



**Charting a New Course in
Environmental Good Governance:
Natural Resources Management, Al Hima & Islam**



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The West Asia - North Africa (WANA) Institute is a non-profit policy think tank based in Amman, Jordan.

Operating under the chairmanship of His Royal Highness Prince El Hassan bin Talal, the Institute works to promote a transition to evidence-based policy and programming to combat the development and humanitarian challenges facing West Asia and North Africa.

The WANA Institute aspires to be a trusted source of knowledge, evidence and opinion, and to provide a forum for open debate for leading researchers and policy makers in the region.

We undertake research, host conferences and conduct training workshops in the areas of social justice, green economy and human security. We believe these three areas represent both the most pressing issues facing our region and the greatest opportunity for our work to create vital impact.

GIZ. Solutions that work.

GIZ provides services worldwide in the field of international cooperation for sustainable development. The German Federal Ministry for Economic Cooperation and Development (BMZ) is the main commissioning party, but GIZ also work closely with the private sector, fostering successful interaction between development policy and foreign trade.

GIZ has been working in Jordan for over 40 years, and has had an office in the capital of Amman since 1979. The civil war in Syria and the political instability of the region are having a direct impact on Jordan, where several hundred thousand people have sought refuge since the start of armed conflict in the neighbouring country. GIZ is supporting Jordan in creating long-term prospects for both Jordanians and Syrian refugees by assisting the host municipalities where many of the refugees are living, and thus contributing to the stability of the country.

The development problems Jordan faces are rooted primarily in the lack of natural resources. Climate change and environmental pollution are other key issues. Currently, Jordanian-German cooperation is focusing on water as well as employment and education. Since 2001, water has been the priority in Jordanian-German cooperation. Jordan is one of the world's most water-deprived countries, and GIZ is helping provide an adequate and stable water and wastewater management system through various measures. To create economic and vocational prospects for Jordanians and the Palestinians and Syrians living in Jordan, a new priority area since 2015 has been to promote measures in education, vocational training and job creation. GIZ is also promoting environmental protection and resource conservation and waste management in Jordan. In addition, there are several regional programmes which are being implemented from Jordan.

Swiss Agency for Development and Cooperation

The Swiss Agency for Development and Cooperation (SDC) has been present in Jordan since 2001. SDC plays an active role in providing assistance and improving the living conditions of vulnerable groups in the Jordanian community as well as other vulnerable groups such as refugees and migrant workers, with special focus on women and children. In order to achieve its overall goal, SDC focuses on three domains of interventions: Basic Needs and Services; Protection; and Water.

In the water domain, SDC is focusing in applying the principals of "Integrated Water Resources Management" (IWRM) in the divers projects forecasted at different level of the water cycle. The foreseen projects are divided in software supports and hardware actions. The engagement of SDC will mainly be:

- Aquifer protection and monitoring actions;
- Fresh water production including traditional water treatment and desalinization;
- Fresh water distribution;
- Improved irrigation with focus on Water Energy and Food Security Nexus;
- Wastewater management
- Rapid aerial survey through Unmanned Aerial Vehicle (UAV) or commonly called drone and
- Vocational training on water project management and water projects implementation;
- Awareness addressed to different water users and at different levels

The Friedrich-Ebert-Stiftung Organization

The Friedrich-Ebert-Stiftung (FES) is a non-profit organization committed to the values of social democracy and the oldest of Germany's political foundations. Founded in 1925, it is the political legacy of Friedrich Ebert, Germany's first democratically elected President. Ebert, a Social Democrat of humble origins, had risen to hold the highest office in his country despite considerable opposition from the undemocratic political elite. He assumed the burden of the presidency in a country, which was crisis-ridden following its defeat in World War I. His personal – often painful experience – in managing to rise through the ranks and in facing political confrontation led him to propose the establishment of a foundation with a threefold aim:

- contributing to international understanding and cooperation wherever possible in order to avert a fresh outbreak of war and conflict
- furthering a democratic, pluralistic political culture by means of political education for all classes of society
- facilitating access to higher education and research for gifted young people by providing scholarships

In his testament, Friedrich Ebert asked for donations from mourners instead of funeral flowers, thus providing for the financial basis of the foundation. Hence, after Ebert's untimely death in 1925, the Friedrich-Ebert-Stiftung came into life. The Foundation was immediately banned when the Nazi regime entered into power in 1933. FES was not re-established until after the end of World War II. Today FES works in more than 100 countries around the world. The foundation continues to pursue the above aims and values, which have lost nothing of their relevance since Friedrich Ebert wisely framed them in 1925.

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This paper was written by Dr Odeh Al Jayyousi in collaboration with the Green Economy team at the West Asia-North Africa Institute.

Introduction

The modern capitalist development model has resulted in an unsustainable exploitation of the world's finite natural resources, particularly water. Today, nearly 80 percent of the global population is water insecure; in developing countries 1.1 billion people lack access to a formal water supply and 2.5 billion people lack safe sanitation.¹ Water insecurity and the degradation of water resources are impacting ecosystem integrity, resulting in species extinction, habitat loss and declining productivity. In the West Asia-North Africa (WANA) region, five of the seven Arabian Peninsula countries have exhausted their renewable water resources.² Desalination, while improving access to clean drinking water and thus health outcomes, has created other environmental problems, such as the disposal of brine, which threatens marine ecosystems, and has further consequences for livelihoods and food security.

