



Comparison of Environment Protection and Public Health Practices in Islamic Culture to the Modern Regulations

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Abstract

The whole world suffers nowadays from the environmental pollution and arising new diseases. Islamic culture places great emphasis. For protecting the environment and preserving human public health. Islam forbids wasting of resources and destroying the environment as it makes the environment conservation is a religious duty of every Muslim. Various Islamic habits were practiced for centuries ago concerning about the cleanliness and avoiding diseases spread, which have recently been approved by health organizations and scientific theories. In this paper, all these practices were collected, analyzed, and compared to the recent approved health habits worldwide. The results confirmed that Muslims have the priority before many modern nations for safeguarding the environment and public health. Islam guides significantly people to safeguard the environment and preserve the resources. It is proved that most of the modern guidelines organizing human rights and duties align with Islamic teachings practiced centuries ago.

Keywords: Environmental protection; water conservation; public health; diseases spread; Islamic habits.

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1. Introduction

Due to the human activities, the pollution increased, and environmental imbalance has triggered serious warnings such as the climate change and new diseases spread. It becomes essential to human to look for a solution and stop destroying the environment. Recently many regulations are adopted to manage the natural resources and protect the environment. Most of these current regulations related to preserve the environment and public health were adopted fourteen centuries ago since Islam religion began. The holy book of Islam, i.e., the Noble Quran, showed clearly that Allah, the only god, almighty, created all things in the earth and the whole universe with precise measurements. These great measures assure the survival of living things and sustainability of natural resources. For examples, the planets and stars move in certain tracks in the space without any conflict as mentioned in Chapter 36: Verse 40 “It is not for the sun to catch up with the moon, nor for the night to outstrip the day, each is floating in its own orbit” [1]. In another example, Quran also describes that the sky was built as a strong structure without any space, cracks or faults and it decorated by stars and planets as mentioned in several verses such as Chapter 50: Verse 6. Modern astronomy scientists used to adopt the terminology, space, referring to the universe around the earth, but they discovered recently that there is no space and it is a precise building called cosmic web [2]. Thus, as referred by the Noble Quran, the universe is very accurate and balanced creation. In addition, the Noble Quran shows that resources and components in the earth incorporated in very accurate cycles such as water cycle as described precisely by several verses fourteen centuries ago, which showed the relation between rain and rivers and streams. This hydraulic cycle and how charging the rivers by the rain were not known until discovered decades ago by modern researchers [3].

Consequently, Islam advises humankind to keep this stability of the environment as it was created because humankind was created as trustees and stewards on the earth [4]. Islam defined the environment as a comprehensive meaning that consist of sky and earth including soils, mountains, water bodies, plants, and all creatures with humankind and their morals and behaviors [5]. All these creatures were created and interacted in a balance to service the humankind. Therefore, the humankind is responsible for preserving all these components of the environment [4].

In this paper, there is an attempt to compare Islamic rules adopted centuries ago to the modern regulations espoused by the organizations and countries to protect the environment and keep its natural sustainability. Islam regulations were captured from the holy book of Islam, i.e., Noble Quran, and from the teachings of the messenger of Islam, Prophet Muhammad, peace be upon him (PBUH). The study focusses on Islamic guidance for the human responsibility to conserve the resources and public health. This responsibility will be elaborated in the next sections.

2. Research methods

A qualitative research method is adopted in this study. The qualitative research help in understanding reasons, opinions, and motivations. It also delivers a deep sight into the problem and ideas for potential solutions. The study collected data about Islamic views of environmental protection and public health from primary and secondary sources. Primary sources are such as Noble Quran, historical books, and scientific research articles, and secondary sources included websites and newspapers. Authors have tried to rely on the English translation for many references such as the Noble Quran, which they are originally in Arabic language to make it easy for all readers to follow and read these references. The collected data then were analyzed and compared to the modern guidelines about these subjects. A summary was concluded about the feasibility of Islamic views and their impacts on the people and environment.

