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Three Handicaps (Economy, Education, Environment) of Middle East Arab Countries

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Abstract

The common points of Middle East Arab Countries (MEACs) are to have low human development index, environmental sustainability index, and educational problems particularly illiteracy. There are three main topics amongst the common subjects: economy (E), environment (E), and education (E). These 3 Es are intra- and interrelated, and basically address politics. The aim of this research is to examine the reasons of environmental problems of MEACs in terms of Islamic perspective and its applications. However, it is thought that the main problem here is Arap culture, not Islamic perspective because some literature refers to culture, disability among children, rural populations and nomadic life, and poverty in MEACs.

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Introduction

The biggest problem with environmental problems is to have inefficient political action. Most of the countries have political liberalism currently but there is a conflict between political liberalism and environmental problems (Bell, 2004; EFA, 2011) because political liberalism has an anthropocentric view. Natural resources are used to have economic development and the Mickey Mouse development model is a very common application within this perspective (SANZ, 2009). In terms of educational perspective political liberalism and secular educational programs aim to have 'good citizenship' but unfortunately political liberalism is not effective on sustainable development. What about religious education? Some countries have religious education such as Muslim countries. These countries' educational aims are to have 'a good citizenship' and 'a good Muslim community' (Bell, 2004).

Some of the Muslim countries are in the Arab Peninsula and their educational systems are based on Islamic rules (United Arab Emirates, 2012; Bahrain, 2012, Saudi Arabia, 2012). 'Middle East' terminology started to be used to explain the Arab Peninsula area by English in the19th century. There are 15 countries in the Middle East: Syria, Iraq, Qatar, Jordan, Israel, Lebanon, Iran, Palestin, Saudi Arabia, United Arab Emirates, Oman, Kuwait, Bahrain, Yemen, and Egypt (Middle East, 2012). Israel is a Jew country, so it is excluded in this study. These countries are named Middle East Arab Countries (MEACs) in this article.

The common subjects of MEACs are to have low human development index (HDI, 2023, Table 1), environmental performance index (EPI, 2022a, Table 2), and educational problems particularly illiteracy (Table 3).

The aim of this research is to scrutinise the reasons of environmental problems of MEACs in terms of Islamic perspective and practices. It is thought that environmental problems of MEACs are related to economy, education, and politics. There are three main topics in the common subjects: economy, environment, and education. It is very difficult to differentiate one from another, but the main aim of this paper is to evaluate these subjects in relation to international reports and their statistical data.

Economy

HDI is determined according to seven points: economic security, environmental security, political security, food security, personal security, health security, community security. These seven components are also intra- and inter-related. The United Arab Emirates, Saudi Arabia, Bahrain, Qatar, Kuwait, and Oman are in the very high HDI tier. The countries in the high HDI tier are Iran, Egypt, Jordan, Palestine, and Lebanon. Iraq and Syria are in the medium HDI tier while Yemen is in the low tier (Table 1).

The six of MEACs (Kuwait, Qatar, United Arab Emirates, Saudi Arabia, Iran, Iraq) are OPEC members (Organisation of the Petroleum Exporting Countries) (Khusanjanova, 2011; OPEC, 2022). OPEC members –except Iraq- have higher HDI tiers than others. There are still political instabilities in Iraq, Syria and Yemen so political and economic instability in these countries could give rise to lower HDI tiers (UNDP, 2016; Table 1).

