THE POTENTIAL OF ISLAMIC FINANCE FOR ENVIRONMENTAL SUSTAINABILITY AND SOCIAL EQUITY IN IRAN

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Chapter 1: Religion, Environment, and Economics

Although 80 percent of Muslims live outside of the Middle East and North Africa (MENA) in Southeast Asia, China, and the West, an assumed correlation exists between Islam and the Middle East.¹ Between analyses of terror, war, and fundamentalism in the region, there is significantly less discussion of the potential for human development and possibilities of stability in the MENA region. Despite this misconception, these prospects are available through Islamic principles - more specifically Islamic finance. In MENA, Southeast Asia and even in the Western world, Islamic banking is increasingly popular. Due to the seemingly altruistic nature of Islamic finance, there are high hopes that it might provide a way out of poverty and conflict.

At its core, the argument presented is that Islamic finance can and has been used to promote social and environmental justice. Unfortunately, a post 9/11 Western world has had its views on Islam largely shaped by terror attacks² in the Middle East, the United States, and Europe, largely committed by Islamic fundamentalist organizations. To illustrate, the Islamic State of Iraq and Syria (ISIS, or IS) not only reigns terror in the region and threatens indefinite expansion, together with the brutal Assad regime, has created six million refugees. Border struggles, lack of resources,

unfair burden sharing, and recent outbreaks of rape and harassment by a handful of immigrants from MENA, have given the West more fuel to turn against Islam.²

Before analyzing Islamic finance within the current political conjuncture, one should look at the contemporary politics of oil. Despite a growing demand for oil from the Middle East, falling prices are hurting the profits of main exporters such as Saudi Arabia and Yemen.³ After the Iran Nuclear Deal lifted sanctions on Iranian production, the price of a barrel of oil in Western Europe fell by the equivalent of a US dollar. Three quarters of Iranian oil is yet to be recovered, and does not require cutting edge technology used for hydraulic fracturing and off-shore oil drilling.⁴ Anyone with a basic understanding of macroeconomics understands that a surplus of a good is bad for the seller. On the other hand, with such high outputs, the supply will eventually run out. In response to a seemingly inevitable economic crisis in the Gulf Region, Oman and Yemen have invested billions in solar panels.⁵ Across Southeast Asia, Islamic microfinance loans for the poor – especially women – are arguably


raising the standard of living. As Islamic finance and its endeavors steadily grow, the ease of applying social and environmental justice becomes apparent.

**Religion, Economics, and Environment**

The United Nations has outlined eight Millennium Development Goals (MDGs), to address the needs of those afflicted by poverty across the world. Numbers Seven and Eight are “Ensure Environmental Sustainability” and creating a “Global Partnership for Religion, Economics and Development Development.”

In a critique of the seemingly benign check list, the book *The Development of Religion, the Religion of Development*, argues that MDGs are problematic in that they do not allow for religious assistance, but instead push for a global conversion to neo-liberal Capitalism. Here, religious fundamentalism is replaced by “development fundamentalism,” which “adds a connotation of self-righteousness and rigidity of thinking.” This paper will not attempt to determine the ethical status of any specific economic system, outside of the evaluation of Islamic finance within particular political and socioeconomic frameworks, but will present scholarly criticisms. The United States is part of and arguably the leader of a capitalist economic system, which is based more on philosophies of the Invisible Hand than of religious dictation. However, sociologist and philosopher Max Weber published *The

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8 Ibid.
Protestant Ethic and the Spirit of Capitalism around the turn of the 20th century. The text explained the relationship between Protestantism, hard work, and Capitalism, in which followers viewed excess production of labor as a religious testament rather than a sin. For the Protestant work ethic, a “spirit” was attached to financial gains. The connection between religion and economics is often obscure despite such deep-seated relevancy.

Also ignored is the intrinsic link between economics and the environment. Economists study natural resource use and allocation to predict the market, and environmentalists attribute degradation to the capitalist system. Traditionally, the individualistic nature of capitalistic pursuits has left many religious ideologies wary of their intentions. The growing global market system is simultaneously able to make the world smaller and chip away at traditional values. This is not because economics necessarily removes ethics, but it is harder to hold on to a specific way of thinking when it has connected the entire world.

The birth of economics can be attributed to the birth of civilization, with ever present religious connotations. The Agricultural Revolution ca. 3000 B.C.E. allowed us to live in one place, create labor divisions, and produce enough surplus to start trade. This phenomenon skyrocketed the human population. Cleric and scholar,

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Thomas Malthus, created the concept of “environmental limits” based on the calculable inability of agriculture to provide enough food for the booming population. Advances in technology prevented the shortage, but Malthus is considered ahead of his time for ideations of sustainable development. \(^{11}\) As population continues to rise to potentially ten billion by 2100, the United Nations Environment Program (UNEP) is unable to say with certainty whether humans will reach their “carrying capacity,” or environmental limit. However, from an ecological footprint perspective – how quickly the world population the Earth’s resources – we are overusing the planet’s resources by one and a half times. This means that for every year it would normally take for the Earth to replenish its renewable resources (not to mention those which are finite), we use up a year and six months’ worth of raw materials. \(^{12}\) Even if technology continues to support more agricultural growth, there lies the issue of distribution. One in nine people in the world are malnourished or are starving, with the majority living in developing countries. \(^{13}\) The question of equity arises among sustainability - how can we balance development with a proper handling of resources?

The 1987 Brundtland Report outlines the necessary actions needed for sustainable development in the Global South. Sustainable development is defined as

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“...development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” It also claims that one of the largest causes of environmental degradation was extreme poverty in developing countries. The blame lies in the fact that poor and uneducated families are more likely to have large families contributing to population growth, their leaders must accept structural adjustment programs that rob nations of their natural resources in order to pay off debt, and the overuse of land to meet growing human development standards. This statement has since been debated as a convenient red herring hiding the true cause of environmental degradation.

The report seems to place inordinate blame on developing countries with milder condemnation for developed, free market states. For instance, the term “structural adjustment” is only used in the book twice, and only in complimentary terms; any indirect reference to a developing nation “selling” its natural resources conveniently excludes the term. Neil Smith’s “second contradiction of Capitalism,” refocuses on the free market, in which exponential growth is impossible due to a finite resource base that is so detrimental to the environment. This theory is supported by an article focusing on causal theories of environmental degradation roughly a decade after Our Common Future was published. At the end of a detailed analysis of

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15 A full list of resources can be found under Part 1, Chapter 1 of Our Common Future, which outlines poverty as the main cause of environmental degradation.
economic relationships to water, land use, and population, the article concluded that market failures are the main culprit of an unsustainable allotment of resources.\textsuperscript{17} Market failures exist within the Second Contradiction of Capitalism, and because the market is not a closed system: costs are externalized onto inefficiencies within trade, overuse of resources, and harm to human health and livelihood.

Mismanagement of resources and economic incentives to pollute harm ecosystems and the people that live in and around them. But in the wake of the effects from conventional banking, the unsustainable methods used by those on the brink of starvation can probably be forgiven. Parts of the next chapter will be devoted to the potential for sustainable development as a solution to inequities and sustainability. The part-book, part-manual \textit{Religion and Development: Ways of Transforming the World} has an entire chapter devoted to sustainable development and religion. It outlines the secular and faith-based frameworks for viewing religion in sustainable development.

The \textit{additive, or mechanistic}, pattern, is the mindset used by Non-Governmental Organizations (NGOs), government agencies, and corporations. The Additive Pattern had used to shun religious impact for sustainable development awk. Now religion as motivation is considered supplementary, or “additive,” to the cause.\textsuperscript{18}

On the other end is the Integral Pattern, also known as the “organic paradigm,” which is used by local organizations and holistically integrates religion as

a driving factor for sustainable development. Whereas the Additive Pattern is a top heavy approach to making change, the Integral Pattern is more of a grassroots philosophy. It sees people as part of an ecosystem, where development is used as a balancing mechanism.\textsuperscript{19} This thesis seeks to evaluate the possibilities of the Integral model of religion in sustainable development, especially considering that Islamic finance is a direct product of religious law.

The next section focuses on the particular case study of this thesis, intersecting religion, sustainable development, and finance. The Islamic Republic of Iran has recently been reopened to the global market, while operating under a theocracy. My focus is not on the validity or efficacy of the current government, except in how it may further environmental and human improvement. In order to understand Iran in the context of this thesis, it is first necessary to peek into Iran’s ever-changing place in the global arena.

**Why Iran? Context for the Intersection of Sustainability and Trade**

The July 2015 Iran-Nuclear Deal between the Power Five states plus Germany (P5 + 1) and the Islamic Republic of Iran is a monumental step in mending Iranian-Western relations and trade. Decades of sanctions have crippled the Iranian economy

and driven up the inflation of its currency.^{20} Ironically, Iran has the second highest volume of oil in the MENA region, behind Bahrain, but has been forced to sell at much lower prices due to sanctions; implying that the release of sanctions would allow Iran a certain degree of economic relief. Even factoring in current sanctions, Iran is far richer than it was at the beginning of the 1980s just after the regime change. As of 2011, Iran earned $95 billion from oil revenue alone, but most of this money is filtered directly to the elite or lost among falling global oil prices. \(^{21}\) The average citizen considers fruit and meat to be luxuries due to a 24% inflation rate.\(^{22}\)

*The Economist* came out with a special November 2014 issue detailing the state of Iran’s economy in the wake of the ongoing Iran Nuclear Talks. On the cons side were a short-lived but devastating 50% inflation rate, half the population saw its annual income fall as much as 40%, and unemployment has continued to rise among the young and educated.\(^{23}\) On the pros side, under the contested term of President Ahmadinejad, the government spent billions on loans and social housing for the poor,

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a growth of the middle class, and a rise in personal GDP from 1993.\textsuperscript{24} Overall, however, pre-Nuclear Deal prospects in Iran had not been promising.

At the time of the writing of this thesis, trade was renewed in this oil-rich nation.\textsuperscript{25} The United Nations expects a 5.8\% increase in Iran’s GDP in 2016 from a potential 0.7 million increase\textsuperscript{26} in barrels of oil per day (BPD). Iran and the United States were allies before the Iranian Revolution in 1979, but the radical regime change turned anti-West after decades of American political and economic meddling. Today, the renewal of trade agreements between Iran and Western countries brings an unfamiliar set of challenges and possibilities. Iran is the only country in the world that operates solely under an Islamic finance system, an economic structure based on Islamic law.\textsuperscript{27} The religious ideology of Iranian banking sets certain parameters for working within conventional banking, but may also allow for social and environmental benefits.

This analysis aims to make connections between the current political climate of and around Iran, Islamic finance, and the potential for environmental sustainability and social justice. The essay begins with an overview of the literature on \textit{Religion, the

\begin{itemize}
\item \textsuperscript{24} Ibid, ps. 4-5.
\item \textsuperscript{27} National Interest Free Banking in Iran, Sudan and Pakistan. (2015, February 18).
\end{itemize}
Environment, and Development, including Christianity, Judaism, Hinduism, and Buddhism. This introductory chapter identifies religious perspectives on the environment and development, as well as its ability to make social change. The next chapter, titled Islam, Economics, and the Environment, is a more thorough dissection of Islamic law and stances on the environment, human rights, and development. Chapter two takes into consideration analyses from Imams and Islamic scholars on the Qur’an and Hadiths (sayings of the Prophet Mohammed), but does not attempt to make auxiliary conclusions of its own.