3. Results and Discussion

3.1. Islam and environment protection

Islam promotes the protection of the surrounding environment because it is the source of life. Therefore, according to Islamic rules, humankind is asked to protect these resources and do not harm any element in the nature including water bodies, plants, animals, birds, places, air, and others. The Noble Quran, at Chapter 28: Verse 77, forbids destroying the environment and orders the humankind to use it in the good way. “And do good as Allah, God, has been good to you. Moreover, do not seek to cause corruption in the earth. Allah, God, does not love the corrupters” [1]. In a clear picture, Islam gives warnings about spread the corruption by alteration the environment balance as mentioned in Quran, at Chapter 30: Verse 41, that “Corruption has appeared in both land and sea because of what people’s own hands have brought. So that they may taste something of what they have done. So that hopefully they will turn back” [1]. Thus, from Islamic perspective, the unbalance in the environment including all environmental crises such as the climate change was brought because human activities and abuse of resources [6]. United Nations (UN) reported that the main causes for climate change is the modern human activities such generating electricity and heat by burning fossil fuels; manufacturing too many goods, cutting down forests to create farms or pastures; using transportation running on fossil fuels; powering buildings by burning oil and natural gas; and consuming too many products. All these activities led to increase generating greenhouse gas emissions, which act as a blanket covering the Earth and trapping the sun’s heat. Therefore, this leads to a global warming and climate change [7]. All creatures have the right to use the natural resources and benefit from them as mentioned in several verses in Quran, for example at Chapter 80: Verses 24-32 [1]. The humankind, as the only rational creature on the earth, is responsible about saving and managing these resources to be suitable for

utilizing sustainably. Islam advises the human to not waste resources as mentioned in Chapter 7: Verse 31, “Eat and drink, but do not waste, for He, Allah, does not like the wasteful”. From the teachings of the messenger of Islam, Prophet Muhammad, peace be upon him (PBUH), he advised that the benefit of the thing is in turn for the need attached to it. The Prophet (PBUH) also advised one of his companions called Saad ibn Abi Waqas, when he was performing a ritual cleaning of body parts in preparation for the prayer to not waste too much water even if he is at a flowing river. [8]–[10]. Thus, the utilization performance in Islam view is conditional on the need. Thus, this saves the natural resources and reduce the garbage, which assures protecting the environment. The waste reduction surely helps in saving resources and clearing the environment [4]. Many recent studies demonstrated this alarming problem of wasting the natural resources. One recent study concluded that since the starting of industrial revolution in the end of 19th century, industrialized countries wasted huge amount of the natural resources in two ways. First, they relied on non-renewable resources. Then they destroy or misuse about 78% of the extracted groundwater, 49% of the produced food, 31% of the generated energy, 85% of extracted minerals and 26% of non-metallic materials. Therefore, due to this overconsumption and overexploitation, resources were exhausted, and ecosystems were contaminated leading to adverse impacts on the environment and societies [11].

3.2. Water Importance in Islam Views

Everything was created from water: In the Noble Quran, Allah Almighty showed that He (Almighty) created all living things from the water as mentioned at Chapter 21: Verses 30. In another verse Allah Almighty describes that “Allah has created every animal or creature from water. Of them are some that creep on their bellies, some that walk on two legs, and some that walk on four and Allah creates what He wills” (24:45) [1]. These meanings have been supported recently by the scientific theories such as that the life began in the oceans’ water what they called water world theory of life's origins [12]. Furthermore, the recent research proved that every living organism requires water to stay alive. Besides, it is water that helps in performing all the activities as well as functions in the body, which it is filled with around 70% of water and this is what makes it perform perfectly. In human, the brain requires 80% of water, lungs 90%, blood 83%, bones 30%, muscles 75%, and skin 64% respectively. Therefore, the body completely relies on water to make all the vital organs function properly.

Water cycle: The water cycle is a series of evaporation, condensation and precipitation processes that controls the freshwater map on the earth. This important cycle driven by sun energy, was not discovered by modern researchers until few hundred years ago. There are many verses in the Noble Quran explaining the journey of freshwater in the earth that now has been proven by recent scientific studies. For example, what is mentioned at Chapter 78: Verses 13 and 14. The first verse indicates to

the sun as a shining lamp of extremely intense heat. Then in the next verse, 14, talks about sending down water from clouds, which describes the second and third parts of water cycle and linked the role of the sun heating as the first part mentioned in the verse 13. In addition, at Chapter 15: Verse 22, this verse defines the wind as the second controller beside the sun of the water cycle as it is known recently that wind plays a role in increasing the rate of water evaporation in the air. Chapter 24: Verse 43, describes that the high thick clouds are responsible for the formation of rain and ice. Quran in many verses talks about sending rain and running it in rivers and springers and storing underground. This hydraulic cycle and how charging the rivers by the rain were not known until discovered hundred years ago by modern researchers [3].

The barrier between fresh and salt waters: As apart of water cycle, the rivers and streams having freshwater drain finally at a sea or ocean and return water to the sea without polluting freshwater with salt and bitter. In the Noble Quran, at several positions such as Chapter 25: Verse 53 and Chapter 55: Verses 19-20, it is mentioned that there is a barrier keeping the fresh water clean from mixing with the salt. This barrier is discovered recently by marine scientists. They discovered that in general whereas two different water bodies come together, there is a barrier formed between them due to the difference in temperature, density, and salinity. Then when the water body enters the other, the distinctive characteristic of both becomes homogenized with the other. In this case the barrier works as a transitional zone for the two waters [13], [14]. Recent human activities start to interrupt this barrier and cause freshwater pollution. Many studies recently were investigated the reasons and impacts of causing seawater intrusion into freshwater [15].