Water insecurity is also a causal factor in land degradation, desertification and food production deficits. By 2025, water withdrawal is projected to increase by at least 50 percent, driving most countries in the region into food insecurity.³ These pressures operate in a vicious cycle; food shortages drive overproduction, which overburdens the carrying capacity of land, leading to even fewer resources from which to raise food production. Such outcomes transcend state borders. Food-water-energy insecurity is increasingly being linked to displacement and conflict, with real-time examples affecting many parts of the region.⁴ In Jordan and Lebanon, the Syrian refugee population is placing increasing pressure on the agriculture sector and food supply networks. In Iraq, salinity and desertification has left 40 percent of land unusable for agriculture, fueling sharp increases in urban migration. In Yemen, the same issues have rendered the country highly dependent on the international food market, with price shocks identified as the main cause of inter-community conflicts. Similarly, in Syria, drought triggered a series of events including displacement, food insecurity and unemployment, which contributed to the 2011 breakdown in governance.⁵

These trends are likely to be exacerbated in years to come. The population of Arab States is expected to reach 487 million by the year 2025, an increase from 359 million in 2010.⁶ Sustaining this population will require a 70 percent increase in food production; annual cereal production will need to rise to 3 billion tonnes from 2.1 billion today, and annual meat production will need to rise by over 200 million tonnes to reach 470 million tonnes.⁷ A further impact of such growth, combined with reduced opportunities in the agricultural sector and the burgeoning youth demographic, is urban migration. Already, over 55 percent of the region's population lives in cities.⁸ Such migration is usually accommodated by reclaiming deserts and marginal lands in peri-urban areas, which in turn requires extending municipal water systems and expanding non-conventional water projects, water transfers and desalination. This works at cross purposes with government efforts to promote sustainable rural livelihoods and ensure sufficient food production by skewing and further depleting water resources.

¹ F Malin and J Rockström *Balancing water for humans and nature: the new approach in ecohydrology* Earthscan (2004) 46-54.

² E Swyngedouw "UN Water Report 2012: Depoliticizing Water." *Development and Change* 44.3 (2013) 823-835.

³ C Ximing and MW Rosegrant "World Water Productivity: Current Situation and Future Options" *Water Productivity in Agriculture: Limits and Opportunities for Improvement* 1 (2003) 163.

⁴ see H Elaydi 'Food-Water-Displacement in the WANA Region' WANA Institute (2015) 18-30.

⁵ A Beck 'Drought, Dams and Survival: Linking Water to Conflict and Cooperation in Syria's civil war' *International Affairs Forum* 5, no.1 (2014) 11-22.

⁶ Population Estimation of 22 Arab Countries under Constant-Fertility Scenario drawn from the United Nations Department of Economic and Social Affairs Population Division, *World Population Prospects : the 2009 Revision*, available at <<http://esa.un.org/unpd/wpp2008/index.htm>> accessed 21 June 2015.

⁷ H Godfray, J Charles et al. "Food security: the challenge of feeding 9 billion people." *Science* 327.5967 (2010) 812-818.

⁸ United Nations Department of Economic and Social Affairs Population Division, *World Population Prospects: the 2006 Revision*, available at <http://www.un.org/esa/population/publications/wpp2006/wpp2006.htm> accessed 21 March 2015.

The dominant frameworks for managing the above pressures are Integrated Water Resources Management (IWRM) and sustainable development. IWRM is an interdisciplinary concept that views water as an integral part of ecosystem: a natural resource as well as a social and economic good. The evolution of IWRM can be somewhat mapped against shifts in the perception of water over the last three decades from an economic commodity, to a social good and most recently to “water as a human right”⁹

The holistic management of freshwater as a finite and vulnerable resource, and the integration of sectorial water plans and programs within the framework of national economic and social policy, are of paramount importance for actions in the 1990’s and beyond.¹⁰

Sustainable development is also an interdisciplinary approach that focuses on the environmental, social and economic dimensions of a system. Its point of departure is that it understands development as a process of meeting present needs without compromising the ability of future generations to meet their own needs.¹¹

These frameworks have been criticised as insufficient to overcome the scope of resource exploitation taking place in the context of modern economic development and globalisation. Such critics identify the capitalist model as a key driver behind the ecological crisis. Under this model, the social value of goods, and their perceived connection to happiness, drives over-consumption and associated resource degradation and depletion. There is little investigation into the resulting externalities, whether the gains of development are being shared equitably and what the consequences for future generations will be. This lays a foundation for broader spillover affects, such as increasing social inequality, corruption and poverty. A critical issue is inequitable burden sharing. Although consumption is concentrated in the developed world, it is mainly developing countries — the suppliers of such demand — that absorb the impacts. For example, the developed world (which constitutes 25 per cent of the global population) consumes 15 times as much paper, 10 times as much steel, and 12 times as much energy as the rest of the world combined.¹²

This situation has been able to occur because of market dysfunction. In the globalised economy, public goods — such as the atmosphere, water and biodiversity — are not properly valued and there are insufficient regulatory safeguards against their misuse. A prime example is the rise of virtual water trade, and the role this has played in the global water crisis. Whenever a T-shirt made from Pakistani cotton is purchased, Thai rice is eaten, or coffee from Central American beans is consumed, water is taken from the Indus, Mekong or Costa Rican water asset bases. It requires 25 bathtubs of water to grow the 9 ounces of cotton to make a T-shirt, 25 gallons of water to grow a portion of rice and 2650 gallons of water to grow a 1-pound jar of coffee.¹³ Since water is a public good with open access, production impacts the hydrology of the good’s origin, but this impact is not reflected in price. An improperly functioning market means that such public goods are vulnerable to exploitation and over-use.¹⁴

There is broad scientific acknowledgment that the status quo is incompatible with the planet’s ability to sustain life. This has given rise to calls for fundamental changes in lifestyles and consumption habits, along with regulatory frameworks to allocate natural resources to users equitably based on the principles of sustainable development. The capitalist system, however, has many powerful vested stakeholders

⁹ O Al-Jayyousi ‘Water as a Human Right: Towards Civil Society Globalization’ in *Water Resources Development* F Taylor (ed) 2007.

¹⁰ WRI, IUCN. “UNEP (1992) Global Biodiversity Strategy” WRI, Washington DC, IUCN, Gland (1992).

¹¹ Brundtland Commission “World Commission on Environment and Development” (1987) *Our Common Future*.

¹² WM Adams and SJ Jeanrenaud *Transition to Sustainability* World Conservation Union (2009).

¹³ F Pearce *When the Rivers Run Dry: Water, the Defining Crisis of the Twenty-First Century* Beacon Press (2006).