The third chapter, Islamic Finance and Environmental and Social Sustainability, describes Islamic finance and current “green” uses in the Middle East and other parts of the Islamic world. In this section, Islamic finance is laid out in its relation to conventional banking in the global market as well as the successes and drawbacks. While the previous chapter focuses the Islamic literature and theory, Chapter three weds Islamic law and contemporary uses for environmental and social change. Chapter four, Islamic Finance in Iran, focuses on how Islamic finance has been used in Iran from its inception to the present. This leads into the last chapter, The Future of Islamic Finance in Iran, which combines forecasts for Iran in a post-Nuclear Agreement arena, and insights from Islamic scholars, professors, and bankers. The goal of this thesis is not to privilege Islamic finance over conventional banking, or to make outlandish predictions about Iran or the global market. Rather, it aims to carefully piece together conceptions of Islam, the environment, and economics in a contemporary setting, to shed light on the potential of Islamic finance in Iran.
Religion and Environmental Ethics

Of the nearly seven billion people living on the planet, 84% are “religiously affiliated”; a little over a third are Christian, almost a quarter are Muslim, 15% are Hindu, and just 0.2% identify as Jewish. Muslim, Christian, and Jewish religious practices stem from Abrahamic roots, meaning that in certain respects they might be expected to share a similar ideology. Most religions have a set of laws, ethics, and guidelines for its followers to adhere to, such as the Ten Commandments of Christianity or the Five Pillars of Islam. Religious laws that define the treatment of others and conduct within the faith can also be applied to environmental purposes. Considering how different sects, religious leaders, and individual followers interpret the teachings of a religion differently, it becomes difficult to pinpoint a universal translation of any law or principle. Through a thorough analysis, it is possible to find common interpretations on environmental perspectives. Religious belief has the power to shape the actions of its followers, although in terms of global development many scholars believe its full potential has not been tapped into. Among scholars, mingling religion with social change is often viewed as a hindrance to progress, when in fact it can allow for an “inside-out” of grassroots movement.

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Christianity holds the current title of the world’s largest population of followers, and is therefore a logical starting point to dissect religious teachings. Again, this text does not attempt to make claims or unsupported interpretations about any religion or ideology, only to review pre-existing connections that have been revealed by scholars. Among modern-day evangelical Protestants, belief in literal translations of Biblical stories are being replaced by scientific explanations of natural phenomena while still holding on to Biblical messages. Even among those that accept more literal translations of the Bible, environmental activism is possible if framed within the right context. One such framework would be “attributing environment activism to obedience to the biblical message rather than to analysis of scientific data makes a stronger case for fighting climate change (than scientific data).”

While a common preconception about environmentalism in Christianity is that it promotes “nature worship” over devotion to God, scholars are attempting to reconcile “stewardship of the Earth “with modern movements for global justice. Rosemary Radfurd Ruther, ecofeminist author and theologian, asserts that although the Bible has many environmentally based teachings, it is only very recently that the world has been presented with such dire environmental issues that require immediate action. The story of creation’s focus on stewardship of the Earth and protecting “God’s creation” are applied by modern evangelicals, who create their own narrative

among Christianity and environmentalism while distancing them from being misperceived as “earth worshippers,” perhaps to avoid resemblance to the pagan traditions Christianity has replaced.  

While it is common for Christian environmental movements to be confined to the aggregate of individual churches and scholars, even the Catholic Church has turned its interest towards climate change. The Vatican estimates that over 1.2 billion Roman Catholics exist around the world, where nearly half – forty percent – reside in Latin America. The Global South’s predisposition towards negative effects of climate change may have shaped the views of the current Pope, a native of the Latin American country of Argentina. In the summer of last year, Pope Francis released a papal encyclical (an official letter or call to action) that dealt with climate change and its threat to mankind, titled *Laudato Si: On Care for Our Common Home*. Similar encyclicals have been published by Popes in the past stressing peace and unity, but Pope Francis’ plea is the first of its kind. Throughout the letter, which he addresses to the world, Pope Francis laments the state of the world and human greed.

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also stresses how the poor will be the most adversely affected by the arrogance of man.\textsuperscript{36}

Perhaps what is most surprising about the text is a quote blatantly contradicting Judeo-Christian anthropocentrism. In response to what he views as a collective misunderstanding of scripture, he writes that “…we must forcefully reject the notion that our being created in God’s image and given dominion over the earth justifies absolute domination over other creatures.”\textsuperscript{37} The Pope is the head of the Catholic Church, and shapes and reflects changes in the faith. During the Paris Climate Talks in December of 2015, the Vatican reflected its support of environmental awareness with a spectacular light show displayed on the walls of St. Peter’s Basilica in Vatican City. A nod to Pope Francis’ encyclical, the event was named “Fiat Lux: Illuminating Our Common Home.”\textsuperscript{38}

\textsuperscript{36} For more on how climate change affects developing nations and lower-income communities, please reference:


\textsuperscript{38} For the article and more information on the event, visit the aforementioned website.
political power that the world’s governments enforced in the Paris Climate Deal, but as this thesis will show, the power of religious movements hold great influence.\(^{39}\)

Judaism is not as visibly active in the realm of environmental activism, but there is substantial variety among Jewish interpretations of the environment. A common theme seems to lie in the appreciation of the Sabbath. One day of the week, followers must not work the land and rest, therefore limiting their resource usage and allowing time for contemplation on the beauty of God’s creation. Other themes include preventing cruelty to animals and respecting their right to life, not wasting natural resources, and Tikkun Olam, a calling for mankind to protect and heal God’s Earth.\(^{40}\) Perhaps the most complete summary was created by Dr. David Vogel, a professor of Business at the University of California, Berkeley. In his article, he explains the anthropocentric, eco-centric, and theocentric passages in the Torah, referencing several publications that expand the field.\(^{41}\) His interpretation of the passages from the Torah are common among scholars studying Judaism and ecology, citing scholars from the eleventh century. Deuteronomy 20: 19-20 describes the proper procedure for preserving fruit-bearing and non-producing trees during warfare, which

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he explains is both for the former’s use to people and the latter’s right to exist in their own right.\textsuperscript{42} In addition to the cited scholarship, Vogel introduces the Coalition of Environment and Jewish Life, which is a network of Jewish faith and environmental organizations. Their tagline is “protecting creation, generation to generation,” which is as religiously guided as irresistibly catchy. \textsuperscript{43}

Among more modern efforts towards “religious ecologies,” Eastern traditions, and particularly Buddhism, seem to have “come off best” in terms of their predisposition to respecting nature when compared to Christianity and Islam.\textsuperscript{44} Buddhism and environment are often connotative words in the Western mind, but not without good reason. Not only does Buddhism actively discourage excess, it is based around the intrinsic connection of all living things. One seminal concept is in line with the Second Contradiction of Capitalism, stating that if one has more than they need, then they will ever be satisfied. A famous story used to illustrate the Buddhist commitment to frugality – not scarcity – tells of how when the Buddha was gifted new robes, he declared his old robes should be turned into sheets, the sheets eventually into towels, and the towels into rags.\textsuperscript{45}

Like Islam, Buddhism also forbids the trade of alcohol and certain types of meat in an effort to prevent toxins. The current Dalai Lama, the guide of Buddhism in Tibet and elsewhere, explains the concept of *shunyata*, a Hindi word which means the “illusion of separation.” Reflecting on the oneness of all creatures, he also discusses even more complex notions of all of creation returning to the void, but for now the Earth must be protected for the survival of future generations. Buddhist views on the environment often mirror Hindu conceptions, having both originated in India. These include kindness to all living things, man’s responsibility to maintain the proper balance of the universe, and to act in a way that supports rather than takes life.

However, this type of analysis is more common in Christian discourse, such as the comprehensive studies that have been able to correlate religious beliefs to these three religions in Euro-Centric parts of the world, including the US, Europe, and Australia. These findings commonly come in the form of theological analysis, such as Lynn White’s critique in the *Historical Roots of Our Ecological Crisis* on the Judeo-Christian ideology as one of anthropogenic control of nature. In the United States, only about half of the population agrees that climate change is occurring, and

46 Ibid.
evangelicals are even less likely to accept at anthropogenically caused climate change, climate change in general, or the scientific consensus.  

Interestingly, however, another study showed that when “cultural, social and demographic influences” were factored in, there was less of a correlation between just Christianity and views on climate change. In fact, it stated that in general “religious individuals - even those identified as conservative - are no less likely than non-religious individuals to identify themselves as environmentalists.” So while it may be deduced that religion does affect the actions of individuals, it may be inaccurate to only take spirituality into account. This is where other factors such as socioeconomic status and culture can be used in tandem with religion to make up public theology.

Public Theology and Epistemic Communities

The power of religion to guide the behaviors from individuals to entire civilizations can sometimes be classified as a negative one, especially when considering the aforementioned Western view of Islam. Although it is dangerous to typify an entire religion, a recurring theme in environmental literature is the perception that Judeo-Christian teachings have led to current anthropocentric practices. Like any holy book the bible is open to interpretation. Just to give an example, Dr. Desta Mebratu, a professor of environmental economics, references the usage of Genesis

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51 Ibid, p. 3.
1:28, which apparently asserts “man’s right to master the Earth.” On the other hand, “eco-theologians” point out the aforementioned examples of environmental Christianity.52

Two interconnected theoretical frameworks will be applied throughout the thesis: the conceptions of Public Theology and Epistemic Communities. The most commonly used definition of Public Theology is “the engagement of a living religious tradition with its public environment—the economic, political and cultural spheres of our common life.”53 In essence, Public Theology is the collective shaping of a religion’s ideals and practices within a community/communities.

But it is important to remember that public theology, like religious studies in general, is not only about Christianity. Public theology adds an extra dimension when looking into religion the behavior of states, communities, and individuals; it takes into consideration religion, culture socioeconomics, and demographics, but also how these factors influence each other. This framework is helpful since it recognizes the multiplicity of the views and perspectives on a given issue in a specific religious tradition. While the theoretical framework of Public Theology has been explored somewhat in the past, Nukhet Sandal, a political scientist, categorizes its dimensions. She lists the Substantive Dimension, or core values and teachings, the Spiritual Dimension separating different seemingly similar sects and manifestations of a

religion, the *Spatial Dimension*, and the *Temporal Dimension*. Throughout this thesis, this framework will more readily explain the differences in how the average Iranian views Islam and Islamic finance versus the opinions of microloans in a small village in Malaysia.

The second theoretical framework that will be employed, also articulated by Sandal, is more specific to the academic community and leadership. Epistemic communities are inherently among “elites,” looking at the impact made by the members of the community that hold expertise in their respective fields. Perhaps the most surprising and non-traditional aspect of the epistemic communities framework is the absence of a need for falsifiability; Sandal explains that because “new norms” are constantly being formed within these communities, tracking them is more of a matter of keeping a timeline than a scorecard. Both the Vatican and the body of scholars on each respective religion discussed earlier comprise epistemic communities: the former is more closely-knit, while the latter allows for more variation of thought between authors and decades. In the following chapters, I investigate the perspectives of Islamic scholars, bankers, and religious leaders, who constitute an epistemic community of Islamic finance. On a smaller scale, networks of smaller activist groups

can also form communities in their own right and I will discuss this notion in the next chapter.

**Conclusion**

The aim of this thesis is not to undermine the foundation of theories about Islam, the environment, or economic potential, but rather to showcase what theories and practices already exist. In the wake of the Iran Nuclear Deal, the potential for the Islamic Republic of Iran and the multi-faceted philosophies in the United States are uncertain. If policy makers pay attention to the importance of religion in defining human behavior, it will be easier to reach sustained agreements. If peace and stability are to be maintained, an understanding of Islamic finance is paramount to creating trade with Iran and the rest of the world. While it is not necessary to share religious or even secular ideologies, the ability to recognize and respect various approaches has been part of creating our global economy. The true decider of Islamic finance lies in how it will be employed in the Western markets in conjunction with the Middle East and Southeast Asia. It is doubtful that Islamic finance will become the main global economic system, but the attention given to it in recent years suggests it is making its way up. Islamic finance is a system based upon religion, which attaches a moral component that conventional banking does not have. The future of Islamic finance seems promising, and hence, it is critical to question what kind of social and environmental possibilities it provides.
Chapter 2: Islam, Economics and the Environment

The main religion that will be discussed in this thesis is Islam, despite Christianity arguably being the most commonly discussed religion for modern development and environment.\(^{56}\) It is predicted that by 2050, Islam will comprise about one third of the world’s population, totaling 2.76 billion.\(^{57}\) For this chapter, developments in Islamic finance in the Muslim world will focus on Southeast Asia and the Middle East and North Africa (MENA). Various interpretations of the MENA region exist. Within the framework of this thesis, it will be defined as including Morocco, Algeria, Tunisia, Libya, Egypt, Turkey, Lebanon, Palestine-Israel, Iraq, Kuwait, Syria, Jordan, Iran, Saudi Arabia, the United Arab Emirates, Oman, Bahrain, Qatar, and


I. Islam and Environmental Ethics

At its core, Islam is built upon five pillars that dictate Islamic law, finance, and daily life. These include 1) testifying faith to the one true God Allah, 2) prayer five times a day, 3) donating to the poor and sick (*zakat*), 4) fasting for Ramadan, and 5) at least one pilgrimage to the holy city of Mecca during one’s lifetime (*haj*). In the cases of sickness, family tragedy, and poverty, it is not required to always adhere to each of
the five pillars. For instance, an elderly person is not expected to fast during Ramadan, and anyone unable to afford the journey to Mecca is similarly exempt (Ironically, all Iranians are currently banned by their own country to travel to Mecca due to political tensions between Iran and Saudi Arabia). Islam seeks to foster the collective health of a community, which sets the stage for Islamic finance to seek out investments for social -- and potentially environmental -- equity. Devotion to God extends to devotion to a joint Muslim community.