Table 1

HDI Ranks of MEACs by Year

Country	HDI Tier	HDI 2021	HDI 2020	HDI 2019	HDI 2010	HDI 2000	HDI Growth	Rank	Governance	Muslim population	Economy
United Arab Emirates	Very High	0.911	0.912	0.92	0.835	0.796	0.73	26	Constitutional federation of absolute monarchies	76 %	OPEC
Saudi Arabia	Very High	0.875	0.87	0.873	0.816	0.737	0.83	35	Unitary Islamic absolute monarchy	97 %	OPEC
Bahrain	Very High	0.875	0.877	0.882	0.808	0.798	0.53	37	Constitutional monarchy	99.8 %	
Qatar	Very High	0.855	0.854	0.859	0.834	0.801	0.39	43	Absolute monarchy	77.5 %	OPEC
Kuwait	Very High	0.831	0.822	0.839	0.813	0.787	0.47	50	Constitutional monarchy	85 %	OPEC
Oman	Very High	0.816	0.827	0.839	0.788	0.705		54	Unitary Islamic, Absolute monarchy	75 %	
Iran	High	0.774	0.777	0.783	0.745	0.685	0.82	76	A unitary state, Islamic republic	98%	OPEC
Egypt	High	0.731	0.734	0.735	0.675	0.633	0.79	96	Military junta	90 %	
Jordan	High	0.72	0.723	0.727	0.725	0.678	0.47	101	Constitutional monarchy	92 %	
Palestine	High	0.715	0.716	0.727	0.687			105	Unitary semi-presidential republic	93 %	
Lebanon	High	0.706	0.726	0.745	0.77			111	Unitary confessionalist and Parliamentary republic	59.7 %	
Iraq	Medium	0.686	0.679	0.696	0.64	0.589	0.85	120	Federal parliamentary republic	95 %	OPEC
Syria	Medium	0.577	0.577	0.584	0.66	0.587	0.09	148	Unitary semi-presidential constitutional republic	74 %	
Yemen	Low	0.455	0.46	0.461	0.51	0.45	0.56	180	Unitary parliamentary republic	98 %	

(HDI Statistics, 2022; Khusanjanova, 2011; OPEC, 2022; UNDP, 2009, 2016)

Environment

Environmental Performance Index (EPI) provides a data-driven sustainability summary of countries. The EPI ranks 180 countries in three policy objectives: Climate change performance, environmental health, and ecosystem vitality. These three objectives have eleven categories: Climate change mitigation, biodiversity and habitat, ecosystem services, fisheries, acid rain, agriculture, water resources, air quality, sanitation and drinking water, heavy metals, and waste management. There are also forty performance indicators within the eleven categories. The aim of this study research aim is not to explain these indicators one by one and detailed information can be found in the EPI 2022 report (EPI, 2022b).

The countries were ranked 0-100 according to their environmental performance. The results of Palestine, Syria, and Yemen are not presented in the list.

Table 2

EPI Ranks and Scores of MEACs

Country	Rank	EPI score	10-year change
United Arab Emirates	39	52.4	15.9
Jordan	81	43.6	7.8
Kuwait	87	42.4	15.2
Bahrain	90	42	5.7
Saudi Arabia	109	37.9	9.5
Egypt	127	35.5	6.5
Iran	133	34.5	6.9
Qatar	137	33	-2.3
Lebanon	142	32.2	-4.7
Oman	149	30.7	6.4
Iraq	169	27.8	-5.3

MEACs have unsolved environmental problems. These problems are urban growth, increasing young generation, water scarcity, stressed on groundwater system, desertification, water pollution, effects of climatic change (water shortages; reduced agricultural production; large population transfers to foreign countries /environmental refugees; lower levels of economic activity; threats to national security). MEACs have particularly oil-based energy, usage of renewable energy resources are very limited (UNDP, 2009, 2016). It is unknown if the oil resources dry up what will happen because EPI of MEACs are generally low; this means they do not have sustainable development plans for the future.

Environmental problems are multifaceted (Okur-Berberoglu, 2014, 2021a, 2021b). For instance, MEACs' economies are based on oil, but this structure weakens countries' economies. They import most of the commodity and service so they cannot add enough contribution to industry or agriculture sectors, and they do not have enough relationships with non-Muslim countries/ developed countries. It is a big conundrum about what will happen post-oil era. Georges Corm -Lebanese international economic and financial consultant and former Minister of Finance- (UNDP, 2009: 198) warns MEACs about their future:

> "Building skyscrapers and state-of-the-art airports and owning luxury cars are the external shell of economic modernity, not its beating heart, which lies in science, knowledge, and Technological innovation."