¹⁴ L Rkiouak ‘An Islamic Sustainable Development Model for the West Asia-North Africa Region’ West Asia-North Africa Institute (2015) 1-3.

including banks, media, corporations and governments, all of which benefit from continuing and growing consumption. These trends can be readily observed in the WANA region, where technology has been used to deal with environmental impacts rather than address root causes. Examples include desalination; groundwater withdrawal; reliance on food imports; and individualist exploitation of water resources to the detriment of weaker riparian stakeholders.¹⁵

It is clear that a new discourse on the sustainability of natural resource management — informed by both the national and social sciences — needs to evolve. Such a discourse must be sufficiently evidenced, pragmatic and compelling to provoke the types of changes needed at the governance, policy, community and individual levels. While there is increasing recognition of the role that customs and traditional knowledge can play in resource management and policy development, there has been less investigation into the potential role of religion. Environmental philosopher Roger Gottlieb argues that “[r]eligion has a unique and crucial contribution to make to environmentalism. Ultimately environmentalism, including religious environmentalism, challenges society to change profoundly in response to the ecocrisis”.¹⁶ This paper puts forth the view that in the Muslim world, common ethical guidelines drawn from Islam may form the basis of a narrative that is capable of uniting and galvanising the commitment required to confront today’s environmental challenges.¹⁷ Islamic jurisprudence provides a rich evidence base for innovation, good practices in environmental protection and community-based natural resources management.¹⁸ The following chapters explore these concepts by detailing the Islamic jurisprudence on environmental protection, examining tested development models inspired by Islamic doctrine, and proposing a foundation for a new Islamic model pertaining to natural resources management.

¹⁵ S Absar ‘The Future of Water Resources Management in the Muslim World’ *Journal of Future Studies* 17(3) (2013) 1-20.

¹⁶ R Gottlieb A Greener Faith: *Religious Environmentalism and our Planet’s Future* (2006).

¹⁷ HA Amery “Islamic water management.” *Water International* 26.4 (2001) 481-489.

¹⁸ O Al-Jayyousi ‘Islamic values and rural sustainable development’ *Rural 21 Journal*, Germany (2009).

1: The Islamic Worldview on the Environment

The Islamic discourse perceives today's environmental situation as a crisis in values, embodied in contemporary economic structures, political institutions and social relations.¹⁹ Climate change, for example, is understood as the result of declining human stewardship and ethical behavior. Environmental degradation is thus conceptualised in broad and integrated terms; it is not just an environmental catastrophe, but also a catastrophe of the environment, human security, social cohesion and governance.

The present ecological crisis is an outward manifestation of a crisis of mind and spirit.²⁰

This Islamic discourse advocates a re-examination of the foundations on which society is built. A key premise is that only with a thorough understanding of the social values of Islam can value-oriented communities develop creative and innovative approaches to natural resources management.

The Islamic societal model not only provides an alternative narrative to capitalism, but a framework that is arguably more aligned to sustainable development. The Islamic worldview prefers a low consumption economy (*zohd*) where resources are conceptualised beyond their economic value. This is reflected in the teachings of the Prophet (pbuh), who placed a high premium on simple living and discouraged luxuries.²¹ Islam also envisages an egalitarian society with minimal socio-economic disparity. It requires that those who can afford a higher quality of material standards voluntarily forego some of their comforts, and help others improve their economic position so that they can enjoy a similar lifestyle. It is only after most people have acquired a comparable living standard that society as a whole should move to a higher socio-economic platform.²²

Islamic society is founded on and informed by God's consciousness — *taqwa* — a cluster of values including justice (*adl*), benevolence (*ihsan*) and charitable spending towards God's purposes (*infaq*).²³ *Taqwa* stands in contrast with capitalism in that it encourages people to channel their energies away from consumerism and towards spiritual self-enrichment and social awareness. Far from the goals of the globalised economy, Islam promotes small-scale, human-centered development that benefits local communities. Perhaps not surprisingly, money has a very different function in Islamic society. Here, money is understood as a medium of exchange for goods and services, not as a commodity with a value in and of itself. Moreover, profits and losses are shared in the Islamic economic model, minimising the paths for inequality and class difference.²⁴

Against these competing worldviews, it is proposed that Islam may offer a more effective platform for sustainably managing natural resources and addressing the causes of contemporary environmental degradation. As explored below, Islamic law contains a detailed ethical framework concerning the relationship between the environment and its inhabitants. It allows humans to consume and utilise natural resources, but not manipulate nature in a way that irreversibly damages the environment. It dictates that people are to share in the abundance as well as the scarcity of resources, because such

¹⁹ O Al-Jayyousi 'The State of Ecosystems and Progress of Societies: Statistics, Knowledge and Policy' OECD (2008).

²⁰ MR Akhtar "Towards an Islamic Approach for Environmental Balance" *Islamic Economic Studies* 3.2 (1996) 57-77.

²¹ T Kuran "The Economic System in Contemporary Islamic Thought: Interpretation and Assessment." *International Journal of Middle East Studies* 18.02 (1986) 135-164.

²² O Al-Jayyousi *Islam and Sustainable Development: New Worldviews* Gower Publishing, Ltd. (2012).

²³ M Asutay "A Political Economy Approach to Islamic Economics: Systemic Understanding for an Alternative Economic System." *Kyoto Bulletin of Islamic Area Studies* 1.2 (2007) 3-18.

²⁴ S Naqvi, N Haider and A Qadir. "The Dimensions of an Islamic Economic Model." *Islamic Economic Studies* 4.2 (1997) 1-24.

resources are finite, and because people are accountable to God for their actions on earth.²⁵ Moreover, Islamic doctrine asserts that the ecosystem belongs to the Creator, who entrusts humankind to transfer it to succeeding generations. The idea that humans are guardians and trustees of natural capital implies a responsibility to utilise resources in a responsible and equitable way consistent with the notions of sustainable development and inter-generational equity. Together, these concepts provide the foundations for sustainability and good life (*hayat tayebah*).²⁶

²⁴ S Naqvi, N Haider and A Qadir. "The Dimensions of an Islamic Economic Model." *Islamic Economic Studies* 4.2 (1997) 1-24.

²⁵ O Al-Jayyousi 'Dublin Statement and Islamic Principles' *Water Resources Management and Policy* (Farouqi and Bino Eds) Tokyo, United Nations University Press (2001).

²⁶ Chapra, Muhammad Umer, and M. Umer Chapra. *Islam and the economic challenge*. Leicester: Islamic foundation, 1992.