Speaking of Earthly responsibilities, Islam has a rich environmental dimension intertwined with its own understanding of the economic sphere. In a comprehensive study, “Green Suck: The Introduction of Islam’s Environmental Ethics to Contemporary Islamic Finance” the authors Umar Moghul and Samir Safar-Aly use many references from the Qur’an and Surah to illustrate their interpreted and sometimes exact meanings. One example is the ayah (verse) 25:63, which reads that “the faithful servant of the Beneficent (i.e. God) are they who tread upon the earth gently.”

Incorporating law and religion, their article goes on to explain the different categories ancient Islamic jurists discussed, which would be considered “sustainable” today. Categories such as control of air and water pollution, responsible use of natural

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resources and minerals, and respect for non-human life. The concepts of *muwat* land, or that intended to be enjoyed by the public, and *al-haram* (forbidden) lands that restricted any resource extraction, are just two of the many levels of designating protected land. Often these stipulations would be used for the sake of human health, such as enforcing laws to prevent mismanaged sewage offending the air or restricting land considered holy, but respecting Allah’s creation is the unifying element.

Modern constructions of Islam and environmental ethics are spreading, and they remain rooted in Qur’anic values. One of the core ideas of sustainability in Islam takes its roots from the idea of humans as *Khalifa* of the earth. *Khalifa*, or caliph, means steward and is often associated with the disciples of the Prophet Mohammed. Historically, the argument over the selection of proper Khalifa (in this context, it means religious leader) has been the cause of violent debate between Sunni and Shi'a Muslims. Rather than cause conflict, however, the modern spin on the Quran's naming of humans as Khalifa in a more casual sense as stewards of the earth can be used to bring the *umma*, or Muslim community together.

One can find precepts related to sustainability in the sayings (hadith) and the practice (sunnah) of the prophet as well. The Prophet Mohammad advised his followers to share "water, pasture, and fire" with one another, and to make sure natural

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64 Ibid, ps. 18-19.  
resources would be available for future generations. Similarly regarding the idea of sustaining resources for Seven Generations, Mohammed said "if anyone deprives an heir of his (earthly) inheritance, Allah will deprive him of his inheritance in Paradise on the Day of Resurrection." Therefore, how Muslims treat the physical world will be reflected in their afterlife – for better or for worse. In fact, some accounts say that the Earth was created as more precious than people. The Surah, the book on the ways of the Prophet, says "the creation of the heaven and earth is greater by far than human kind, though most do not know it."

World leaders in politics, academics and science are beginning to see the importance of religion in affecting populations, as discussed in the first chapter. Out of discussions on bridging environmental issues to religious solutions, Oxford University sponsored the International Symposium on Islam and the Environment in 2008. This conference of Islamic scholars and leaders – a newly formed epistemic community formed from pre-existing ones – as well as non-Muslim partners, came out of a twenty plus year effort by Harvard University to gain insights from different religions on the environment. Many conference members came from the MENA region, and identified the need in their respective countries for: improved environmental legislation and

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68 Ibid, p. 16.
environmental planning and management, furthered research and better cooperation among governments, NGOs and partner organizations. Although progress was made in getting Islamic leaders to the table, there was an obvious gap; no Iranian and very few Shi'a representatives were present. This was a definite setback, considering the article praised "the advanced environmental agenda of the Shi'a governed Iran" (240-241).  

Along with the series of symposiums, global efforts and organizations have arisen, such as the Islamic Foundation for Ecology and Environmental Science (IFEES, an environmental teaching initiative), and the Islamic Network for the Environment (LINE), which calls itself the United Kingdom's first Islamic environmental group.  

There may be a reason why both of these organizations came out of the UK, and why smaller Islamic environmental groups have arisen there as well. Ecofeminism, radio activism, Islam, and environmentalism coincide with case of Muslim Community Radio in London, England, where women broadcast modern encouragement for being a practicing Muslim woman and environmentalist. The Muslim, female talk-show hosts create catchy raps on the importance of environmentalism in Islam, merging modern culture and ideologies. This is an example of a grass-roots community, created by non-academics who have become activists on the issues affecting their faith and value-system.

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In countries like Saudi Arabia and Iran, Shar’ia Law is implemented in
government policies and daily life, and can dictate gendered dress code to procedures
for prayer. The Arabic translation of Shar’ia is “the clear path to water,” and is
considered the guidelines for the proper way to live.\textsuperscript{74} Although Shar’ia Law is
typified by Westerners as extremist (\textit{particularly in regards to antiquated methods of
corporal punishment}) the biggest difference between it and Christian forms of
religious influence is Shar’ia Law is very precise, in a way similar to Judaic law,
Halakha. Epistemic communities and religious leaders can adjust interpretations and
severity of implementation, but Shar’ia Law itself is not undergoing direct
reconstruction.

Similar use of religious text in governance is present in the United States,
although in more subtle forms. Even though the US Constitution is written to form “a
separation of church and state,” direct allusions to the Bible are present in court
rooms, inaugurations, and the Pledge of Allegiance in every elementary school. While
it is empirically impossible to determine which of the three main religions has the
most acute impact on culture, it is possible to see the direct implications of Islam.
Shar’ia Law and Islam affect family structures, social structures, governance – and of
course Islamic finance in varying degrees throughout the “Muslim World.”

\textbf{Islam and Economic Principles}

In the Middle East, similar to other regions, the connection between economics and the environment becomes especially relevant in light of recent conflicts. Along with political uprisings, wars, and frequent Western interventions, the impending threat of climate change will act as a catalyst for even more extreme conflict. The combination of falling oil prices, millions of refugees fleeing Syria further West, and frequent political uprisings and transitions (from the Iranian Revolution to the Arab Spring to Yemeni rebels) have left the region’s economic situation unstable and uncertain. According to the World Bank, economic growth in the region is considerably lower than in the rest of the world, even compared to other developing areas.75 While the situation may seem grim, it does open up the possibility of using Islamic finance to aid in economic - and potentially political- stability.

The United Nations Global Compact is an inter-corporate initiative, self-described as “a call to companies to align strategies and operations with universal principles on human rights, labor, environment and anti-corruption, and take actions that advance societal goals.”76 This type of work can be classified as Corporate Social Responsibility (CSR), which holds companies to a higher standard to help the world reach the UN’s development goals. A 2009 article from the Journal of Business

Ethics\textsuperscript{77}, “Islam and CSR: A Study of the Compatibility Between the Tenets of Islam and the UN Global Compact,” does exactly as its title suggests. The concept of Wali (guardian), is used in this article to recall the responsibility of the state to help the disadvantaged, the poor, and the unemployed.\textsuperscript{78} While the idea of the state does not technically include corporations, their growing influence on inter-governmental affairs may warrant their adherence to social and environmental responsibility under Islamic law.

**Public Theology of Environmentalism in Islam and Global Reactions**

Directly after the attacks on the World Trade Center, about 25\% of Americans believed Islam was inherently violent, but that number jumped to 44\% after a year; this drastic shift in public opinion is often attributed to what is known as the Bush Doctrine, or when President George W. Bush declared a "war on terror."\textsuperscript{79} The growing disdain for Islam arguably allowed a reentry of religion into politics; although, analysts are unsure as to whether this is due to a rise of interest in religion or just its permeation into political discussions. Dr. Cecelia Lynch, a professor of political science at UC Irvine, believes that religion has always been present in the political sphere, stating "more people in both the West and the Middle East are openly

\textsuperscript{77} This is the same journal that published Vogel’s article on Judaism and environmental ethics.


expressing religious sentiments in the public sphere." Not only was Islam seen as a religion to demonize, but the new political climate allowed Christians in the United States to employ faith as a deciding factor in global decisions under a newly polarized America. Only very recently has an abrupt paradigm shift allowed a change in the approach to, and perhaps perception of Islam.

Despite the stereotypes that Islam is a backwards religion amenable to terrorist activities and full of religious zealots, modern applications of the latest Abrahamic religion are show promise for global sustainability. In fact, no religion necessarily detaches itself from environmental issues. Many originally secular environmental movements in the West have begun to use religion as a rallying device around environmental issues, and religious epistemic communities of environmentalism started to create and support new movements, such as the Alliance of Religions and Conservation (ARC), a secular group that incorporates environmentalism into religions from Christianity to Buddhism. When it comes to Islam, ARC’s website describes its environmental prospects by highlighting three tenets from the Qur’an - trusteeship (khalifa), unity (tawheed), and accountability are paralleled in the article “Islam, nature and accounting: Islamic principles and the notion of accounting for the

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environment” in which this trio is listed as the key “environmental ethics” present in Islam.\textsuperscript{82}

The connection between Islamic finance and sustainability goes back much farther than recent applications. In the 1300s, or the 700s in Arabic years, North African Islamic scholar Ibn-Khaldun wrote the \textit{Muqaddimah}, an anthology of Islamic history, science, and culture. All of his work is based on the Qur’an and Shar’ia law, which he continually alludes to. In his fifth chapter, he discusses the ways of making a living. These include agriculture (the highest form), trade, and production craft. He also explains the difference between sustenance and excess, in which sustenance is what is needed for life plus a little extra, and excess is the luxuries that are obtained from unlawful gain. This follows the Islamic abstinence from usury interest, and the value of honest, hard work.\textsuperscript{83}

Islamic finance, by its very nature, must follow Shar’ia Law. It is based off of the teachings of the Qur’an, specifically on the illegality of riba. But Islamic scholars are often trained in Islamic finance, and therefore are both religious and economic experts. Many Islamic scholars have come forth with well-documented interpretations of the Qur’an that support conservation in financial and everyday means. They draw from sayings of Mohammed and context derived from the passages. These scholars are

well versed in both the Qur’an and Islamic finance, and their word holds substantial merit; hence, they are a natural part of religious epistemic communities of environmentalism and sustainability.

One such scholar, Hyder Ihsan Mahasneh, is both a biologist and Islamic scholar. He explains in an article to the aforementioned interfaith environmental organization, ARC, that humans are bound to environmental conservation based on certain principles of the Qur’an. He describes how tawheed, or the Oneness of Allah – “there is no God but God” – encompasses respect for all creatures of the earth.\(^8^4\) Mahasneh goes on to describe the essence of fitra, or human nature, as not apart from but a part of nature. He says that “We remain deeply locked into the natural domain despite the fact that there is talk of bringing the environment to the people as though we were independent of it (ARC).” Interfaith reactions to current environmental and social problems are increasingly more common. The same phenomenon of globalization dissolving traditional values can be used to form new ones.

Mawil Izzidien is an author of Islamic law in the United Kingdom. One of his books, The Environmental Dimensions of Islam, dissects Hadiths and ayahs in common with other Islamic scholars. What is most intriguing about his text – and perhaps terrifying – is his reference to the Qur’an’s prediction of what would happen to Earth if it is mistreated. The concept of fasad, or corruption/ disobedience, will lead to the end of the Earth’s abundance to humans. He quotes past Islamic scholars Baydawi

and Ibn Kathir in their attestations that crop production will fall and there will be a “dryness of the land, many fires, many drowned and a reduction in the blessings of God.” Considering the effects of climate change in the arid Middle East are expected to lead to drought and war over resources, this centuries old warning rings truer than ever today.