Water pollution and purification: For water pollution, polluting water intentionally is forbidden in Islam based on the general advice of Islam Prophet (PBUH) who said that no harm shall be inflicted or reciprocated in Islam. He (PBUH) also forbidden relieving yourselves or urinating in a watering place. He (PBUH) established borders for water springs and wells to prevent them from agriculture and building to protect groundwater from possible contaminations. For water purification, the Islam Prophet (PBUH) was asked about water and how some animals might drink from it. He (PBUH) advised that when the water volume is more than 50 waterskins, then nothing makes it impure. if it does not change its smell, and its taste, it is safe to use. According to [16] this above amount is equal around 270 liters and Muslim scholars recommended that adding a clean amount of this volume to any impure water will turn it all to a pure water, which suitable for religious cleanliness habits. This refers to the impact of water dilution factor and self-purification when the contaminated water was mixed with the clean water. This is approved by recent scientific research and water quality guidelines (Keller *et al.*, 2014; Colman *et al* 2016; Wahyudianto *et al.*, 2019). For example, regarding what mentioned about animal polluting water, if it is assumed that animal saliva will be add to the water by 0.5 to 1 ml

due to its drink, then dilution factor will be 270,000 to 540,000 according to the above suggested water amount, which shows how the impact of the pollutant will be very minimal.

Water treatment in Muslim Civilization: In the Islamic golden age traditionally dated from the 8th century to the 13th century, many scientific, economic, and cultural flourishing were arisen. Water treatment is one of the important features of this era. Several practices were adopted for water treatment. For turbidity removal, an experiment of water purification was described in Islamic medical books in accurate details. Jabir Ibn Hayyan known as Geber, the chemist in the 8th century, recommended the siphons axis usage as a method of purification of water. Ibn Rubn Al-Tatari, died in the ninth century A.D, informed that based on studying the ancient Egyptian sciences, water turbidity can be removed by throwing crushed kernel cores of peach and apricot into water to become clear and by using curdling aids as well [20]. Al-Jazari mentioned several ways to purify turbid water. One of them was by putting water in porous pottery jars to allow infiltration of water from the inside to the outside, so the clean water is filtered towards the outside. Ibn Sina, in the tenth century A.D, proposed for removing turbidity using two pots, an upper pot filled with muddied water and the lower is an empty pot and in between a priming of a wool. Then water will drop by gravity as pure water drips into the empty pot [21].

For water sterilization, recently it is known that boiling water for a period of five to ten minutes gives a safe water without germs. Al-Tamimi, in the tenth century A.D, concluded that for full water sterilization, water should be boiled for a sufficient time until a quarter of it evaporates. Then water is filtered in a newly made ceramic pot with large pores to get rid of all impurities [22]. In addition, Al-Razi, mentioned that boiling water for a long time then cool it very quickly will help removing all contaminates.

For seawater desalination, Ibn Qaim Al-Jawzih, in the thirteenth century A.D, suggested water filtration through soil layers to get fresh water from seawater. His method by making many series large holes beside the seashore, so that seawater is filtered to the first, and then filtered to a next hole and so on until the water becomes pure and sweet [23].

Muslim's invention in water technology: Water technology is also an important sign of the Islamic golden era. Many technologies were proposed, implemented, and used as a base for the modern civilization and technologies. Many scientists in that time invented several devices. Al-Jazari, for example, designed many devices in the field of the water engineering. He invented the water clock, which is used to measure time by the regulated flow of liquid into or out from a vessel. He also invented a water-raising machine known as Noria. It is a historically very significant machine for lifting water. It consists of a large wheel made of timber and provided with paddle. The most amazing of Al-Jazari's inventions was the water-driven twin-cylinder pump. It had a double-acting principle, the conversion

of rotary into reciprocating motion, and the use of true suction pipes [24], [25]. Banu Musa, Persian scholars, were in the period of 803 to 873. They published a book including real practical inventions and engineering tricks focusing on using trick vessels such as alternating fountains. They also adopted the crank or the eccentrically mounted handle of the rotary in several of the hydraulic devices [26]. In addition, the ship-mill is one of the remarkable innovations adopted widely in the Islamic world to control the power of the faster currents at midstream. It also solved the problem of low water levels challenging fixed mills during dry periods. The ship-mills were used in Murcia and Zaragoza in Spain. The tidal power also was exploited in the tenth century in Basra, Iraq, before their adoption in Europe by hundred years [27]. The most advanced hydraulic systems at the time were used for both surface water and groundwater resources by Muslim communities. Most Muslim hydraulic works and water-lifting machines continued the basis for Spanish agriculture and were moved to Europe and modern world systems.