2: Islamic Jurisprudence on the Environment

The central place of the environment in Islamic life, the spiritual significance of nature, and the importance of maintaining environmental balance are supported by religious texts and Islamic scholarship, as described below.²⁷

2.1 Harmony

Islamic scholarship understands nature as having been created by God for the benefit of all humans.²⁸ The universe was created with perfect wisdom (*hikma*), and the elements are determined precisely by God's divine plan — everything created by Allah having a just purpose, meaning and value.²⁹ This natural state (*fitra*) embodies a harmony between nature, people and the constructed environment. Islam thus sees the environment from the standpoint of balance — environmental balance (*qadar and mouzoon*) being part of the universal 'grand balance'.³⁰

Verily all things We have created in proportion and measure.³¹

For there is not a single beast on the earth nor a bird flying with its two wings but that they are communities like you.³²

2.2 Tawhid

Tawhid (unity) holds that the universe was created, and is controlled and sustained, by one Supreme Being, thus uniting Muslims under a single and uncontested vision. *Tawhid* underscores God-human, human-human, and human-universe relationships.³³ It identifies humans and the ecosystem as integral parts of the same universe, both of which are regulated by divine law. A central theme is the interconnectedness between humans, animals, insects, plant life, earth, water, air and imperceptible creatures — all of which are a part of God's creation. Environmental protection thus becomes both a human mandate and a mission.

If God did not create trees, iron, and the various tools need to manufacture ships; if He did not make known to people how to use all these items; if He did not create water as a running body which allows ships to move on it; if He did not create winds with their powerful movement and if He did not widen and deepen rivers enough to allow the movement of ships in them; it would have been impossible to benefit from these ships. He is the Manager (al-Mudabbir) and the Subjugator (al-Musakhir) of these matters.³⁴

²⁷ Akhtar (n 20) 57-77.

²⁸ FM Khalid "Islam and the Environment." *Volume 5* (2002): 332-339.

²⁹ SH Nasr "Islam, the Contemporary Islamic World and the Environmental Crisis" *Earthcare: An Anthology in Environmental Ethics* (2009) 82.

³⁰ SH Nasr *Religion and the Order of Nature*. Vol. 1994. Oxford University Press (1996).

³¹ Qur'an 54:49

³² Qur'an 6:38.

³³ "2nd International Conference on Contemporary Scholarship on Islam: The Legacy of Ismail Raji Al-Farruqi" (2013).

³⁴ S Raysūnī *Imam Al-Shatibi's Theory of the Higher Objectives and Intents of Islamic Law* IIIT (2005).

2.3 *Khilafah*

While Allah is the owner of all of earth's resources, humans are required to use them in just and proper ways. They must act as trustees, benefiting from them according to the terms of the trust.³⁵ As noted above, Islam views humans as vicegerents of *Allah* on earth. God endowed them with moral and physical resources to perform their functions on earth and *shari'ah* guides them to make efficient and equitable use of resources.³⁶ Humans are neither granted superiority nor license to subdue and exploit absolutely.³⁷ In contrast to capitalism, which connotes self-interest and maximisation of personal utility, *khilafah* (trusteeship) encourages characteristics that promote beneficial cooperation and the mutual sharing of resources.

2.4 *Al-akhira*

Al-akhira (hereafter) can be roughly understood as accountability, but with wider application. Muslims believe that every atom of good will be weighed against every atom of evil in *al-akhira*.³⁸ Humans must thus evaluate the impact of their choices during life in the context of the hereafter. In practice, this acts as a monitoring system to encourage responsible action.

2.5 Environmental Consciousness

The foundational texts have long been relied upon by Muslim scholars to establish the notion of environmental consciousness within the Islamic faith. In Islam, every human activity has a transcendent dimension; acts are sacred, meaningful and goal-centered. According to Chapra, Muslims are prohibited from behavior that is environmentally destructive.³⁹ He links the ethical foundations of environmental protection in Islam to the principle of 'no injury', under which Muslims are prohibited from harming others. He contends that as environmental degradation harms both present and future generations, there is an obligation on individuals and society to protect natural assets. According to Husaini, environmental disruption of any kind must be avoided because this is (i) an ethical command of *shari'ah* and (ii) essential for protecting the public interest and universal common good of all humankind.⁴⁰

There is no Muslim who plants a tree or sows a field, and a human, bird or animals eats from it, but it shall be reckoned as charity from him.⁴¹

The seven heavens and the earth and all that are in them give due exaltation to Him [i.e., God]. For there is not a [single] thing but that it exalts Him with [all] praise. But you [human beings] fathom not their exaltations. Indeed, ever is He most forbearing, all forgiving.⁴²

³⁵ S Hussaini and A Waqar "Principles of Environmental Engineering Systems Planning in Islamic Culture." *Unpublished Ph. D. Thesis, University of Stanford* (1971) 57.

³⁶ Al-Jayyousi (n 22).

³⁷ A Setia, "The Inner Dimension of Going Green: Articulating an Islamic Deep- Ecology' 5(2) *Islam & Science* 117, 120 (2007).

³⁸ Al-Faruqi, Isma'il R. *Islamization of knowledge: General principles and work plan*. Herndon, VA: International Institute of Islamic Thought, 1982.

³⁹ Chapra, Muhammad Umer. *The Future of Economics: An Islamic Perspective*. Islamic Foundation, 2000.

⁴⁰ Akhtar, Muhammad Ramzan. "Towards an Islamic Approach for Environmental Balance." *Islamic Economic Studies* 3.2 (1996): 57-77.

⁴¹ Jamil, Mohammad Assayed. *A Study on Environmental Issues with Reference to the Qur'an and the Sunna*. Islamic Educational, Scientific and Cultural Organization (1999).

⁴² Qur'an 6:38.