Another short book from the World Conservation Union, *Environmental Protection in Islam*, was printed as one book in English, Arabic, and French to reach as many readers as possible. It starts by stating that while it is true that the Earth was created to serve mankind, each creature has its own purpose and nature exists in its own right. More than the environment itself, the book focuses on people's relationship to each other among God's creation. The theme of avoiding "corruption" appears, as well as the idea that natural resources belong to all people and that it is wrong to obstruct access for others for the sake of surplus. In a direct quote referencing the duty of government; "the welfare of the poor takes priority over the welfare of the wealthy." Many Muslim countries seem to not prioritize welfare policies that guarantee an equal distribution of wealth, but the potential to shift those dynamics is the basis of this thesis. Some Islamic scholars have taken up perspectives similar to Sandal’s theoretical framework of Public Theology. A 2006 article published

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87 Ibid, p. 17.
88 Ibid, p. 22.
in the Accounting Forum addresses that the field of Islam economics often excludes discussions of the "substantive dimensions" of the environment, focusing only on the social.\textsuperscript{89} The article goes on to make a case for sustainable development under the familiar "khalifa" trusteeship, in which "the Muslim must safeguard the environment but also cultivate it – consistent with maintaining the balance."\textsuperscript{90}

**Globalization and the Future of Economics in the Middle East**

Globalization, in its most contemporary form, arguably began with Imperialism in the nineteenth century and has turned into a worldwide network of communication and trade. Today, it is possible to order a product online that was designed in the U.S., made in China with resources from the DRC, and flown across the world to your doorstep in a matter of days. One of the most common but overlooked foreign commodities that drives and controls our economies, our technology, our homes and our homes is the fossil fuel oil.

Most of the wealth of the Middle East comes from the extraction and exportation of oil, which produces 30% of the world’s crude oil and is estimated to have over half of its accessible oil reserves.\textsuperscript{91} However, most of the region is still developing due to an uneven distribution of wealth between producers and inhabitants.

\textsuperscript{90} Ibid, Pp. 249.
\textsuperscript{91} Sorkhabi, Rasoul, Ph.D. "GEO ExPro - How Much Oil in the Middle East?" *GEO ExPro - How Much Oil in the Middle East?* GeoExPro, 2010. Web.
The reliance of certain countries on oil negatively affected per-capita-income in the latter half of the 1980s as oil prices fell. As of the early 2000s (post-9/11), Arab populations outside of the elite have expressed little hope for the future economic prospects of their children. They view globalization as a “new form of imperialism,” having harmed their economy and infringed upon their culture. The unequal distribution of wealth is common among those affected by Capitalistic trading partners, especially in areas that are research rich. There is a theory that humanitarian intervention and coercion only occur in areas viewed economically viable, such as Iraq or the Democratic Republic of the Congo, while less resource-rich countries like Mali and Uganda have been less likely to receive aid. The attention given to the natural resources of the Middle East does not coincide with the attention given to the welfare of the people. Although the World Bank identifies only 1.7% of those living in the Middle East and North Africa as living below the poverty line at $1.25 per day, it does not include the large number of those who are just grazing the border.

It is ironic that the current state of the Middle East’s oil economy, in which Europe is still seen as an indirect colonizer, stems from a century of actual European Imperialism. In Tim Mitchell’s detailed history of oil in the Middle East, appropriately

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93 Ibid. p. 105.
called *A Carbon Democracy: Political Power in the Age of Oil*, he traces the origins of Western wars over oil in the region. For the case of Iran in particular, the rich oil fields of Khuzestan were coveted by both Great Britain and Russia (eventually the Soviet Union), until they fell under the proxy control of the American CIA-imposed Shah Pahlavi. 96 The staged coup d’état was able to quash the communist Iranian Tudeh party and workers’ unions. 97 The resulting company changed its name from Anglo-Iranian Oil to what is today a household name – British Petroleum. 98 How oil fits into the economic and environmental futures of the Middle East will be covered in chapter four, but it is important to realize the modern social consequences of the West’s ongoing imperial oil hunt.

**Conclusion**

While substantial text exists on the environmental nature of Islam, its environmental applications have been theorized and reinterpreted since the last millennium. In contemporary news, much of the MENA region is stricken with poverty among various other conflicts, and the faces threat of environmental factors exacerbating existing tensions. Epistemic communities exist among Islamic scholars, both Sunni and Shi’a, although the case of the Islamic summit shows there may be

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97 Ibid. p. 108.
inequality in their representation. The major geographic centers of each are Sunni in Saudi Arabia and Shi’a in Iran – this hierarchical distinction is due to historical rivalry and the power-dynamics between the two powerful Gulf States. In the fourth chapter on Iran and Islamic finance, the religious and economic competition between them plays a major role in the future of each state’s place in the international market. The third chapter will explore the efforts of some of the smaller Gulf States to get ahead with “green” Islamic finance.

Chapter 3: Islamic Finance and Environmental and Social Sustainability

The Middle East has its share of human security challenges. Millions of refugees flood out of Syria, Yemen is in political turmoil due to longstanding poverty and civil unrest, and much of the region is caught somewhere between the Arab Uprisings and authoritarian regimes which could survive the protests. Traditionally, many great powers have kept an interest in the region. Saudi Arabia is the second largest producer of oil in the world (next to the United States) despite plummeting oil prices. As previously discussed, the successful negotiations of the Iran Nuclear Deal mean that Iran is re-entering the global market, to varying effects. The *International Business*

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Insider predicts that once sanctions are lifted in early 2016, the lifeless Iranian economy could grow by 6% GDP. This translates to an annual Gross Domestic Product growth surpassing China with the influx of Western market deals.\(^{102}\)

A key fact to consider is this: as Iran markets open up, how will they be monitored? There is little sign of significant changes to the Khamenei’s regime, so it would make sense that Iran's devotion to Islamic finance is not going anywhere. In order to properly examine how Iran Islamic finance system will fit into the global market, it is first necessary to understand how other countries have managed themselves.

Islam, Banking and Economics

The Quran views interest (riba) as usury because it is seen as akin to gambling.\(^{103}\) Islam sees riba as an easy means of gaining profit for the lender, while putting undue pressure on the borrower. Both parties must hold risk in a practice called mudaraba. Here, both the borrower and lender share the possibility of the business deal failing.\(^1\) This concept can be extended to allocation of resources, where both the developer and locals of that development must put at equal risk. In most cases, it is only the residents of a site for resource extraction or development. By employing the Islamic financial model of sharing risk, it is likely that developers will be less keen to extract and build without consequence.


\(^{103}\) Ibid.ps. 161, 164.
It may seem confusing to those accustomed to conventional banking how Islamic banking is even able to generate profit without interest. After all, making money is the final bottom line of any business. And in the case of the Grameen Bank, where it is supported almost entirely through grants, such a model would not be sustainable for larger scale and even global Islamic markets. Islamic banking is centered on trade, and the necessity of physical assets, since “...money itself has no intrinsic value, it is simply a medium of exchange.”

Through the tools *ijara*, *murabaha*, and *musharaka*, it is possible to extract profit based on the loaning and acquiring of assets and property. *Ijara* works though the bank buying property equipment for a borrower, and then leasing it back to them. *Murabaha* is where a bank buys commodities to be resold to the borrower at a previously agreed upon margin. Finally, *musharaka* is where both borrower and lender go into an operation sharing equal risk.

In an abstract way, the bank does charge interest, often by reselling or leasing the assets at a higher price than market value. Certain markets are halal, or forbidden, such as pornography, alcohol, tobacco, and pork, based on bans in the Qur’an.

Another forbidden concept, that of *gharar*, or *forbidden*, is that a deal cannot rely on unsure prospects or externalities. That is, any asset that is assumed will be available. This is particularly interesting from an environmental perspective, because it

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105 Ibid.
can be expanded to include “the birds in the sky, (and) the fish in the water…” commons taken for granted and not assured. In a “green” hadith, or in this case an interpretation of Muhammad’s teachings, an anecdote explains the importance of conservation of resources.

Hadiths are the recorded words and deeds of the prophet meant to illustrate to followers how they should live. This Hadith is in reference to the Prophet advising against wasting water, even in prayer. “Abdullah ibn Amr ibn Al-`Aas (May Allah be pleased with him) reported that the Prophet passed one day by Sa`d ibn Abi Waqas (May Allah be pleased with him) while he was performing wudu’ (ritual cleaning of body parts in preparation for prayer). The prophet asked Sa`d, "Why is this wastage?" Sa`d replied "Is there wastage in wudu also?" The Prophet said, "Yes, even if you are at a flowing river." 106 The way the prose is translated is confusing, but translates to the Prophet Mohammed teaching the importance of conserving water even among abundance.

Islamic Finance in Muslim-Majority Countries: A Case For (and Against) Microloans

Malaysia is known as the heart of the Islamic financial world, as well as the headquarters for sustainable investing. In the summer of 2014, Malaysia released guidelines for sustainable investing in sukuk (bonds) that could be used for

environmentally-conscious projects. This initiative is being supported and funded by both the Dubai Supreme Council of Energy and the World Bank. The hope is to allow for both smaller microloans for “greening” houses and funding larger projects for renewable energy.\textsuperscript{107} Strangely enough, traditional Islamic finance actually is more apt to support these microfinance projects, especially if they are used to serve the poor as discussed in the previous chapter.\textsuperscript{108} If properly implemented on a larger scale, the use of small microloans for green development of individual households could serve a cost effective way to obtain sustainable communities. In order to stay true to the Triple Bottom Line of Sustainability – people, planet, and profit – it is equally important to insure that such an undertaking is sustainable in itself.

The influx of cash needed to sustain these programs may not come so easily from microloans. Since *riba*, or interest, is forbidden, smaller banks must accumulate revenue from grants, deposits, and eventual paybacks from the original loans. This process can eat up time, lowering the opportunity cost of green microloans – making the endeavor not with the inputs of money and labor – while simultaneously defunding them.\textsuperscript{109} Even when loans are granted, there is always the possibility of default. Two ways of preventing default, maximizing profit, and improving the viability of granting

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\textsuperscript{109} Ibid, p.7.
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microloans are 1) mechanisms for group accountability and 2) a limited scope of approval. That is, allotting loans to groups, where social pressure serves as a free “credit risk mitigation,” and agreeing from the beginning exactly what the loan will be used to purchase. Islamic finance differs from Western banking terms of risk. Whereas conventional banking seeks to minimize the risk for the lender by limiting the scope of borrowers, Islamic finance demands an equal investment. Since risk is shared by both lender and borrower, the lender is allowed to know exactly what the loan will be used to buy as well. Using this economic safeguard could also serve as an incentive to invest in smaller green projects, especially if they are shown to be successful in similar areas.

However, the safeguard of transparent borrowing can be overshadowed by the darker side of credit risk mitigation. The Grameen Bank, though an excellent model for microloans improving poverty, has led to internal community violence. There have been cases where if one member of borrowing group defaults, then the other members have assaulted them. Internal conflict is not desired in sustainability projects, as it causes violence and eventual breakdown of peaceful relationships. Therefore, a more expensive safeguard such as regular check-ins combined with smaller weekly payments and a certain degree of short term forgiveness are more socially sustainable than using peer pressure as a risk mitigating factor.

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Islamic finance, which seeks to avoid unequal risk, could incorporate risk sharing where the potential impacts on the environment and human health could be assessed. The exact measurements for this could be tricky, because the basic cost-benefit analysis is seen as tailored to economics rather than social concerns. Different organizations have varied formulas for cost benefit analysis, often centering on the monetary value of a human life. It could be problematic to factor in the worth of life into a religious financial system, but there is the possibility to incorporate environmental impacts. Expectedly, these standards are thus far arbitrary and would have to be determined either by individual banks, nations, or a global scale for all Islamic finance guidelines.

Microloans have been suggested as a potential cure to widespread poverty, but its results have been debated. Likely, a combination of microloans and other forms of sustainable growth and supplements are necessary for a sustained economy and environment. 2007 advertisements in the Palestinian West Bank, a coalition of banks known as the “Palestinian Network for Small and Micro-Finance,” offering loans up to $10,000 in the agricultural and small business sectors, as well as providing classes for business growth. However, although the coalition self-describes as following Islamic finance, the fact that it charges interest rates – albeit low ones – technically disqualifies that classification. Strictly Islamic or no, many of the participants and lenders are
hopeful that it will increase the quality of life among many in the West Bank.\textsuperscript{112} In Southeast Asia, there has been more time to see what microloans can produce.