Muslim's approaches for water supply and sanitation: Water is necessary for Muslims like other people for normal human activities such as drinking, food preparation and washing. However, it also is needed for ablution i.e., cleaning for praying and religious activities. In addition, in Islam, delivering water to human, animal, or plantation, is considered as a continuous charity as mentioned in Quran: Chapter 6: Verse 99. Prophet Muhammad (PBUH) advised that supplying water is the best charity. Thus, supplying water is an essential task for the Muslim authorities. Very early in Muslim communities started using distribution systems for drinking water by simple ways such as excavating central wells for each a community as a source of water. They also arranged to supply a clean water by transporting it by animals for homes. The qanat system, i.e., a subterranean canal, was originated in Iran. It was an efficient method transferring surface and spring waters for irrigation and water supply. The qanat technology spread westward to North Africa, Spain, and Sicily in Italy. Then the Spanish transferred this Islamic technology including both institutional framework for irrigation and the distribution of water to the southwest of American continent. Many such qanats were found in Mexico, Peru, and Chile [28]. In addition, many Muslim dams were found in Spain built during the tenth century AD to control the water supply and increase the water harvesting [29], [30]. Many major cities of the medieval Islamic world such as Baghdad in Iraq, Cordoba in old Islamic Spain, Fez in Morocco, and Fustat in Egypt had water supply systems. These systems were operated by hydraulic technology that provided the drinking water for routine washing purposes, mainly in mosques and public baths. These cities also had advanced wastewater disposal systems with interconnected networks of sewers [31].

Water management in Islam: Water has a great importance in Islam as it gives and sustains life in the earth and cleans human bodies for praying and worshiping practices. Some scholars argued that water has been mentioned more than 63 times in the Quran [32]. The first step of water management is its

conservation. Quran supports water demand management by referring to that the water supply is fixed, as in Chapter 40, Verse 18 "And we send down water from the sky in fixed measure. Islam advised people to consider equity and sustainability in using natural resources. The Quran orders humans not to waste resources including water as in Chapter 7: Verse 31, "O Children of Adam, eat and drink, but do not waste, Allah, God, don not like the wasters". The Islamic Prophet (PBUH) used to perform ablution by small amount of water equal two-thirds liter and used to take a bath with around 3 liters. He (PBUH) also forbade wasting water in cleaning for praying even a plenty available such as a flowing river. This behavior exhibits a rational method to water sustainability in such arid area [33]. Thus, water conservation is a major concept in Islam view as it is considered a living style that is not used only as a solution to the shortage, but it should be applied through the Muslim's daily habits.

The second step of water management is, reusing the wastewater. As be referred above about the pollution and water treatment, the light polluted water can be treated and reuse it by very early Muslims. However, the new terminology of wastewater, which has a high level of pollution, and its reuse was not acceptable by Muslim scholars in the beginning especially for using this water for cleanliness due to its dirty. However, after become practicing the treatment method of the wastewater common and it provides the safety and cleanliness for this wastewater. Since 1978, Muslim scientists and engineers recommended that treated wastewater can theoretically be used even for cleaning for praying and drinking as well [34].

3.3. Environment Sustainability in Islam

The sustainability expression was adopted since 1970s to term the equilibrium of the economy with the natural ecosystems. Thus, environmental, economic, and social aspects are considered the three key factors of sustainable development. However, recent models viewed that the natural environment is the controller for the two other aspects or in other words, both economy and society are limited by environmental restricts [35]. The United Nations issued a report in 1987 defining the sustainable development as a development that meets the needs of the present without compromising the ability of future generations to meet their own needs. The western liberal capitalism is based on the market economy and profit maximization. Sequentially, the wealthy counties got many benefits and led to failed people and nature as many of people live under the poverty line and many ecosystems were destroyed [36].

Sustainability in Islam may differ from the understanding of industrialists. In Islam, development becomes sustainable if it provides of equilibrium, moderation, and considerations of the social justice. Islam invites for the equilibrium among people by asking reach people to pay some of their money for poor people. Islam teaches moderation in all aspects of human behavior especially in consuming the

natural resources. Islam stresses on the fairness among all humankind. Islam considers all resources are gifts from Allah, almighty, to the whole of the human. Thus, the economic development is embedded in the ethical norms of Islam, which confirms mankind's responsibility in the utilization, allocation, and preservation of natural resources [35].