2.6 Simplicity

Simplicity or de-growth (*zohd*) is key principle in the Islamic way of life. Individuals are required to conserve rather than deplete, including by using resources exhaustively and not replacing them until their utility has been exhausted:⁴³

Eat and drink and be not be extravagant, surely Allah does not like extravagants.⁴⁴

The faithful servants of the Beneficent [i.e., God] are they who tread upon the Earth gently.⁴⁵

2.7 Fellow Feeling

Fellow feeling is an integral part of Islamic community, closely related to the notions of solidarity and brotherhood.⁴⁶ Fairness and ethical behavior are central tenets advocated in Islamic teachings, both of which have important implications when decisions are made relating to natural resources management. Muslims are expected to be active contributors in community-based participatory processes; they must be just in their opinions and behavior towards others, true and equitable, moderate and avoid conceit. The traditions of the Prophet (pbuh) elaborate this idea of a 'median community' that embraces collective action, responsibility to do good, and prohibits harm or injury to any living or non-living entity.⁴⁷

O Mankind, We created from a single (pair) of a male and female, and made you into nations and tribes, that you may know each other. Verily, the most honored in the sight of Allah is the most righteous of you.⁴⁸

⁴³ C Bruch et al. "Legal frameworks governing water in the Middle East and North Africa." *Water Resources Development* 23.4 (2007): 595-624.

⁴⁴ Qur'an 9:31

⁴⁵ Qur'an 25:63

⁴⁶ M Muslehuddin *Sociology and Islam: A Comparative Study of Islam and Its Social System* Islamic Publications (1977).

⁴⁷ Al-Jayyousi (n 22).

⁴⁸ Qur'an 27:13

3: Islamic Rules on Natural Resources Management

In light of these principles, a set of norms can be articulated that relate to natural resources to ensure sustainability and a good life (*hayat tayebah*). These rules should be seen as balancing individual rights against collective rights, including those pertaining to the non-living components of nature, such as the atmosphere, finite resources and future generations.

3.1 Land Management and Conservation

Islamic law divides land into two categories: private and public. Private land is land owned by individuals, while public land comprises land that is either (i) undeveloped (*muwat*), (ii) subject to a trust or endowment (*awqaf*) or (iii) owned by the government. A further category of land is termed *hima* or 'protected area'. *Al hima* are undeveloped (*muwat*) lands to be used for the purposes of public good.⁴⁹

Islamic laws on land management can best be understood from the perspective of the public interest (*maslaha*). These include protecting public goods from being compromised by private self-interest, Islamic property rights being conditional upon property not being used wastefully or in a way that deprives others of their rights,⁵⁰ that all of humanity should benefit from nature's resources equally, that the state assumes land 'ownership' for the benefit of the community, and that Islamic property rights incorporate a redistributive element — evident in institutions such as endowment (*waqf*) and charity (*zakat*).

Whoever revives barren lands is entitled to what he has revived.⁵¹

A person who pollutes either private or public land is liable for the damage caused under rules akin to common laws relating to nuisance. The *sunnah* provide primary sources of evidence for this; the Prophet (pbuh) forbade his followers from polluting roads and areas used for shade (as well as rivers and stagnant waters).⁵² Even during times of war, classical Islamic jurisprudence forbade the destruction of trees, crops, livestock or farmland.⁵³ Excessive use or exploitation of natural resources is likewise prohibited.⁵⁴ Islamic teachings also underscore the importance of growing crops, planting trees and being conscious of all animal life and ecosystems. The Prophet (pbuh) forbade the cutting of trees in the desert. He introduced the rule that forests and wildlife are public goods to be maintained under the trusteeship of the community, and established *hima* zones around Makkah, Medinah and Taif within which no native trees could be cut.⁵⁵

⁴⁹ AJ Maidin "Islamic principles on sustainable land use planning and development" *Journal of Islamic Law Review* 7.1 (2011) 57-89.

⁵⁰ DA Caponera "Ownership and Transfer of Water and Land in Islam." *Water Management in Islam* (2001) 94-102.

⁵¹ M Al-Bukhari *Sahih al-Bukhari* Hamdaan Publications (1987).

⁵² NI Faruqui, AK Biswas and MJ Bino *Water Management in Islam. Workshop on Water Resources Management in the Islamic World*. No. 333.91 W324. IDRC, Ottawa (Canada) 2001.

⁵³ M Deen "Islamic Environmental Ethics, Law and Society" *This Sacred Earth. Religion, Nature, Environment* (1996) 164-173.

⁵⁴ Faruqui (n 52).

⁵⁵ H Kilani, S Assaad and L Othman "Al-Hima: A Way of Life." *IUCN West Asia Regional* (2007).

2.2 Water Conservation

The *Qur'an* and *sunnah* highlight the importance of preserving the quantity and quality of water elements. Water is regarded as a basic source of life, and the traditions of the Prophet (pbuh) emphasise the conservation and purification of water. He directed Muslims to use less water, even at the bank of a flowing stream.⁵⁶ Moreover, Islamic law instructs individuals not to waste water, even in the case of religiously-mandated cleansing (*wudu*).

Unlike land, the ownership of water resources is highly restricted and individual use is subject to strict standards. Even when individuals invest their own resources to cultivate a body of water or establish access, they most often gain a priority of usage rather than an exclusive right. Ottoman *Majallah* provided the community with the right to use water, even if found on private property:

[t]here things cannot be denied to anyone: Water, pasture and fire.⁵⁷

Islam prohibits the pollution of water existing in public lands, and such acts give rise to liability. Even the owners of private land that holds groundwater can be held liable for its pollution.⁵⁸

⁵⁶ Al-Jayyousi (n 25) 33-8.

⁵⁷ Caponera (n 50) 94-102.

⁵⁸ *ibid.*

4: Existing Islamic Development Models: *Al Hima*

Al Hima is a community-based natural resources management system. It began as a pre-Islamic institution whereby a powerful individual would declare a fertile land forbidden for public access. This concept of *hima* was open to abuse and widely regarded as an instrument of oppression, particularly because land was often made off limits to the poor.

Upon the advent of Islam, the Prophet (pbuh), laid down rules regarding the establishment and use of *hima* — rules that would become the cornerstones of conservation law in Islam. He abolished the practice of making private reserves for the exclusive use of powerful individuals, and ruled that *hima* could only be established for the public welfare.⁶⁰ For example, he established a *hima* surrounding the Haram of Al-Madinah where hunting and the destruction of trees and shrubs were prohibited within a four and twelve mile radius respectively.⁶¹ Other *hima* introduced concepts such as the restricted use of grazing, seasonal agriculture and sustainable resource use.