While the work of Muhammad Yunus of the Grameen Bank has been hailed as the new solution to poverty, others have their doubts. Yunus claims that his microloans will “eradicate poverty by 2030 in Bangladesh,” but recent studies point to only the potential for long term benefits of microloans, Islamic or not. \textit{The Economist} recently released findings that microloans may temporarily increase the direct income of a household – especially for women – but have no lasting effects on poverty reduction as of 2013.\textsuperscript{113} This is because, one, the amount of work performed decreases, and two, there is a lack of education about how to manage entrepreneurial endeavors. A 2009 study from the UN Department of Economics and Social Affairs found compiled studies and found that the only true beneficiaries of microloans were those already above the poverty line. Though less likely, the income of an impoverished household can even decrease after being granted a microloan.\textsuperscript{114} The solutions proposed have two parts – one conventional and one Islamic.

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The conventional solution, as prescribed by UN-DESA, is to instead invest in medium-sized enterprises, or in their creation, so there is a higher chance of success. The Islamic Research and Finance Institute, in an extensive study of the drawbacks and benefits of Islamic finance, stated that “Islamic financial institutions… (are) profit seeking business enterprises… (that) by themselves, cannot reduce, let alone eradicate, poverty.” The Grameen Bank relies heavily on grants to stay afloat, and therefore is not sustainable in itself. In order for a bank to remain able to provide for its investors, it must be profitable. This does not mean, however, that Islamic microloans are unnecessary. On the contrary, The Economist states that they very beneficial to communities in the developing world in the long run. This could be the case because it allows time to weed out unprofitable endeavors or more innovations, but either way it provides an avenue for the poor to generate revenue. In the short term, it is better to use a combination of microloans, larger enterprise development, and the second solution of Zakat.

Under Islamic finance operations, charity is a main tenet of the Qur’an, being encouraged especially during the season of Ramadan. In Islamic finance, a tax-subsidy known as Zakat can be retrieved from the wealthy to then allocate among the poor. This type of redistribution strengthens the overall economy in the long run while being in

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compliance with Islamic law. Raising taxes for the wealthy is not new to conventional 
western banking, where President Obama and fellow Democrats have pushed to charge 
higher tax percentages for incomes over $250,000, as well as certain tax-reduced 
investments like dividends.

All of MENA’s many grievances will not be solved by Islamic finance alone, 
and in some cases may cause problems of its own. Under conventional banking, many 
developing Muslim-majority countries have had to go against the “green Hadiths” of 
early conservation due to falling under crippling debt. In order to avoid financial 
ruin, Islamic countries may have to take out loans that put Islamic principles on the 
backburner. These loans, known as Structural Adjustment Programs (SAPs), refinance 
a nation’s economy as replacement of a past or current debt. The donor nations that 
provide short-term finance to supplement that nation’s economy, while taking back 
“interest” through the form of simulating inflation, privatization (such as claiming 
natural resources), cutting spending on social spending, wage cutting, and government 
deregulation. Islamic finance does not allow the charging of interest, but SAPs are 
operated under conventional Western banking. The World Health Organization claims 
to act as a long-term solution to extreme poverty, but in fact does the exact opposite. 
Especially in already impoverished nations, this kind of economic restructuring can

118 Hadiths are sayings of the Prophet. Certain Hadiths that are often considered 
environmentally-based are called “green”. The most famous of these is about the 
importance of natural life even in the face of death: “If the Hour (the day of 
Resurrection) is about to be established and one of you was holding a palm shoot, let 
him take advantage of even one second before the Hour is established to plant it.”
damage the environment, healthcare, education, and family income.\textsuperscript{119} The negative side effects of this short-term “Band-Aid” solution is challenged by the International Monetary Fund itself, which claims such exploitation of the poor no longer exists, and is a relic of the original finance model in the 1980s.\textsuperscript{120} Despite this defense, many NGOs and scholars continue to oppose SAPs.

Even the Islamic Republic of Iran has participated in a structural adjustment program. In a ceasefire interrupting the Iran-Iraq War in 1986, Iran consolidated cuts and loans into a five-year plan. These initiatives included “easing price controls, liberalizing foreign trade, instituting a unified foreign exchange rate, reducing government controls on the banking sector, privatizing some state enterprises, and cutting the budget deficit.” Surprisingly, the SAP had seemingly worked, and the economy had been improving steadily until 1993. \textsuperscript{121} As prefaced in the last chapter, however, the effect of sanctions overshadows any potential economic support since then. Since Islamic finance puts such an emphasis on social equity, it may seem counterintuitive that MENA nations would accept privatized loans from the International Monetary Fund (IMF). While SAPs are unsustainable environmentally and

\begin{itemize}
\item \textsuperscript{119} "Structural Adjustment Programmes (SAPs)." \textit{WHO}. World Health Organization, 2016. Web. \url{http://www.who.int/trade/glossary/story084/en/}.
\item \textsuperscript{121} Nowshirvani, Vahid. "The Fate of the Structural Adjustment Program." \textit{The Fate of the Structural Adjustment Program}. Foundation for Iranian Studies, 2008. Web. ps. 12, 13.
\end{itemize}
economically, the Muslim world has still made strides with sustainable development in other areas.

**Islamic Finance in the Western World**

Moving from a local to a global scale, Islamic finance is growing at exponential rates. In 2013, it grew one half more than conventional banking and almost tripled its assets.\(^{122}\) But this unprecedented growth is not happening just in the Middle East and South East Asia; the Western world is trying its hand at Islamic Banking more than ever before. Current UK Prime Minister David Cameron told the World Islamic Economic Forum (WIEF) – a convention of leaders, investors and scholars – that he wanted not only for his nation to use Islamic bonds, but that his would be the first Western country to do so.\(^{123}\) However, many large conventional banks have invested in Islamic finance, such as Goldman Sachs, HSBC and Citibank.\(^{124}\)

These so called “green sukuks” could strengthen or even replace subsidies for sustainability. Traditionally, sustainable endeavors are not pursued due to their long payback period, but supplying green bonds sans interest may increase interest from

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123 Ibid.

potential borrowers. By using principles of and direct passages from the Qur’an, it is possible to extend the reach of Islam to a modern environmentalist perspective. The end goal of Islamic financial transactions is arguably fair profit or loss for both borrower and lender, which can be extended to the environmental sphere. By treating every endeavor involving extracting natural resources or releasing pollution, it is possible to treat the environment as an equal-stake player as well. For instance, when a car is purchased, it does not include the externalized costs of the pollution it will create, the damage of the metal mining required, or any discharge it creates. All of these factors are externalized onto the environment, or the Commons, where it is paid for in environmental and health risks.

Islamic finance has principally been equated to “socially responsible finance,” due to its adherence to fairness, alleviation of poverty, and of course its strict Quranic faithfulness.125 Its most notable difference from “conventional” banking – that is, Western Capitalist banking – is that it explicitly forbids the charge of interest.126 This is a considerable shift from conventional banking, where bonds, loans, and investments with interest are the main means of garnering profit. The popular “time-preference theory” explains this phenomenon through the value of time, in which present goods are worth more than the expectation of future goods. 127 To put it crudely, “a bird in the hand is worth two in the bush.” If it is possible to for this theory to be supplanted (right

126 Ibid, ps.161-162.
127 Ibid, ps.163.
word?) into environmental terms, the devaluation of natural resources today is attributed to the expectation of improved technology in the future. Time is viewed as a renewable resource in which technology will always catch up to overusing resources, just as the timeline of “peak oil” was pushed back due to newer, more dangerous methods of oil drilling.

Conclusion

Islamic finance is not a new structure, but it can be used to change the current global conception of state-society relations, a sustainable lifestyle and rigorous markets. It is unrealistic to expect all financial systems to switch to an Islamic financial model, especially when considering sensitivity of religious inclinations. It is also a fallacy to ignore the issues present in Islamic financial systems and microloans. But these systems can be incorporated among broader conventional banking methods, as the Western world is beginning to capitalize on. By no means can Islam in economics completely upheave the market failures of Capitalism, just as Christianity by itself cannot find a cure for cancer. However, it can make significant difference in directing the social and environmental direction that Iran heads toward post-Nuclear Deal. At least symbolically, Iran is starting over in its diplomatic relations with the world.
Iran in the Contemporary Global Market

Iran has changed financially, politically, and socially in the past century. After Iran provisionally sided with the Central Powers during World War I, it was temporarily occupied by Great Britain and Russia, followed by the Pahlavi Dynasty overtaking the Qajar Dynasty. Shah Reza Khan was temporarily dispatched by Prime Minister Mossadeq in 1951, but the Central Intelligence Agency quickly reinstated the monarchy in 1953. Since the pro-Soviet dominant Tudeh (or “the people’s”) Party had been gaining power, the US feared the spread of Communism into such an oil-rich
area. Iran and the US remained economic allies until the 1979 Revolution and the subsequent Iranian Hostage Crisis, which led to increasingly stringent sanctions. For the past roughly thirty-five years, Iran has been economically and politically isolated. Even though Iran is a member of the Organization of the Petroleum Exporting Countries (OPEC), sanctions had forced its oil prices to staunchly lower rates than other Gulf countries. The quantity had also been restricted and Iran could only sell 2,000 barrels a day. As of the sanction lifting in mid-January of this year, Iran is working to raise its production to 300,000 barrels – increasing its capacity 159 times its previous output. Iran was awarded 100 billion in frozen assets, although currently can only access less than half of that sum. President Rouhani has recently cemented a nearly $20 billion deal with Italy for oil, infrastructure, and steel manufacturing. Other Western countries are expected to follow suit, despite allegations that Iran is funding terrorist groups and regimes such as Hezbollah and Bashar Assad in Syria.

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If the outcomes of the Iran Nuclear Deal are a boon to some, then they are
certainly a burden to others. As mentioned in the last chapter, Iran exporting oil has
added to the volume of an already over-flooded market, plummeting prices. Rentier
states that rely on oil to survive such as Saudi Arabia – Iran’s biggest regional and
religious rival - are worried Iran will put them out of business. 133 As of February, the
two countries have been negotiating oil production with the same interest in mind –
financial stability for their own states. Iran is reluctant to reduce oil production after
being kept out of the market for so long and is racing to regain shares. Other Gulf
States are already being forced to sell some of their oil wells, and project a continued
surplus of oil could overwhelmingly increase public debt and decrease government
assets. 134 This process is made exceedingly more difficult by the recent conflict
between the two nations. The Saudi execution of a Shi’a leader led to members of the
Iranian public burning the Saudi Arabian Embassy in Tehran, which in turn fueled a
flight embargo between Iran and several Arab states. With the recent discussions on
oil, Saudi Arabia has proclaimed it is willing to settle matters with Iran. 135 The next
chapter will discuss financial and environmental issues in Iran today so that they may
be addressed.

133 Iran has been able to survive - albeit stringently –with little income from oil
exportation. Much of this came from cutting benefits and infrastructure, and the rise in
poverty and unemployment that was previously discussed.
134 "Iran Set to Negotiate on Oil Market with Saudi Arabia." - Al Jazeera English. Al
-negotiate-oil-market-saudi-arabia-160210050125453.html>.
135 "Saudi Arabia Can Turn Page If Iran Changes Its Policy: Jubeir - Saudi
-arabia/saudi-arabia-can-turn-page-if-iran-changes-its-policy-jubeir/>.
Islamic Finance in Iran

The Iranian Civil Code outlines a wide range of financial matters, from property management to joint spousal bank accounts. In the last chapter the mechanics of traditional Islamic finance were explained. Though Islamic finance in Iran is heavily based on principles from the time of the Prophet Mohammed in the 7th century BCE, Iran’s status as a Shi’a state means its take on Islamic finance differs. Most of the Civil Code focuses on financial and legal matter divided into a variety of categories. Throughout, the Code details laws and regulations in line with Islamic finance, especially in regards to the rights of borrowers and lenders. Water allotment, crop management, and use of non-owned land are all carefully outlined, dealing more with ownership allotment than environmental benefit. However, in accordance with the Islamic idea of not over-using land, Article 46 of the Code states “It is only possible for a right of exploitation to be granted in respect of property which is such that it can be used without affecting its own existence” and that the owner or borrower “must not allow excessive use or negligence.” The right to exploitation refers to the use of land or a product or tool, and “affecting its own existence” can be translated as maintaining a sustainable yield. If a field is over plowed and the soil is not kept nourished, then crops will no longer grow there.