Sustainability is identified mainly in the perspective of a capitalist economy and the hardline secularism philosophes, which prevents the existence of the human religious. Within Islam, the concept of a strict separation between religious and state affairs, as understood in Western secularism, is not traditionally present. Islamic law (Sharia) provides a framework that encompasses all aspects of life, including governance. Although only a handful of Muslim countries now base their political, judicial, and economic systems completely on Islamic laws such as Saudi Arabia, the influence of Islam is still strong enough to prevent founding a purely secular state in the Islamic countries. Thus, even in relatively secular Muslim countries, appeals to Islamic sustainability based on religious values are common in these countries (Faruqi et al, 2001).

3.4. Public Health

Islam stresses the importance of cleanliness and personal hygiene. Islam urges people to clean their bodies, areas, and their surrounding environment. Many instructions had been recommended by the Islam to protect the general health of people and prevent disease spread.

Cleanliness: Islam asks people to make ablution five times for the daily prayers. It also recommends taking showers every Friday and at the two Muslim festival days and after a sexual relationship for the married people. This care about the cleanliness led to build many public bathhouses very early through the Islamic countries. Islamic hygiene also requires washing with water after using the toilet, for purity and to minimize germs. The Islamic Prophet (PBUH) advised to do five things and called them as an original disposition or natural constitution, called Fitra in Arabic, for people namely, circumcision, removing the pubes, trimming the mustache, clipping the nails, and plucking the armpit hairs [8]–[10]. He (PBUH) also advised people to wash the hands before and after eating and to clean the mouth and teeth by brushing them by a small branch of a type of tree called *Salvadora persica*. This type of plants was approved recently as very useful for clearing mouth and improving its odor and mentioned by the World Health Organization (WHO) for oral hygiene use [37], [38]. The recent proper hygiene and sanitary practices confirm the benefits of cleaning mouth and washing hands before and after eating to wash away any harmful germs/bacteria and reduce the risk of illness. All these Islamic hygienical habits in cleaning the human body and keeping it healthy helped reducing the disease spread among Islamic regions in the earlier eras.

Eating less food for better health: Islam invites normally for the values of moderation and control without extravagance in everything. The Prophet (PBUH) said: “A human being fills no worse vessel than his stomach. It is sufficient for a human being to eat a few mouthfuls to keep his spine straight. But if he must (fill it), then one third of food, one third for drink and one third for air [8]–[10]. The meaning refers to eating light and moderate meals is the best approaches to attain a good health. Because over-consuming food may lead to a negative impact on both mind and body. Dividing the needs of the human body into three thirds for food, drink, and the respiration indicating that Islam is established on the values of moderation without wastefulness. Medical studies showed that drinking water with meals may help regulate your appetite, prevent overeating, and promote weight loss [39].

The Islam Prophet (PBUH) also advised to fast Mondays and Thursdays regularly or three days at least from each month. Beside fasting for religious reasons, the fasting can offer excellent health benefits. The recent research supports the benefits of this regime for general health. Much scientific evidence now supports the benefits of fasting as it cleanses our body of toxins and forces cells into processes that are not usually stimulated when a steady stream of fuel from food is always present. Research has focused on a two-day diet where calories are reduced in half and carbohydrates are limited for two consecutive days in a week [39]. This may be like fasting Monday and Thursday as advised by the Islam Prophet (PBUH).

Recommending eating useful foods and forbidden harmful ones: All foods are allowable in Islam except the pig meat and wine. Many modern studies discussed the risk of eating pig or pork meat and drinking the wine (Meyerholz *et al.*, 2008; Khuroo, *et al.*, 2016; Ahmed and Ghanem, 2020). It is confirmed that the Islam Prophet (PBUH) liked eating some foods such as milk, honey, watermelon, and palm dates. He (PBUH) recommended that if someone eats seven ripe dates in the morning, he will not suffer a harm of the poison in that day [8]–[10]. He (PBUH) liked eating palm dates with watermelon. Recent research confirmed many benefits for these foods and their combination as well. The dates were proved that they include highly nutritious and concentration of antioxidants, and aid in healthy bowel movements. Date and watermelon are proved for their hair and skin benefits. They are anti-aging benefits, brightens and lightens complexion, reduces wrinkles and treatment of skin diseases, anti-inflammatory properties, body hydration, digestive aid, and cancer prevention [43].