Over time *himas* became mechanisms exercisable only by governmental authorities, established with the purpose of ensuring sustainable land management, creating wildlife reserves, afforestation, or to facilitate ecosystem preservation. Persons were appointed to oversee *hima* lands to ensure that they were utilised for their established purposes.⁶² This basic *hima* system contributed positively to the conservation and protection of the region's natural resources, rangelands and forests for the next 5,000 years.

Three key principles can be elaborated that underpin the relationship between *al hima* and Islam. First, *himas* introduced and were structured around the notion of social justice. To be valid, a *hima* had to benefit all levels of society, not just a certain class or family.⁶³ This is consistent with the Islamic principle that every human is entitled to access a share of the earth's sustenance. Likewise, it was prohibited that the socio-economic benefits generated by or under one *hima* be monopolised by a certain group. Today, such rules are enshrined in Islamic law. For example, in the Maliki School of jurisprudence the following conditions must be met before land can be declared *hima*:

- (i) There is a public need and benefit to the community for such *hima*;
- (ii) The area is proportional in size to the ecological concern; and

In pre-Islamic Arabia it was customary, when a nomadic tribe came into a new area of pasture, for the tribal leader to ascend a hill and make his dog bark, and all the land as far as the sound could be heard would be reserved for his exclusive use, as his *hima*. In the lands outside the *hima* he would graze his herds along with those of his people, whom he would exclude from the *hima*; in it he would graze his weaker animals and those of anyone else whom he chose to offer the privilege of sharing it with him.⁵⁹

⁵⁹ L Gari "A History of the HIMA Conservation System." *Environment and History* 12.2 (2006) 213-228.

⁶⁰ "Requirements for Successful Revival of the HIMA" *International Workshop: Towards an Implementation Strategy for the Human Integrated Management Approach Governance System* (2013).

⁶¹ Gari (n 59).

⁶² N Dudley, L Higgins-Zogib and S Mansourian. "The Links Between Protected Areas, Faiths, and Sacred Natural Sites" *Conservation Biology* 23.3 (2009) 568-577.

⁶³ I Irini, et al. "Hima as 'Living Sanctuaries': An Approach to Wetlands Conservation from the Perspective of Shari'a Law." *Procedia-Social and Behavioral Sciences* 105 (2013) 476-483.

(iii) The land so declared is not built upon, commercialised, or cultivated for financial gain. Human activity is restricted, as it is in *al-haram* (sacred) lands; hunting, fishing, felling of trees, and cutting of vegetation are prohibited.⁶⁴

Second, the *hima* system operationalised a social contract based on mutual respect for the environment, co-existence, eco-system balance and public interest (*maslaha*).⁶⁵ Ecological degradation (*fasad*) was prohibited. This social contract was reformed and adapted over time by a community of practice (*ummah*) who set standards for ethical codes of conduct and created new knowledge based on the public interest and necessity.

Third, Islam contributed an ethical dimension to the concept of *hima*. It instilled the imperative of measuring trade-offs between public and private interests and between human rights and nature conservation. It allowed individuals to profit or benefit so long as rules that prevented injustice and detriment to others were followed.⁶⁶ By adding value to the livelihoods and wellbeing of local communities, *himas* actualised humans' role in the development of the universe (*imarat al ard*) and living lightly on earth (*zohd*). *Hima* also contextualised the notion of public goods that are co-managed by the local community, a fundamental doctrine in Islam.⁶⁷

⁶⁴ H Kilani "Al Hima: A Way of Being" unpublished MA dissertation, University College London, Department of Anthropology (2009).

⁶⁵ W Jenkins "Islamic Law and Environmental Ethics: How Jurisprudence (Usul Al-Fiqh) Mobilizes Practical Reform" *Worldviews: Global Religions, Culture, and Ecology* 9.3 (2005) 338-364.

⁶⁶ Gari (n 59) 213-228.

⁶⁷ Caponera (n 50) 94-102.

5: *Al Hima* as a Framework for Sustainable Development

While the traditional concept of *al hima* is undoubtedly one of the most important conservation practices of Islam, it is not a resource management model capable of responding to contemporary environmental challenges in a holistic sense. It does, however, provide valuable insight into what such a model might look like.

First, *himas* can be understood as a system of local governance, informed by and dependent upon local knowledge, and based on the principles of social equity, cooperation, integrity and respect for nature. As a system of communal resource management, *himas* provide a means to overcome spill-over effects, externalities and the free-rider issues associated with common-pool and trans-boundary resources, as well as an enabling environment for managing conflicts over natural resources, rangelands and forests.

Second, because *himas* operate in the interests of communities, they may be a more efficient means of optimising land usage and conservation practices. Higher community control over the policies and management of scarce resources results in more effective and sustainable use patterns, compared to when external authorities impose standards. According to Kilani, devolving power to local stakeholders, who have the most to gain and lose from maintaining a proper environmental balance, ensures that they play an active role in resources management, invest in their maintenance and protect them from abuse.⁶⁹

Third, the key principles of the *hima* system are in harmony with Islamic conservations principles:

- *Hima* represents a people-centered approach to development where the human plays the role of trustee who is responsible for the 'construction of the world' (*emmarat al-ard*).⁷⁰
- *Hima* operate through public participation (*shura*), social learning and consensus.
- By understanding the ecosystem as one integral unit comprising socio-economic, ecological and governance dimensions, *himas* elaborate the Islamic notion of co-existence and harmony. This is compatible with the basic Islamic tenet that all creatures possess intrinsic value and rights within the ecosystem.⁷¹

***Hima* is a Community-Based Natural Resources Management System that promotes sustainable livelihoods, resources conservation, and environmental protection. *Himas* are traditionally governed by local communities through consensus with different groups holding specific responsibilities such as collecting rainwater runoff and monitoring grazing. As the model embodies local knowledge, experiential learning and joint problem solving, it is a relevant concept to contemporary natural resources dilemmas.⁶⁸**

⁶⁸ O Al-Jayyousi "Hima as a Model for Natural Resource Management in West Asia and North Africa" *IUCN West Asia* (2010).

⁶⁹ Kilani (n 55).