In terms of the Sunni-Shi’a struggle for Islamic dominance, Iran was the first to integrate Islamic economics into its new government. In 1983, the Ayatollah Khomeini passed the Law for Usury (Interest)-Free Banking Operations, making it the first country to adopt a national Islamic banking system. Iran is currently the only country in the world to operate completely under an Islamic banking system, and is also the largest Islamic market in the world, holding 40% of shares. In terms of the application of law, Shi’a jurisprudence deviates from the four schools of Sunni law and is often discounted by Sunni scholars. This is in part due to the more fluid nature of Islamic finance in Iran that is dictated by the Supreme Leader over written law. Because of this, many Sunni scholars claim that Iranian banking bears remarkable similarities to conventional banking by not strictly adhering to Sharia law. This flexible banking system criticized by Sunnis could be exactly what Iran needs to better integrate into Western markets.

Environmental and Social Issues in Iran

Iran’s terrain is varied, possessing desert, mountain, low-land, and forest ecosystems. Its rivers, streams, and basins are fed by the Caspian Sea to the north and Persian Gulf along the south. In the middle of the country lie the Dahst-e Kevir and

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Dasht-e Lur deserts in the Central Plateau. To the east of the Plateau lie the dense Zagros Mountains, and along the Caspian Sea is the lower Alborz Mountain range. Iran is also home to large metropolitan and agricultural areas, and thus suffers problems such as air pollution and the destruction of natural land. Iranian environmental economist at the Steven’s Institute of Technology, Dr. Hamed Ghoddusi, has identified current environmental issues in Iran: “water crisis, deforestation, landslides and land level drops, air pollution in major cities, Caspian Sea pollution, dying wetland and lakes.” This section will look into these environmental and socio-economic issues by category: water, land, air, resources, and poverty and unemployment.

**Water:**

The lack of surface water available in the country means that it must extract half of its potable and non-potable water from underground aquifers. If usage rates continue at their current rate then these reservoirs will run dry by min-century. Rivers are at or under capacity, and are not readily replenished by rapidly evaporating rainfall. Lakes and rivers are drying up due to overuse and damming, according the

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140 Personal communication with with Dr. Ghodduisi of Stevens Institute of Technology School of Business.
141 Potable water is that which is safe for human consumption. Non-potable, or gray water, is mainly used in household functions such as flushing toilets and in cooling plants.
Iranian vice president and Minister of Environment Massoumeh Ebtekar.143

Desalinization project plans - also considered by the Israeli government - are unrealistic due to their prohibitive cost.144 Iran shares wetlands with Afghanistan in the southeastern Sistani and Baluchistan, stemming from the downstream flows of the Helmand River Basin into the Sistan River.145 In 2003, the Sistan Wetlands on the border of Iran and Afghanistan had almost completely dried up, according to the United Nation Environment Program's Afghanistan Post-Conflict Environmental Assessment report.146 The four-year drought was exacerbated by the influx of over a million refugees fleeing the Taliban from Kabul.147 UNEP projects were able to aid in both resettlement of refugees and the water shortage issue, but tensions remain between the two nations on water usage laid out in the 1973 Helmand River Treaty.148

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148 Ibid.
A turn-of-the-century climatology article published in *Global Environmental Change* used climate change simulations to predict global changes in rainfall over the next century. According to its simulations, the Middle East and North Africa will experience high stress on their water resources, meaning that forty percent or greater of their water reserves will have been used up as soon as 2025.\textsuperscript{149} Over the course of the past half century, Iran has used ninety-seven percent of its surface water,\textsuperscript{150} and 70\% of its ground water supply.\textsuperscript{151} Perhaps the most famous illustration of water loss in the country can be found in the “vanishing” Lake Urmia. What used to be the largest salt-water lake in the entire MENA region is reduced to 12\% of its surface area from 1970– down from over 2,000 sq. miles. A combination of climate change and the construction of a causeway through the middle of the lake in 2008 have significantly reduced not only its size but its biodiversity. The lake’s ability to support wild bird life, including flamingos, pelicans, and egrets has been drastically reduced. From a human standpoint, the loss of tourism is devastating on an economic standpoint, and the devastation on surrounding agricultural land by resulting salt storms is even worse.


Despite the range of ecosystems in Iran, it is prone to desertification due to the region’s aridness and the rapid loss of fresh water. Of the thirty-one provinces in Iran, seventeen have been labeled by the Bureau of Desert Affairs as experiencing some level of desertification. Although in some areas the effects are relatively contained, 70% of its population resides in these at-risk provinces. The loss of fertile land is a result of weather patterns and agricultural mismanagement, such as "climatic factors, population pressure, over-exploitation of water resources, and over-grazing."

The fast-paced drying up of Lake Urmia in a period of less than two-decades, likely beginning around the 1950s.

**Land**

Most of the pressure is being put on local farming communities, but as water resources and access to irrigation become harder to access, wide-scale agriculture may be affected.\(^{153}\) Around one-fifth of the country is already desert, although it is likely that this proportion has increased in the past century.

Loss of fertile land and the side-effect of increased dust and sand storms have forced farming families to search for work that does not exist.\(^{154}\) Internal displacement could be a cause for increased tensions within an already job-stressed Iran. Esmail Kahrom, an ecology professor at Tehran University, links soil erosion and desertification back to improper water management. In fact, the overuse of ground water and deforestation is a direct cause of desertification, according to Kahrom. As of 2011, Iran is worst country in the world for soil-erosion, according to the *Payvand News*.\(^{155}\) In 2012, the Iranian Ministry of Jihad-e Agriculture published a report on the state of soil and water. Of the 12% of land that is currently under cultivation, over two-thirds is non-irrigated and subject to dry farming techniques.\(^{156}\) However, many of


\(^{156}\) Dry farming is an agricultural practice in areas that receive little precipitation and are not irrigated. Its techniques combine tilling of soil at opportune times to retain moisture with the planting of dry-resistant crops, such as sorghum.
the crops grown in Iran need heavier amounts of water despite their semi-arid placement. Most of cereals – wheat, rice, and barley – where wheat is half of the total agricultural production. Less hearty cash crops such as almonds, dates, figs, pistachios, saffron (derived from orchids), and tobacco are also grown and typically require some form of irrigation. As of 2008, 30% of employment came from agricultural, but as was discussed earlier, the stability of farming is waning. Desertification and social erosion are the main issues for land use in Iran, and warming temperatures from climate change will likely only make the problem worse.

Air

Iran’s capital, Tehran, has a population over seven million with an additional one million daily commuters. Particulate and carbon emissions from factories and overwhelmingly (71%) emissions from older, inefficient cars are so heavy they often make the air appear a greyish color. Currently, over 2.5 million cars are in the Tehrani area out of 7.5 million in the entire country. The city lies in a flat plain with mountains to the north which prevent the flow of polluted air out, and wind patterns which blow industrial smog inward. In the winter of 2015, air pollution had become


158 Due to sanctions, Iranians have had difficult importing foreign and newly efficient cars, much like the situation in Cuba.

159 Atash, Farhad. "The Deterioration of Urban Environments in Developing Countries: Mitigating the Air Pollution Crisis in Tehran, Iran." *Cities* 24.6
so extreme that outdoor sports were temporarily banned, elementary schools closed, and car restriction zones imposed. The air quality index had reached 159, over one hundred points higher than safe levels designated by the World Health Organization.\textsuperscript{160}

It is not uncommon for offices and schools to be closed down for days at a time due to air pollution warnings, and for citizens to wear masks when they do go out.\textsuperscript{161} The issue has become so common that insurance companies in early 2016 have begun offering insurance for health problems related to particulate air pollution.\textsuperscript{162} Air pollution increases the risk of premature death, causing 800,000 deaths a year from cardiovascular and respiratory diseases. A recent study in Tehran revealed a link between high levels of carbon monoxide (a by-product of car emissions) and early signs of a heart attack.\textsuperscript{163} A three-year study on of the city of Tabriz found strong associations between ozone (a heavy particulate that is noxious at ground level) and nitrous oxide to respiratory, cardiovascular, and asthmatic diseases.\textsuperscript{164} In rural areas,


\textsuperscript{161} Ibid.


\textsuperscript{163} Atash, Farhad. 2007. “The Deterioration of Urban Environments in Developing Countries : Mitigating the Air Pollution Crisis in Tehran , Iran” 24 (6): 399–409. ps. 400-401.

\textsuperscript{164} Ibid, ps. 406-407.
the influx of dust and salt storms due to desertification and water loss is also hard on the respiratory systems of rural communities.

**Natural Resources**

Iran’s reintegration into the mainstream oil market means that prices have fallen, in large part due to an over-flooded market. A report from the International Monetary Fund warned that such low oil prices are to the immediate deficit of Middle Eastern oil revenue. OPEC members such as Saudi Arabia and Iran will go broke by the turn of the next decade if the price of a barrel stays under fifty US dollars. According to the NASDAQ, as of spring 2016 the price has been dipping under forty US dollars. The MENA region has already lost over $360 billion during 2015, and that deficit is expected to deepen. Iran is accustomed to harsh economic restrictions, but the expectations held by the people for economic improvement may stir up unrest. *TIME Magazine* interviewed small business owners in Iran shortly after the signing of

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165 Gulf nations that are members of OPEC, especially Saudi Arabia and the UAE, are speculated to be creating an artificial surplus in order to drop prices low enough to edge out a main competitor – shale gas in the United States. With the addition of Iranian oil into the market, however, even wealthy Gulf nations are starting to feel economic pressure to reach a deal with other oil producers. Defterios, John. "Saudi Arabia and Russia Are Still Refusing to Blink over Oil." *CNNMoney*. Cable News Network, 15 Feb. 2016. Web. <http://money.cnn.com/2016/02/15/news/economy/opec-saudi-russia-output/>.

the Nuclear Deal, and found the majority was looking forward to renewed prosperity; even unemployed but highly educated youth are hopeful.\textsuperscript{167}

Different sources place Iran at anywhere from first to fourth in oil reserves, which in itself is a difficult metric to assess.\textsuperscript{168} A multi-national scientific study from 2012 mathematically estimated the crude oil reserves of MENA nations, and concluded Iran has the second largest reserves next to Saudi Arabia (an example of divergence on which state has the most reserves – different studies place Iran between first and fifth in oil reserves). The researchers were only able to give the broad estimate of Iran increasing its production from 1.1 to 18 times the 2012 levels.\textsuperscript{169} In 2008, a Stanford professor of environmental

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{chart.png}
\caption{Temperature variation over time.}
\end{figure}

engineering, Gilbert Masters, shared his calculations that the earth will run out of oil reserves in 40 years. According to Master’s, half of these reserves come from the MENA region, which may be good for the region financially until there is no oil left.\footnote{Chandler, Michele. "It's About Forty Years Until the Oil Runs Out." \textit{Stanford Graduate School of Business}. Stanford Graduate School of Business, 1 Jan. 2008. Web. \texttt{<https://www.gsb.stanford.edu/insights/its-about-forty-years-until-oil-runs-out>}.} Skeptics of this prediction are not unfounded, considering a similar prediction that the US would reach peak oil\footnote{Peak oil is when the half of oil supplies have been used up, and the supply begins to fall.} in 1970 came from a Shell geologist in the early 1950s. Advancements in drilling technology extended the longevity before reaching
peak oil with the ability to tap into hidden reserves and further off-shore drilling.\textsuperscript{172} No matter the physical or technological barriers, the MENA region will eventually run out of oil completely. Long-term economic planning will require investment into more various forms of income along with renewable energy sources.