Islamic instructions for preventing the disease spread: Islam gives a great care for the infection control and protecting people from the disease spread. The Islam Prophet (PBUH) gave many instructions for his companies regarding conserving the public health. For examples, the Prophet (PBUH) forbids that people relieving yourselves or urinating in a watering place, especially forbidding urinating into resting or permanent water. He (PBUH) also advised to not urinate in the place whereas taking a bathe, to no

doubt that the urine has dirty his body or not. It is proved recently that draining wastewater directly into water bodies without a proper treatment cause the disease spread. Water-borne diseases such as cholera and typhoid made pandemic disaster several times in several Europe cities in 18th and 19th centuries due to improper wastewater disposal. For example, in Paris, cholera epidemic of 1832 alarmed the awareness of people for the essential need for a proper drainage system of wastewater. Tens of millions of people were killed in pandemics such as the Plague of Justinian in 541 and the Black Death in 1347 to 1351 due to improper wastewater disposal [44]. In addition, the Islam Prophet (PBUH) prohibited the drinking of water directly from the water container and drink by using a cup or vessel to not pollute the water source. He (PBUH) also advised that when you drink water do not breath in the vessel and he (PBUH) used to drink while sitting not standing and take two or three breaths outside the vessel while drinking. All these instructions can help to reduce disease spread among people. Recent studies showed that drinking water while standing, may keep feeling remain thirsty even after drinking water. Thus, it has been suggested that it is preferable always to drink water while sitting and in smaller sips. Furthermore, not advisable to drink water while standing because this may cause digestive disorders or ulcers and heartburn. The reason is the swallowed liquid ends up splashing in the esophagus which disturbs the sphincter. As a result, the acid would give the feeling with the burning sensation. Some studies showed that drinking water while standing can lead to the increase of fluids in the joints, which can initiate inflammation problems and joint damage. It has been also found that the kidney filter works better while sitting. Drinking in standing positions leads to pass water without any filtration to the lower stomach and causes the water impurities to settle in the bladder [45].

Furthermore, regarding the infection transfer from animals, advises were given by the Islam Prophet (PBUH) in this concern. For example, if a dog drinks from a vessel, he (PBUH) advised to wash it seven times to make sure it becomes clean. Recently reported by [46] that dogs transmit several viral and bacterial diseases to humans. Zoonotic diseases can be transmitted to human by infected saliva, aerosols, contaminated urine, or direct contact with the dog. Viral infections such as rabies and norovirus and bacterial infections including *Pasteurella*, *Salmonella*, *Brucella*, *Yersinia enterocolitica*, *Campylobacter* and many others are the most common viral and bacterial zoonotic infections transmitted by dogs to humans. Many studies referred to the major role of animals in transmitting hazards diseases and pandemic to human [47].

For controlling the disease spread or pandemic, the Islam Prophet (PBUH) said, "If you hear of plague in a land, do not enter it; and if it breaks out in a land, in which you are, do not leave it" [8]–[10]. This means that people must never enter nor escape the disease affected area and must take available

procedures to safeguard themselves and others from the disease risks [48]. This is the main guideline adopted recently with the virus spread such what happened with the most recent virus called Corona or Covid 19, which led to close all borders between countries to avoid its spread [40]. This quarantine is essential nowadays, particularly, due to the recent speed travel ways among countries. Diseases can spread very quickly across the whole world in few hours or days, creating a great risk to the public health and economics. It is reported that quarantine and personal hygiene were the core of prevention [49].

Community Rights

Islam introduces norms for all life aspects including conduct, society, politic, and economy. It calls also to safeguard all forms of the life diversity. It concerns about all living things on the earth including human, animals, and plants. The Arabic root of word Islam is “Salam”, which means peace and harmony to all surrounding environments.

Rights of people: Islam advised followers to behave in a good way to all mankind and stressed on relatives and neighbors even non-Muslim. Islam Prophet (PBUH) advised that to get a complete faith in Islam, you must like for your brothers of Muslim what you like for yourself. This rule generates a very strong community. He (PBUH) advised that if anyone have extra staff or food should give it to whom do not have it. He (PBUH) also said that the believer is not he who eats his fill while his neighbor is hungry [8]–[10]. Islam asked wealthy Muslim to give a small part of their money to the poor people especially their relatives to help them on their needs in the life. Islam Prophet (PBUH) asked to visit the relatives and ask about them regularly and He (PBUH) advised to gentle dealing with women and He (PBUH) himself was helping the wife in household duties. Islam advised to save refugee if even it is a non-Muslim as mentioned in Chapter 9, Verse 6 [1]. All these advises are to enhance the social connection among people in the community. These advises adopted recently through many of worldwide agreements such as refugee agreement in 1951 and women rights by UN Women, the United Nations Entity for Gender Equality, and the Empowerment of Women. Universal Declaration of Human Rights, in 1948 by UN has gradually expanded human rights law to involve specific standards for women, children, disabled people, minorities and any other vulnerable groups.