⁷⁰ A Serhal "The Hima: An Ancient Conservation System from the Arabian Peninsula for the Future" *Culture and Wetlands in the Mediterranean: an Evolving Story* (2011) 21.

⁷¹ OA Llewellyn et al. "Important Plant Areas in the Arabian Peninsula: 4. Jabal AJA" *Edinburgh Journal of Botany* 68.02 (2011) 199-224.

- *Himas* enshrine the Islamic notion of social justice in that they operate to uphold *maslaha* (public interest) and require that resources are used equitably and distributed fairly. Moreover, the operating modalities and purpose of *himas* can be seen as balancing public and private interests and weighing costs or injuries against benefits (*darar*).⁷²
- *Himas* embrace Islam's notion of median community. Within this context people come together to control their economic affairs and share risk and return. Economic activity is facilitated, but unbridled economic growth where the poor are vulnerable to exploitation, is discouraged.⁷³

It might be argued that the *hima* system is compatible with *maqasid al-shariah* insofar as it promotes the following Islamic principles:

- *Invigoration of the human self*: By devolving power to the local community and rewarding effort, the *hima* system promotes self-respect and self-reliance. Moreover, as a system of community-based governance, *himas* give individuals both personal freedom and collective responsibility.⁷⁴
- *Enrichment of faith*: Islam holds that God is the sustainer, and any to damage the environment is to act against His will. Just as Islam prohibits *fassad* (corruption or damage) to the environment, the *hima* concept teaches respect for the natural surroundings and the need to balance land use against its destruction.
- *Intellectual enrichment*: The *hima* concept encourages knowledge acquisition by exploring new livelihoods and sustainability methods, and spiritual learning, by promoting respect for God's creations.
- *Enrichment of posterity*: *Himas* place emphasis on both environmental and economic sustainability. Users are expected to balance current needs with the interests of future generations, as well as weigh risk against benefit with respect to all living and non-living elements.
- *Human Development*: The *hima* system stimulates economic activity by rewarding personal effort, and promotes poverty alleviation by sharing risk and reward and being inclusive of all groups within the community.⁷⁵

To bridge the gap between traditional *al hima* and contemporary regional challenges, Figure 1 outlines an alternate conceptual framework through which to view sustainable natural resources management. The model embraces the ecological, social and human dimensions of *al hima*, as understood in Islam, but integrates the imperatives of upscale, enforcement and integration into modern legal frameworks.⁷⁶ The model is structured around the concepts of *hikma* (wisdom),⁷⁷ *ijtihaad* (innovation),⁷⁸ *maslaha* (public interest)⁷⁹ and *adl* (justice).⁸⁰

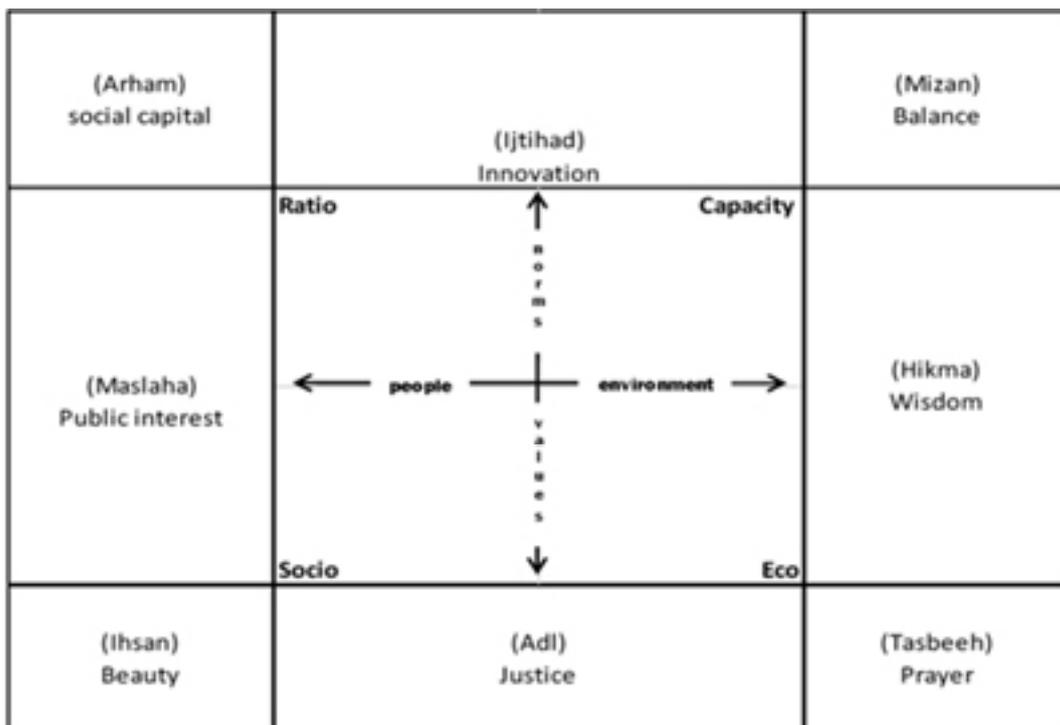
⁷² MH Knight, PJ Seddon and A Al Midfa "Transboundary Conservation Initiatives and Opportunities in the Arabian Peninsula" *Zoology in the Middle East* 54.sup3 (2011) 183-195.

⁷³ MK Suleiman et al. "International Workshop: Towards an Implementation Strategy for the Human Integrated Management Approach Governance System" (2013).

⁷⁴ H Safei el-Deen. "Seeing the Environment Through Islamic Eyes: Application of Shariah to Natural Resources Planning and Management" *Journal of Agricultural and Environmental Ethics* 6.2 (1993) 145-164.

⁷⁵ Suleiman (n 73).

Figure 1. A conceptual framework for sustainable NRM from an Islamic perspective



⁷⁶ Al-Jayyousi (n 22).

⁷⁷ *Hikma* (wisdom) goes beyond the notion of knowledge (*‘ilm*) to include the broader dimensions of theory, action and education. In Islam, the attainment of knowledge is obligatory at both the individual and societal levels. The first word of the Quran, is *iqra* (*read*), and *‘ilm* is referred to in the Quran as *‘light’ (nur)*. The foundational sources are replete with references to scholarship, imagination and intellectual inspiration, and there are specific references to the need for humans to understand the natural systems that govern the universe such as water cycles and seasons.