**Poverty and Unemployment**

A communication with an Iranian Islamic scholar shed light on some Shi’a conceptions of wealth in regards to religion: “\textit{Islamic economics (finance) is not looking for absolute equality but equality in the standard of living (among people); that people have access to enough capital so that can be tailored to the demands of life on the edge (without scarcity).}”\textsuperscript{173} As of 2009, seven million Iranians were living in poverty by Iran’s own estimates, meaning about 9\% of the population was below the poverty line. Data collected by the World Bank show that this percentage has actually gone down in a fairly short period, falling from 14 \% in 2009 ($5.50 per day


\textsuperscript{173} The questions were translated into Farsi and the responses back into English. In order to maintain the integrity of the responses, grammatical mistakes made in the translation process are not corrected. To ensure clarity, confusing phrases or words are explained in parenthesis.
per person).\textsuperscript{174} Iran is classified as an “upper middle income” developing country,\textsuperscript{175} along with fellow neighbors such as Iraq and Lebanon.\textsuperscript{176} According to the United Nations report on country classification, the level a country is placed in depends on “aggregate growth rates,” where upper middle income level means the gross national income (GNI) of citizens is between $4,085 and $12,615 annually.\textsuperscript{177} Iran falls about midway in the $7,000 range, but this does not mean Iran is without economic issues. Chapters one and three highlighted the harsh effect of sanctions, inflation, and unemployment on the average Iranian. The people may have a reasonable amount of money in their pockets, but their purchasing power is greatly diminished.

Then there is the epidemic of unemployment, especially among Iranian youth. Due to a campaign to increase the population after the Islamic Revolution, 60% of Iranians are under the age of thirty.\textsuperscript{178} As discussed in Chapter three, finding work for these “baby boomers” has become increasingly difficult in the past decade. These

\textsuperscript{174} More on why the poverty rate fell will be discussed in Chapter Five under the subheading “Islamic Finance as a Solution”. Iran is an unusual case for analyzing poverty because it sets the bar at a household earning 5.5 USD per day, while the world average is 1.95 USD. This is in part due to inflation rates, but suggests a national focus on the quality of living.


youth are also highly educated at the university level, creating a high level of “brain-drain”\textsuperscript{179} As many as 3 million working-age Iranians are in search of work while up to 1.5 million college graduates continue to flood the job market each year.\textsuperscript{180} The problem of “over-education” arises when a highly skilled workforce outgrows the capacity for work, (as is the case in Iran). The table below from the 1976 (pre-Revolution) and 2011 census data show the unemployment rates of college graduates with a 200% growth rate of unemployment in thirty-five years. In order to lower such high rates of unemployment and potential unrest,\textsuperscript{181} Iran’s job market and infrastructure must grow to match its skilled workforce.

![Table 1. Labor Force Participation and Unemployment Rate for University Graduates in Iran](image)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total University Graduates, Working plus Non-working</th>
<th>Labor Force Participants</th>
<th>Unemployment Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976</td>
<td>433,391</td>
<td>286,315</td>
<td>11,365</td>
</tr>
<tr>
<td>2011</td>
<td>10,016,766</td>
<td>3,741,999</td>
<td>901,619</td>
</tr>
<tr>
<td>Average Annual Growth Rate</td>
<td>9.40</td>
<td>7.6</td>
<td>13.3</td>
</tr>
</tbody>
</table>


Conclusion

Iran is fraught with economic, environmental, and structural challenges. With proper utilization of the “fluidity” of Iranian Islamic finance, it could move towards

\textsuperscript{179} Ibid.


\textsuperscript{181} Ibid, p. 4.
workable solutions. The Iran Nuclear Deal has shown promise in improving the economic prospects with the lifting of sanctions and reopening of foreign markets; on the other hand, Iran’s resurgence into the oil market could lead to a more rapid exhaustion of oil reserves. The trick is balancing environmental and social benefit through economic progress; a feat that is obviously easier said than done. The next and final chapter will discuss current environmental activism, epistemic communities, and community and governmental efforts for socioeconomic and environmental sustainability.
In June of this year, the long-awaited (and long-contested) Iran Nuclear Deal will have had its first anniversary. The past two chapters have looked into the potential benefits and issues this deal has created regionally and globally. If billions of dollars’ worth of deals, an increased Iranian GDP, and a major drop in the oil market have arisen in one year, what will happen in two years? In ten? While it is impossible to predict the future, a brief analysis of the current trajectory of Islamic finance and environmentalism in Iran is needed. In certain respects, these two areas will seem mutually exclusive – in more, they will become intrinsically linked.

**Governmental, Shi’a and Home-grown Environmentalism**

Iran is home to various environmental groups and activists. On a governmental level is the Iranian Department of Environmental Protection (IEPO), which houses 23 national parks and almost 150 wildlife refuges and protected areas. In her book *Social Movements in Iran: Environmentalism and Civil Society*, Simin Fadaee traces the history of governmental environmental progress in Iran. After attending as a member of

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the 1992 Rio de Jainero Earth Summit,\textsuperscript{183} the Supreme Leader of Iran Ayatollah Khamenei publically recognized the danger environmental degradation posed to his country. Almost twenty years later in 2011, he gave a speech calling on the Iranian parliament and governmental bodies to make environmental issues a priority.\textsuperscript{184} A recent movement by politicians throughout the country has been to sign an environmental pact to handle the issues outlined in the last chapter. The fifteen-point pact calls on the government to create “a national environmental plan to [put a] stop to short-sighted management (and) damaging projects and profiteering.” The pact is even supported by the Worker’s Party (union).\textsuperscript{185} This aggressive political step says two things: one, that the government realizes the people’s and state’s interest in environmental issues; and two, that efforts for fair employment have a stake in governmental management of these issues. The intrinsic link between the environment and labor encompasses agriculture, tourism, natural resource extraction, and transportation. Up to the highest levels of the government are realizing the gravity of the state of the environment on the economy.


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The most notable governmental official on environmental issues Masoumeh Ebtekar, female vice president and head of Iran’s environmental protection organization. In a post-sanction interview with The Guardian, Ebktar expressed her excitement for stability in the region, but made sure to bring attention to issues caused by sanctions. From an environmental perspective, she told The Guardian that economic hardship had “(taken) a toll…in regards to the new technologies that we require in areas like protection and preservation of our water resources, proper use of water in the sustained agricultural sector, protection of our rivers, wetlands, our lakes.” The connection between lack of financial resources and inability to manage natural ones is evident in her example. Under President Rouhani, these much needed funds are being partially siphoned into an environmental fund to address issues like these, including water scarcity and to lower carbon emissions.186

Although Iran has the largest population of Shi’a Muslims in the world, several remote political and extremist Shi’a Islamist groups have also been integrating environmental concerns to their causes.187 Hezbollah is a Shi’a terrorist organization stationed in Lebanon as an unofficial (but powerful) force against Israeli occupation.


187 It is important to recognize the distinct “and” between political and extremist. Groups such as the Muslim Brotherhood are purposefully non-violent and can act as a social movement and political party. Extremist groups, such as Shi’a Hezbollah or Sunni al-Qaeda, fit into the extremist grouping. Also, both Sunni and Shi’a groups have been focusing on environmental issues, this section will focus on Shi’a groups.
One of their current battles includes the prevention of Israel from overdrawning water from the Litani River in Lebanon.\textsuperscript{188} The organization even has its own reforestation project, named the Jihad al-Binaa Development Association (JBDA). As of 2014/2015, the JBDA had planted 7.3 million trees in an attempt to restore the Biblical “cedars of Lebanon” that had been lost in the Lebanese Civil War of the 1970s and 1980s. Even Hezbollah’s leader, Hassan Nasrallah, has publically addressed the dangers of climate change, “\textit{what the world is witnessing today such as earthquakes, floods, torrents, serious climatic changes and fires that threatened millions ...is a human catastrophe .... These are the results of climatic changes. Today humanity is confronting this great and serious climatic threat}”.\textsuperscript{189} This illustration is by no means intended to be used to support or excuse the violent actions of terrorist organizations. Their inclusion merely shows the irony of acknowledgement of climate change by non-governmental extremist groups while many US politicians have actively denied anthropogenically-caused warming. This is not to say that terrorism is at all a desirable pathway to sustainability – average people in Iran are working to make their own solutions peacefully.

\textsuperscript{188} The article claims that Hezbollah’s fear of Israel seeking water sources from the Litani River has “little justification”. However, Israel has a past of illegally overdrawning water from other states in the Levant. During the Israeli occupation of south Lebanon in the late 1990s, Israel illegally overdrew water supplies from the shared Litani River.


\textsuperscript{189} Ibid, ps. 185-186.
Governments on their own cannot solve all environmental and social issues; grassroots movements, community efforts, and individual activists. Multiple non-governmental organizations exist as umbrella groups under the United Nations, especially in regards to the UN’s Sustainable Development goals that include creating or at least working towards goals like “climate action,” “affordable and clean energy,” and “no poverty.” For years, groups in Iran have been working on similar projects with much less funding but sizable success. CENESTA is an NGO in Iran and the Middle East that also focuses on sustainable development. Their repertoire is impressive considering they produce environmental assessments and implement projects to promote renewable energy and environmental health. One of their most recent projects deals with environmental and economic hardship facing indigenous peoples, aiming “to reduce poverty among rural communities in Iran through enhancing sustainable livelihoods and ensuring social/environmental justice” using political advocacy and conservation techniques. Many other non-profit organizations are active and often longstanding, such as Earth Watchers, an educational group whose motto is “from information, to awareness, to conservation.” and The Green Front of Iran, a youth

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education and volunteering organization with 6,000 members that is as old as the Revolution.  

Environmental Education; Epistemic Communities

The surge of college-educated Iranians after the Revolution was in large part due to a national effort to build universities. In the decade proceeding the Revolution, the establishment of government universities backed by ample funding attracted thousands and thousands more students. Prominent universities such as the University of Tehran boast programs including the College of Economics and the College of Environment. The faculty of the College of Economics includes a large proportion of faculty that conduct research on Islamic finance and banking and environmental economics (especially finance in regards to energy). The College of Environment is entirely based in the hard sciences and engineering, such as waste management, hydrology, and environmental assessment. Despite the fact that as of 2010, nearly 60% of Iranian college students were studying social sciences, the government has been cutting and putting restrictions on programs viewed as “too Western.” This preference for hard over


soft sciences – such as law, philosophy, and psychology – stems from Islamic origins, in which the Ayatollah Khamenei worries that these fields breed “religious doubt.” While hard sciences are invaluable in the movement towards environmental sustainability, less concrete problems are better solved through a social science lens.\textsuperscript{197} It is likely that Iran’s historic deal with the P1+5 and its reentrance into the global market will soften its view toward “Western” fields without sacrificing Iran’s Islamic structure.

An interview with an Iranian professor of finance revealed that while Islamic finance and environmental issues are both studied and might be intrinsically related, they are rarely brought together in the educational system. Even environmental and Islamic finance research of professors of economics at the University of Tehran has no overlap among individual professors. In his words “the research topic of Islamic finance and social equality is a common topic, but the Islamic finance and environmental sustainability is not.” It seems that scientific and political efforts are being made to deal with issues of the environment and social equity, but perhaps the two approaches have not been integrated well-enough in the educational sphere. The assertion that social sciences are not as well-respected does not mean they are not drastically needed. Graduates from fields such as political science, economics, environmental studies, sociology, psychology, and law will be instrumental in building a “greener” Iran. The current Iranian epistemic community on Islamic finance is composed of bankers, Islamic scholars and professors of social sciences. The epistemic community for

environmental issues is mostly composed of the hard sciences, with some overlap within economics. If this academic shift towards mixing fields occurs, as it very well might from renewed correspondence, it will change the dynamics of knowledge gathering in Iran. While an epistemic community on joint Islamic finance and the environment are present in other parts of the world, such as the scholars referenced in Chapter two. In order for Iran to reach the full potential within green Islamic, its centers of education must expand their academic horizons – or at least, combine them.

Islamic Finance as a Possible Solution

The previous chapter discussed both the epistemology and real-world applications for environmental and social good and the ways in which they are threatened. Poverty and water scarcity are two of the most pressing threats Iran faces today. In the near future, potential for regional war over control of the oil market exasperated by ongoing Saudi-Iranian conflict\(^\text{198}\) could disrupt Iran’s stability.\(^\text{199}\) An increase in oil exportation also means an increase in the “side-effect” of contributions to climate change. When asked about the popularity of Islamic finance in terms of sustainability and social equity, Dr. Ghoddusi – an assistant professor of Finance at Steven’s Institute of Technology – shared his insight on research in the field:

\(^{198}\) Refer to page in Chapter 3
\(^{199}\) Potentially to the point of leading to war.
“I believe there is a strand of research on this topic. In particular, since social justice is one of the motivating forces of IF (Islamic finance) concept there is an inherent interest in the issue of equality and responsibility in the research community. Having said that, I am not sure how popular it is for actual projects. IF is already an expensive method of financing for many projects. Socially responsible projects also tend to be less profitable than pure for-profit ones. Combining the two concept may reduce the likelihood of economic justification of SR (socially responsible) projects. Still, there is a chance to present SR projects to wealth IF investors and ask them to consider these projects well-aligned with the basic philosophy of IF.”

