Muslims of today apply the wrong IR theory or theories, which consequently has influenced the Ummah's economic prosperity and sociopolitical stability. Furthermore, instead of concentrating on specific issues country-by-country, the paper focuses on the global issues shared by the Muslim world, which often go against Islāmic principles and greatly contribute to the current crisis.

This research attempts to answer some important questions, e.g., what systems of international relations are present in various Muslim countries and are they effective? Is there an IR theory (or theories) which is most suitable for the Muslim counties or an Ummah as a whole? What are the factors that have placed the Muslim countries to its current state? Are the Muslims to blame for their current state, or is it an outcome of some bigger scheme which is out of their control? In this perspective, the paper aims to summarize the observable major challenges faced by the Muslim Ummah, which need to be addressed in order to resolve some of their current issues. It also attempts to differentiate between the challenges which are the result of the colonial era and those that Muslims have created with their own hands. Furthermore, it discusses some of the contemporary international theories applied in the Muslim World in order to address their effectiveness.

In spite of aspirations to promote Islāmic law as the state law expressed by some leading figures such as Maududi, Khomeini, Sayyid Qutb, and several other intellectuals (Lipka, 2017), the Muslim World still does not have any contemporary real-life example of the application of the Islāmic law in its pristine entirety to follow or critically examine and compare. Thus, they are deprived of the possibility of a review of a case study of Islāmic paradigm of international relations. Hence, the majority of the research and debate is confined to either distorted or manipulated versions of the application of Islāmic law or its theoretical interpretation.

## 2. REVIEW OF LITERATURE

The literature review presents three major opinions on Islām as IR and the political scene in the Muslim world. According to the opinion of J. Harris Proctor, expressed in *Islām and International Relations*, the idea of Islām being the conduct of international relations and the formulation of foreign policies by states is attractive yet rests upon a weak basis (Proctor, 1965). His approach presents the traditional Western point of view, which views Islām as a mere religion. John Turner in *Islām as a Theory of International Relations?* correctly points out that Islām must be regarded not just as a subject to be studied within existing IR theory, but also as a paradigm of the IR on its own (Turner, 2009). Thus, Islāmic IR cannot be understood through existing IR lenses because Islām has a valid and strong political concept.

During a Panel Discussion on *Arab Liberalism and Democracy in the Middle East*, Tamara Cofman Wittes analyzed the weak position of liberals in the Arab world. She proposes various means of US support for these individuals and how to bring about change in the Middle-Eastern region (Democracy, 2004). It reflects that this type of thinking can be considered as an extension of colonization, where one nation believes that their own worldview should be implemented in another nation regardless of their compatibility with it.

### **International Theories**

Many different IR theories, to some extent, are present throughout the Muslim world today. It is important to determine, what kind of impact these theories have and how compatible they are with Islāmic teachings. It is noteworthy that realism is the main theory of IR. It is defined as a set of inter-related sub-theories which emphasize the role of the state, national interest and military power in world politics (Bell, 2017). It focuses on human selfishness, which goes against the principles of the Islāmic faith. Realism in the Muslim world is further demonstrated, for example, by Iran and Saudi Arabia's efforts to establish and maintain security and political stability through a military alliance with great superpowers such as the United States (Alzamalkani, 2015) (Etudier, 2010). Hence, instead of seeking ties with its Muslim neighbors, it is seeking protection from others. Regardless, it is noteworthy that some aspects of realism are included in the Islāmic IR such as its stance on defensive and offensive war (Michael Freeden, 2013, p. 639).

Liberalism is based on the assumption that the actors of international systems can reach peaceful cooperation regardless of their ideological world (Internationalrelations.org, n.d.). This belief in and of itself is in harmony with the Islāmic IR. However, they also believe that freedom of the individual is the central problem of politics (Kenneth Minogue, Harry K. Girvetz, Terence Ball, Richard Dagger, 2018). Meaning, individual liberty is of prime importance regardless of the general community or its state of well-being. The Arab liberal thought is not very strong in the Muslim world because it addresses Islām as a private affair and those in favor are considered traitors who are trying to sabotage the Arab society and its regimes (Democracy, 2004).

On the other hand, Marxism is a body of doctrine developed mainly by Karl Marx, which considers the religion to be the opium of the people. While it is clearly incompatible with Muslim nations, in the past, countries such as Egypt, Palestine, Lebanon, Algeria, Morocco, Iraq, Iran, and others have had experienced communist movements (Africa, 2014). It is noteworthy that Marxism had only a temporary hold in various Muslim countries due to their opinion on religion and their sympathies were mainly confined to the anti-imperialist national liberation thoughts during the post-colonial era (Ben Fowkes, 2009, p. 8).

Modernization seems as desired IR which would help Muslim countries to move forward. However, achieving modernity implies that one must leave behind traditional values in order to achieve an increased standard of living (Crossman, 2018). Islāmic teachings clearly reflect that there is no possibility of progress while denying or replacing the core Islāmic values and principles. Nationalism is the belief that people are divided into nations. Tribalism/ nationalism has a stronghold in Muslim nations and negatively affects the intended unity of the Muslim world. Loyalty to one's nationality in many instances overpowers the loyalty to Islām (Jaffry, 2010).