Rights of roads and public area: In an explanation of the Islamic rights, Islam established social rules for sitting or walking in roads. Prophet (PBUH) advised that removing harmful things from the road is a good deed and an act of charity. He (PBUH) banned three acts that harm people in their public area namely: urinating in shaded places that utilized by people, in a walkway, or in a water place. He (PBUH) advised also that when people set in roads or public areas to talk, they must give the roads their rights. These rights include lowering the gaze from looking for others passing roads especially women, refraining from harming others, responding for greeting from people, and commanding what

is good, and forbidding what is evil [8]–[10]. These guidelines keep the security and harmony among people in the community. This exhibits the Islam care about introducing common respect and safeguarding in the community against rights of others. UN human rights covered many rights including the freedom of living of people in public area without annoying them by anybody, however, it does clearly state these rights.

Rights of animals: Islam gives a great care to animals as many instructions call for safeguarding and feeding them. Prophet (PBUH) advised that not killing a sparrow or anything bigger than without a need to eat, not simply to chop off its head and then throw it away. Prophet (PBUH) advised also that there is a reward from the god (Allah almighty) for serving any living beings, i.e., feeding, and caring. He (PBUH) gave examples of a man entered the paradise for giving water for a thirsty dog and a women entered the hell because of a cat, which she had tied it, neither giving it food nor leaving it free to eat from the vermin of the earth. These instructions encourage people to save animals even roaming animals such as dogs and cats and not killing animals just for matter of playing. These rights have been agreed recently in 1978 by Universal declaration of animal rights at the UNESCO headquarters in Paris.

Rights of plants: Islam invite people to save and plant trees. It is reported that Prophet (PBUH) stated that if a Muslim plant a tree or sows seeds, and then a bird, or a person or an animal eats from it, it is regarded as a charitable gift for him. He (PBUH) also encouraged people that if even the Day of Judgment, i.e. Resurrection, has been upright, while you have a shoot of a plant in your hands and it is possible to plant it, you should plant it [8]–[10]. This stresses on the important of planting. He (PBUH) forbidden also cutting trees without a right or reason. These instructions guide people to save the whole environment as plants are the producer of the food for all living things.

3.4. Islam view about human responsibility

As described above Islam asked people to not pollute the environment such water and land. Islam shows the rights of people and all other creatures. Islam also prohibits taking the money of others or any type of financial corruption and cheating as mentioned in many instructions of the Islam Prophet (PBUH) [8], [9]. As aforementioned that Islam introduces the humankind as the steward and vicegerent on the earth and added to them the responsibilities of managing all resources and protecting all other living things. Islam educates Muslims to follow God's orders in everything that they perform including the rights of the others; therefore, Islam intended to reach further than the individuality by guiding all Muslims to think about the whole society in their activities as a part of their religion. There are several modern hypotheses describing the human responsibility about the environment protection. For instant, Legitimacy theory indicates that organizations or companies should communicate their environmental

responsibility to legitimize their continual existence to stakeholder otherwise they will be rejected. Stakeholder theory on the other side suggested that companies should be operated in ways that are sustainable. The organizations can enhance the interests of its stockholders without damaging the interests of the rest of the society. Another group of theories called instrumental theories undertake that the single social responsibility of the company is wealth creation (Garriga and Mele, 2004). The difference between the Islamic view and that of these assumptions is that Islam view of responsibility stresses public interests over individual interests. Therefore, companies and individuals should protect and maintain the environment even if doing so will affect their specific interests. Because this responsibility is combined with the strong motivation to please the God, Allah almighty (Salem et.al, 2012). Figure 1 shows a flowchart summing up the Islamic recommendations regarding human responsibility toward environment and public health.