Dr. Ghoddusi makes it clear that although sustainable and socially responsible projects are considered laudable, they are often not implemented or even considered due to cost inhibitions.

In most of the world, this presents a problem of time vs. money – do we invest in sustainability now while it is very expensive, or wait until either technology is better to deal with these issues cheaply? Waiting means that perhaps we will have no choice but to deal with environmental degradation at an even higher expense? The economic concept known as the social cost of carbon explains this temporal paradox. The formal definition is “the marginal present-value cost imposed by greenhouse gas emissions.” This translates to governments and corporations foregoing risk (in this case climate change) mitigation for the belief that the cost of action now will be greater than in the future, due to expected technological or financial advancements. The social cost itself is the complex conglomeration of costs associated with climate change adaptation to
natural disasters, infrastructure updates, and health risks. This assessment is flawed, considering the social cost of carbon can be as high as $27,500 without regulations, as opposed to becoming costs can be as low as $4 with proper planning. A 2013 report published by a US working group on the Social Cost of Carbon (SCC), a technical support document that in part outlines government action to increase risk-management: “under Executive Order 12866, agencies are required... ‘to assess both the costs and the benefits of the intended regulation.’” While the intended outcome is laudable and holds legitimacy, the document itself acknowledges the difficulty of assessing cost-benefit analysis, let alone regulating how it is managed.

Islamic finance provides an alternative to this method of short-sighted management of carbon emissions. The concept of gharar (forbidden or uncertain) discussed in Chapter two is a model for handling costs in the present rather than putting them off until the future. While this concept is not perfectly integrated into modern

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202 Cost-benefit analysis (CBA) is a method of risk assessment where financial, social, and potential detriment other factors are weighed against the benefits. The article this definition was taken from describes CBA in terms of environmental assessment, stating “it demands that the advantages and disadvantages of a regulatory policy be reduced, as far as possible, to numbers, and then further reduced to dollars and cents. In this feature of cost-benefit analysis lies its doom”. Ackerman, Frank, and Lisa Heinzerling. "Pricing the Priceless: Cost-Benefit Analysis of Environmental Protection." University of Pennsylvania Law Review 150.5 (2002): 1553 - 1584. JSTOR [JSTOR]. Web. p. 1553.
iterations of Islamic finance, it is a core concept in negotiating contracts. The origin of the word in Arabic means “deceit,” allowing “the use of deception for material gain at the expense of the well-being of one of the parties and humanity as a whole.” A connected concept is maysir, or gambling, where a certain degree of uncertainty is allowed if the benefits would be worth whole – think cost-benefit analysis. In contrast, gharar is used in circumstances of “excessive” uncertainty where the benefits do not outweigh the potential risks. If these tenants is used properly, contracts can be made with consideration for the long-term effects and potential risks of a project.

As Iran invests in future projects and deals, it is important that sustainability is kept in mind. Typically, the way that the environmental and health effects of a large project are calculated is through an Environmental Impact Assessment (EIA). EIAs are used in the US under the National Environmental Policy Act (NEPA) which requires an EIA for every governmental construction project, defined as “the systematic identification and evaluation of the potential impacts (effects) of proposed projects, plans, programs, or legislative actions, relative to the physical–chemical, biological, cultural, and socioeconomic components of the environment.”

An Iranian banker shared his knowledge of EIAs in Iran, stating that “every big construction projects must pass (an) environmental testing system and get “HSE”

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certificat(ion) which means Health, Safety and Environment. ” The program is run by a private company known as the SGS Group, which works to ensure worker safety and project efficiency. The company has origins in Europe and with a branch in Iran that acts as the Occupational Safety and Health Administration does in the US. The difference of the SGS Group is that it also advises potential environmental hazards and the long-term sustainability – in terms of efficiency – of the project. Iran has several options in updating the effectiveness of the environmental aspect of projects. One would be to redirect more pointed EIA into a government body, perhaps under the Department of Environment. Another possibility would be to keep business with the SGS Group, which does employ local Iranians, but broker the recent Environmental Pact as part of its contract. Muwat, or protected lands, could be extended past parks and conservation areas could be used as a framework for assessing the true value of a piece of property; not just as a development but for their environmental worth.

While known for its oil, Iran actually has the largest reserves of natural gas in the entire world with Russia as a not-so-close second. Sanctions cut short a half-finished deal throughout Europe to export oil via tanker, which the National Iranian Gas Co. plans to be fully operational in just two years. The increased exportation of fossil fuels – oil and gas – does not bode well for climate change mitigation efforts. However, Iran has been consciously making efforts to incorporate renewables in the last several

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years. Iran has been sought out by renewable energy contractors from South Korea, India, and Germany since 2014 even before sanctions were lifted, and has made concessions in its energy sector to encourage investment in renewables. SUNA, the Renewable Energy Organization of Iran, is modeling renewable potential after Western projects and promising subsidies for corporations that invest in renewables. Over the next five years, it is speculated that Iran will increase its percentage of renewable energy from 2% to 10%. The power will come from solar panels, wind turbines and geothermal energy in addition to existing hydro-powered technology. 208 While 10% seems insignificant, such projections are astounding in such a short time period. Investments in green sukuk will likely support even further investment of foreign nations into Iranian renewables before fossil fuels run out.

Public Theology of Environment: The New “Green Movement”

The Green Movement, or “Revolution”, in Iran was a six month phenomenon in the streets and on social media protesting allegations that President Ahmadinejad had unrightfully won in the 2009 election. The movement gained national attention due to the sheer number of people involved – at least three million young Iranians. 209 Using a public theology framework, it is possible to envision a reality in which Iran’s greatest asset – its youth – are able to shape a more green and equitable future. Social media has


proven to be an amazing tool for communication of ideas. During the height of the
Movement, the social media network Twitter was used to communicate information
globally and organize protests.210 A similar pattern can be seen by the use of social
media during the Arab Uprisings.211 The use of hashtags in place of or in addition to
traditional activism shows a shift in the public sphere. Today, anyone who has access to
a computer and internet can rally protests or broadcast political uprisings – the public
sphere has become the entire world.

Social media and activism, often called “slacktivism” due to the ease of “liking”
or “sharing” content, actually greatly increase the number of participants in activist
events or protests.212 “Slacktivism” proved to be incredibly effective in mobilization
during the Green Movement, despite restrictions placed on internet access.213 Social
media activism combined with Iran’s high youth population could be work together as
a catalyst for environmental change on the community level. The Iranian government
itself is very active on sources like Twitter, while governmental actions have been
highlighted by foreign actors. The image below displays a tweet from the European
Union’s Climate Action and Energy Commissioner Miguel Arias Cañete in a discussion

210 http://web.a.ebscohost.com.proxy.library.ohiou.edu/ehost/pdfviewer/pdfviewer?sid=c4cde605-c103-4083-80dd-ce4c1b7a9e97%40sessionmgr4001&vid=1&hid=4209 ps.
1836, 1838.
211 Arab Uprising Article
This paper assumes no opinions on the legitimacy or intentions of either the Arab
Uprisings; these events are merely used as a tool to illustrate the growth of social
media as a tool for activism.
212 http://www.independent.co.uk/life-style/gadgets-and-tech/news/slactivism-works-
213 Social media 1838

\footnote{UNFCCC. UN Climate Change Newsroom, 23 Nov. 2015. Web. <http://newsroom.unfccc.int/unfccc-newsroom/iran-submits-its-climate-action-plan-ahead-of-2015-paris-agreement/>}. Environmental activists have also been using Twitter as a means of outreach. NGOs, environmentalists and activists, and average people post or share on sites such as Facebook or Twitter to get their messages across. Their concerns range from global

\footnote{The hashtag "#COP21" was in reference to the Paris Climate talks in December 2015, to which Iran pre-submitted its climate action plan to the United Nations Framework Convention on Climate Change (UNFCCC).}
warming speculations\textsuperscript{216} to mourning the death of a beloved Iranian environmentalist.\textsuperscript{217} While traditional theology is often criticized by these micro-bloggers for the cause of their problems, the online sphere being created could very well find a religious element, and create its own public theology of green governance. This idea of internet public theology is not new and was discussed in a conference held by the Journal of Public Theology in 2013.\textsuperscript{218} It is far too early to know if or how religion will be integrated into a new digital public sphere, especially considering the apathy towards religious practices that many Iranian youth face. In the meantime, Iran could see a new “green” revolution arise online as environmental knowledge and activism are shared and facilitated.

Conclusion

Iran is facing serious changes in its economic and environmental structures in the terrifying wake of climate change and exciting aftermath of the Iran Nuclear Deal. There is no doubt the region is unstable, but economic normalcy is a long-stressed could country could help to lessen tensions – or in the case of the power struggle with Saudi

\textsuperscript{216} Twitter
\textsuperscript{217} Twitter
\textsuperscript{218} "The Word and the World: Public Theology in an Age of Global Media." University of Chester, 30 Aug. 2013. Web. <http://www.chester.ac.uk/node/20739>. Information from on the topic can be found by reading articles written previously by two of the presenters:
1. Belonging without Believing? Social Networking Media and the Concept of Church, by Esther McIntosh, York St John University
Arabia, increase tensions. Overall, Iran reentering the Western market is a monumental step for both spheres. The West and particularly the US gain access to security and cheaper oil while Iran is awarded billions in frozen assets and potentially billions more in future deals. But this exciting situation brings its own set of problems and questions. How well will Iran be able to its Islamic finance values in the Western market? How will inflation and unemployment be affected, and how long will substantial change take? To what degree does Iran’s reentrance into massive oil sales contribute to climate change and/or forestall mitigation efforts? These questions will likely answer themselves in the next few years, but taking steps to capitalize on economic stability and environmental protection should be proactive through conservation of water, land reclamation projects, investment in job growth, and transitioning from fossil fuels to renewable energy.219 Professor Ghoddusi, a professor of economics introduced in the last chapter, recently wrote an article on the potential for Islamic finance to promote renewable energy in Iran and Gulf States through the ability to make payments over time, proper risk assessment, and green sukuk.220 Islamic finance is based on principles of fairness, equality, and knowledge to ensure the best possible outcome for lender, borrower, and land. Iran and the West will have to work together to promote

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sustainability – financial and environmental – among mounting opportunities and pressures. After so many years of political turmoil, is such a feat even possible? In the words from an interview with Islamic scholar in regards to Iran, “We (Islamic scholars) believe it (environmental change through Islamic finance) is not so much difficult and it just needs education and time.”
Conclusion:

For the first time in over thirty years, the Islamic Republic of Iran is able to reenter the world economy at its full potential, and Islamic finance is a rapidly growing market itself. As deals with companies and nations are made, Iran has the opportunity to adhere to its Islamic values in business. The values of Islamic finance most notably include the lack of interest (as in conventional banking), sharing and speculation of potential risks or benefits, and respect for land. Economic deficit has hindered Iranian people and business to the point of stagnation and deterioration. Their luck is changing as money pours in from oil sales, but fossil fuels themselves pose a threat to long-term environmental and economic stability. Before oil runs out, Iran can use Islamic finance as a powerful tool to promote environmental sustainability, job creation, and an increase in the standard of living. The Financial Times Iran Summit 2016, in association with *Forbes and Manhattan*, brought together economists, bankers, scholars, diplomats, journalists, and government officials to “explore Iran’s potential as an economic powerhouse as well as the political, geo-political and cultural forces shaping its future.”\(^ {221}\) The Summit had little to say about environmental aspects, but those are likely to come in the future as Iran continues to develop its environmental initiatives. Through

the use of Islamic finance, Iran could become a leader in climate change mitigation and environmental advocacy as a model for the rest of the world.\textsuperscript{222}

\textsuperscript{222} This is not implying that Islamic finance is the only way to achieve such lofty environmental aspirations; simply that Iran’s use of Islamic finance can help the nation (and the rest of the world) reach these goals.