### **3. RESEARCH METHODOLOGY**

It seems that one of the biggest challenges in the Muslim world is to find and implement an appropriate IR theory to lead Muslim countries to political and social-economic stability and

prosperity without compromising Islāmic belief. Nevertheless, it is important to note a few key challenges that are prominent in the Muslim world. The main challenges faced by the Muslim world lie in its unity, education, cooperation, solidarity and identity. Lack of unity, quality education, and identity seems to be in congruence with the colonial era. While lack of cooperation and solidarity appeals to the selfishness of human nature, which is criticized in Islāmic teachings.

### **Unity**

The Noble Qur'ān reveals that Allāh created mankind into nations and tribes (Qur'ān, 49:13) and that the strength of the Muslim world has always lied in its' unity (Qur'ān, 3:103). It is the intentional division of nations and tribes that has weakened it. The concept of nationalism and tribalism is completely alien to Islāmic teachings. The divide and rule strategy, also known as "divide and conquer strategy", which has been successfully applied by the Western society since 1492, which marks the fall of Granada as well as the beginning of colonization (Encyclopedia.com, 2008). The purpose of this strategy was to subdue the Muslim world and deprive it of any possibility to regain its strength after the fall of the Ottoman Empire (Alkhateeb, 2012). Unfortunately, the same strategy that was aimed to control and harm the Muslim Ummah is nourished and maintained by the Muslim world itself to this day.

### **Quality Education**

Muslims, in their own eyes, consider their educational system to be under-qualified. Hence, anyone, who wishes to gain a more respectable education chooses to study in Western educational institutions (Lackey, 2013), which also means that they are exposed to ideas contrary to their beliefs. The academic religious education is largely considered inferior and extracurricular. Moreover, while Islāmization of sciences has been on the rise, it is yet to gain any significant value and application.

### **Cooperation**

Considering the reality of the Muslim World and the fact that it is divided into nations and tribes, one would assume that since all share the same values and principles given by the religion; there would be at least a high level of cooperation (Qur'ān, 49:10). Unfortunately, while there is some cooperation at a very low level, it is nowhere near the necessary and visible level needed to have a positive impact on the global welfare of the Muslim world. The case of Palestine, which has marked 70 years since the Palestinian exodus, is a clear example of the lack of cooperation and support from the global Muslim world (Paq, 2018).

### **Solidarity**

One of the pillars of Islām is to donate surplus wealth to the needy as well as the promotion of a charity. However, the analysis of the situation of the Muslim world clearly reflects the lavish spending of state money on luxury hotels and skyscrapers on one side (Taylor, 2011) and on the other people are dying of hunger (Daniel Nikbakht, Sheena McKenzie, CNN, 2018). This international policy and behavior go completely against Islāmic principles (Qur'ān, 17:26-27).

### **Identity**

The colonial and post-colonial era is marked by a loss of identity of the colonized nations. As a result, Muslims today are still searching for their identity. In their quest, they are turning to what they consider be modern and advanced while rejecting or belittling their rich religious and cultural heritage. (Yasir Qadhi, Shariah Editor, 2018). Before the Muslim world can make any advancements, it needs to start believing that Allāh has given it all the necessary tools to succeed.

#### **4. RESULTS AND DISCUSSION**

It is obvious from the current state of the Muslim world that the IR theories observable in the Muslim world are neither effective nor compatible with the Islāmic teachings as a whole. Thus, is it possible to consider Islām as a replacement of the current systems? Scholars of IR argue the position of Islām as the possible IR theory. Some concluded that the Islāmic IR is an expression of unattainable desire to go back to ancient times of prosperity and power, and they give it no value (Proctor, 1965). On the other hand, there are those who have looked at Islāmic IR in its complexity and concluded that it is considerable and valid IR theory (Turner, 2009). It is not important for the world of IR to recognize Islāmic IR as legitimate. Islāmic IR is a very rich and complex theory, which might not be very appealing to the non-Muslim world. However, it is absolutely suitable to be the IR theory of the Muslim world.

The Muslim world was born from a desert nation that spread its wings to all corners of the world and, after reaching its peak, dismantled into fragments of no significant impact or contribution to the development of the world's civilization. In recent times, there have been calls and attempts for Muslims to take back the lead under the banner of Islām. Nevertheless, despite these efforts, there is no Muslim country that plays an important role in the field of international politics. Today's state of the Muslim Ummah is defined by disunity, nationalism, corruption, competition, rising consumerism, and loss of the true Muslim identity. Muslim states are governed by policies alien to their religious and cultural heritage. In order to gain a globally respected leadership position, and political and socioeconomic stability and progress, Muslim countries need to implement the Islāmic IR theory with its appropriate interpretations. They have to consider it as a whole and not pick and choose what seems most appealing. They should understand and have confidence that success will only come while keeping as close to the Islāmic IR theory as possible. We have observed the flourishing state of those countries that have applied the Islāmic blueprint and, on the other hand, we have also witnessed the miserable state of those countries that have strayed from it. Hence, the tools for success are at their own disposal. Now, it is up to Muslims to determine their future.

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