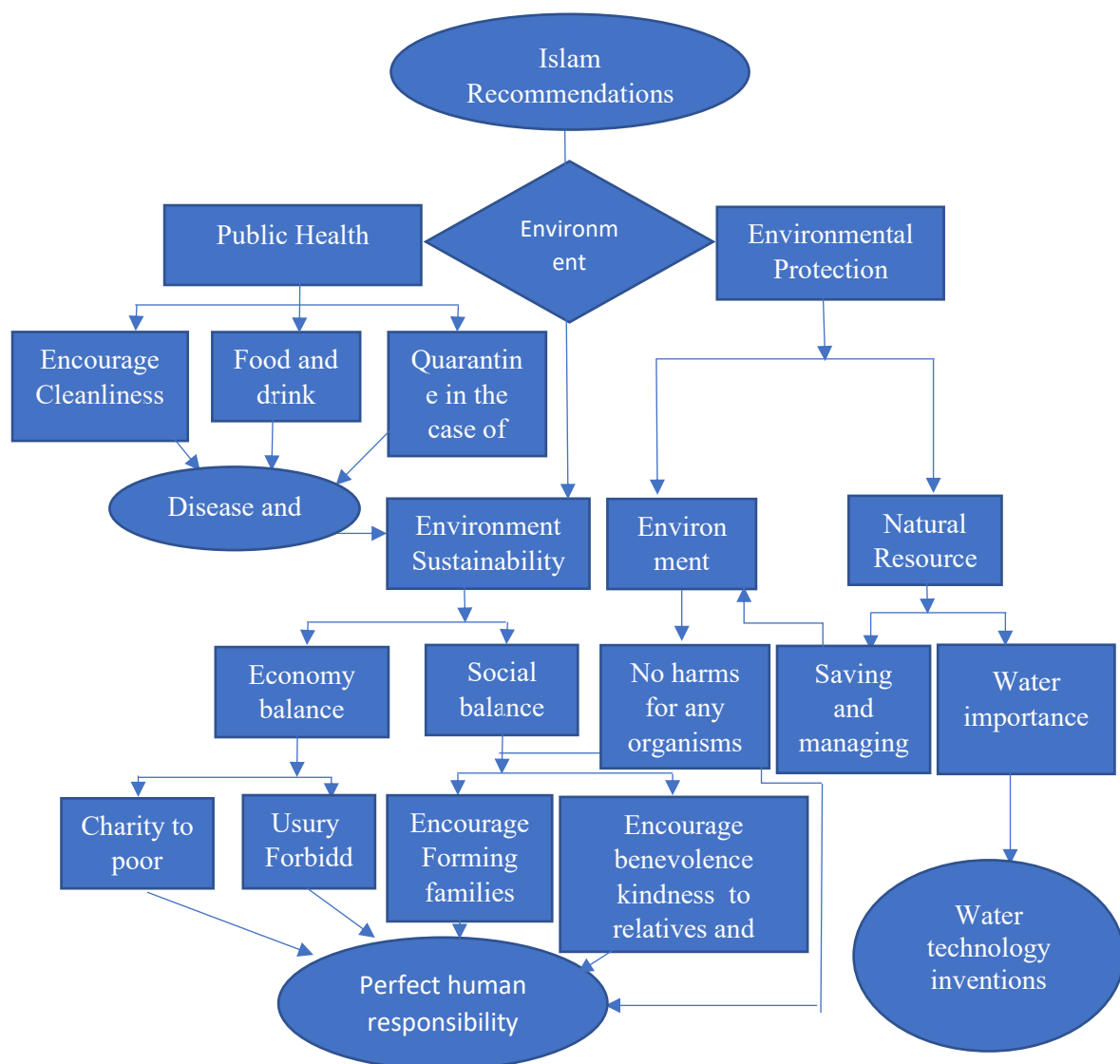


Figure 1: Flowchart summarize the Islamic recommendation toward environment and public health

4. Conclusion

Islam does not only show what is a good and bad sense from a religious aspect but also it introduces guidelines for each precise details of the life. Islamic way of life asks people to live in peace and harmony for both social and ecological sides and protect the environment. Through all above discussions in various aspects, it is proved that most modern guidelines organizing the human rights and duties were introduced by Islam rules fourteen centuries ago. In addition, many water technologies in water supply and sanitation were introduced by Muslim scientists since 8th century and used as a fundamental to many of the modern technologies. Several points can be spotted from the research analysis as follows:

- A practicing Muslim, who obeys Islamic teachings, should behave friendly to the environment elements, and save and manage the available resources.
- Islamic hygienic habits have several elaborate rules including ablution for the daily prayers, as well as taking regular showers. All these instructions help in cleaning the human body and keep it healthy and reduces the disease spread among Islamic regions in the earlier eras.
- Islam established a good relation among the community members by advising to distribute any extra supplies with people to others, by which it saves environment and reduce the waste generation.
- Islam asks for conserve the resources by following the sustainable consumption as much as possible.
- Islam advises to keep the environment clean and safe and to plant trees and to care about the animals.
- Most Muslim hydraulic works and water-lifting machines continued the basis for Spanish agriculture and were moved to Europe and modern world systems.
- Islam view of the responsibility stresses public interests over individual interests.
- UN human rights covered many rights including the freedom of living of people in public area without annoying others, however, it does clearly state the road rights as in Islam.
- Islamic teachings historically addressed many principles now found in international human rights frameworks.
- Islamic teachings provide a comprehensive, faith-based ethical framework for sustainability that pre-dates and aligns with modern principles

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