⁷⁸ Islamic epistemology to develop new knowledge includes explication (*tafseer*), interpretation (*ta’weel*), analogy (*qiyas*), and critical thinking or innovation (*ijtihad*).

⁷⁹ *Maslaha* (public interest) is understood to be the main purpose or intention of the *shari’ah*. *Maslaha* requires that jurists and the government act in the best interest of the community. Therefore, if a literal interpretation of Shari’a does not represent the best interests of the community, the principle of *istihsan* (juristic preference) allows other interpretations to be found.

⁸⁰ Some jurists distinguish between distributive justice, that addresses equality and the fair division of social benefits and burdens; and corrective justice, which seeks to restore equality. The Quran demands that everyone fulfill all.

6: Charting a New Course for Environmental Good Governance

The environmental challenges faced in the region today are unprecedented, inter-sectorial and mutually constituting. Increasingly, they will become powerful factors in sustaining the ecological balance, ensuring adequate food production, and maintaining water supplies to support economic activity. Market failure means that the extent and immediateness of these challenges is largely misunderstood. New models of development are needed to chart a course out of impending environmental decline. Such models need to be interdisciplinary, context specific, scientifically grounded and economically viable. They must also be sufficiently compelling to garner the popular commitment needed to make transformative changes in lifestyles, consumption habits, business practices and political leadership. The greatest challenge will be transforming resource users — at all levels and in all sectors — into resource stakeholders. In the West Asia-North Africa region, such impetus might be found in the Islamic tradition.

In response, this paper has set out a conceptual framework for understanding sustainable development based on the traditional notion of *al hima*. The capacity of *himas* to assimilate and synthesise local knowledge, form a community of practice (*umma*) of knowledge navigators, and embrace action learning differentiates it from existing modern development models.⁸¹ Moreover, its focus on small-scale, human-centered, decentralised development that benefits local communities provides a point of departure in the contemporary discourse.⁸² Critically, this model advocates a framework for development that is compatible with Islamic principles and strategies of engagement for overcoming environmental challenges specific to the region.

For this model to be operationalised, it must be integrated into contemporary religious norms and standards. Here, the Islamic science of interpretation to develop solutions to emerging issues — *ijtihaad* — becomes relevant. For any Islamic rule or norm to be valid, it must not violate the true intent and objectives of *shari'ah* (*maqasid al-shari'ah*). The ultimate purpose of *shari'ah* is to facilitate the public interest (*maslahah*). Muslim jurists developed an elaborate set of guidelines to determine whether the conditions for *maslahah* are met,⁸³ as well as criteria that encapsulate *maqasid al-shari'ah* and provide guidance on how to achieve *maslahah*. From this, it is foreseeable that new laws can be created to respond to contemporary challenges insofar as these rules uphold the public interest. These might include new rules on resource management, environmental protection and the rights of future generations. *Maqasid al-shari'ah* might even be seen as a framework within which policy analysis and trade-offs between public and private environmental interests can take place.⁸⁴

⁸¹ Al-Jayyousi (n 68).

⁸² *ibid*

⁸³ (i) the interest must be genuine or, under a preponderance of evidence, the benefit is outweighed by the harm; (ii) the benefit must be to the people or community as a whole, and not to a particular class or segment of society; and (iii) the benefit must not conflict with either Islamic texts or scholarly consensus (*ijma*).

⁸⁴ Raysūnī (n 34).

A pivotal gap in the scholarship also needs to be addressed: financing for sustainable development. The funds available for environmental and conservation issues are not growing in proportion to the scale and importance of the challenges.⁸⁵ Major increases in investment, as well as long-term and stable sources of financing for conservation initiatives must be set in place. At the same time, new funding models and tools need to be developed and operationalised. Contemporary Islamic finance institutions should be encouraged to include environmental protection and resource sustainability within their mandates. Examples include the issuance of Islamic bonds (*sukuk*)⁸⁶ that meet green standards, adopting environmental and socially responsible investment standards, and managing *waqf* (trust funds) created specifically for sustainable development or resource conservation.⁸⁷ Such a *waqf* would complement existing conventional development funds but provide for more flexible and innovative financing, ensuring an appropriate level of environmental investment in the region.

Finally, a mobilisation and engagement strategy must be developed to introduce an ethic of environmental consciousness among the region's resource stakeholders. To do this, the foundational texts and the work of Islamic scholars — which are replete with maxims and rules on environmental consciousness — should be drawn upon. As stated in the update to the famous book, *Limits to Growth*, the necessary consciousness required to deal with the environmental crisis is “a change advocated in nearly every religious text, a change not in the physical or political world, but in people's heads and hearts — in their goals.”⁸⁸

⁸⁵ While there are many regional organisations and development funds (including the Arab Fund for Economic and Social Development, the Abu Dhabi Fund for Development, the Islamic Development Bank, the Kuwait Fund for Arab Economic Development, the OPEC Fund for International Development, the Saudi Fund for Development and the Cooperation Council for the Arab States of the Gulf), the primary focus of these funds is the financing of economic and social infrastructure, both physical and institutional such as roads, dams, power grids, airports, hospitals and schools. Investments in sustainability and environmental actions is more rare.

⁸⁶ U Moghul S Safar-Aly *Green Sukuk: The Introduction of Islam's Environmental Ethics to Contemporary Islamic Finance* (2015).

⁸⁷ *Waqf*, in Arabic language, means hold, confinement or prohibition. The word *waqf* is used in Islam in the meaning of holding certain property and preserving it for the confined benefit of certain philanthropy and prohibiting any use or disposition of it outside that specific objective. This definition accords perpetuity to *waqf*, i.e., it applies to non-perishable property whose benefit can be extracted without consuming the property itself. *Waqf* can be related to land, buildings, water, species, agriculture, plants and cash. *Waqf* might also be used to secure resources like land, energy and water for ecologically-beneficial activities, including in the community-level.

⁸⁸ DH Meadows et al. “The Limits to Growth” *New York* 102 (1972).

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