Current industry and agricultural sectors use environmental resources unsustainable – especially in terms of water scarcity- so environmental problems come about. Mostafa Kemal Tolba -Former Executive Director of the United Nations Environment Programme- says at Arab Human Development Report (UNDP, 2009; 34):

> "A new problem which has emerged is the lack of rigor in the use of modern economic tools such as environment-based and natural wealth-based economics and accounting. To this, we must add the acute negative effects of global environmental problems, foremost among them climate change and global warming. At the same time, economic activity is increasing in coastal areas in the region, particularly urban and industrial expansion. Consequently, seacoast areas in Arab states, which are inhabited by 40 to 50 percent of their populations, are being threatened by pollution from petroleum and heavy elements."

They do not also have enough employment however they have a young generation and unemployment is very high. There is also governmental repression on the public (For instance Arab Spring) so it gives rise to insecure living areas. (UNDP, 2009, 2016) It is just like multiple unknown equations.

There are studies about Islamic perspective to natural environment and ecology (Bucaillae, 1978; Khalid& O'Brien, 1992; Ammar, 1995; Ba-Ubaid, 1999; Ammar, 2000; Asmal, 2000; Ammar, 2001; Haleem, 2001; Loo, 2001; Khalid, 2002; Foltz& Baharuddin, 2003; Nasr, 2005; DeHanas, 2010). All the literature says that Islam is very coherent with the idea of sustainable environmental development and holistic perspective. However, there is a very limited information about what environmental applications are in Arab countries (Iskandar, 2007; UNESCO, 2003; Yousif, 2007), how people's perspectives to environmental problems or what people's notion between Islamic view and environmental issues is (Campbell, Medina-Jerez, Erdogan and Zhang, 2010).

Campbell, Medina-Jerez, Erdogan and Zhang (2010) study with 17, 7-12 grade science teachers, who are from the USA, Bolivia, and Turkey, to learn cultural effects on their environmental education (EE) teaching. The researchers develop a survey and there are four questions related to religion and science education/ EE. Bolivian and Turkish teachers say that religion is a very important factor to decide how to address environmental issues in their science curriculum (Campbell, Medina-Jerez, Erdogan and Zhang, 2010). However, there is a remarkable point in this study. Most of the Türkiye population is Muslim but the government policy is secular. The cultural structure of Türkiye is quite different from MEACs. Türkiye has more multicultural populations than MEACs.

The relationship between Islam and environmental ethics is paid attention especially after the 1991 Iraq-Kuwait war. During this war Saddam regime releases millions of barrels of crude oil into the Gulf (Al-Damkhi, Abdul- Wahab, Al-Khulaifi, 2009) although the Holy Quran and Sunnah rules point out being careful when using natural resources (Khalid& O'Brien, 1992). Al-Damkhi, Abdul- Wahab and Al-Khulaifi (2009: 243) ask these questions in their research after Iraq-Kuwait war:

> "Why are such admirable environmental ethics violated by Muslims themselves? Why are the current degradation and future dangers facing the environment mainly connected with Muslim countries? What should Muslims do to stop this violation of environmental ethics?"

There should be a gap between economy, education, Islamic environmental ethics, and governance application (Sardar, 1988; Ibrahim 1999; Khusanjanova, 2011). Declared governance types of countries are shown in Table 1 but most of the Muslim countries are governed by elites (UNDP, 2009). Now monarchy starts demolishing (for instance Egypt) or shaking after the Arab Spring (for instance Syria, Bahrain, and Yemen) (UNDP, 2016). Naqvi (1997) explains democracy and environmental principles as

> "The Muslim societies must establish an equitable social order within the framework of a democratic polity. The success of such a mission will, however, require the creation of an environment where human freedom flowers and finds new avenues of creative fulfillment. And this will happen if reason is buttressed by knowledge; faith fortified by habits of observation and contemplation." (Naqvi, 1997: 18)

Is democratic polity suitable in terms of Islamic rules? Prophet Muhammad has three identities at the same time when compared to other leaders of religions. He is an ideological leader, a head of state and military commander (Rodinson, 2002). Similarly Arab elites have the same identities now. It is difficult to reconcile democracy and Islam because of social and political conflicts (EFA, 2011; UNDP, 2016).

In terms of environmental holistic perspectives people have to respect all biotic and abiotic factors because life is connected to these factors closely (Okur-Berberoglu,

Ozdilek, & Yalcin-Ozdilek, 2015; Yalcin& Okur, 2014). It is thought that respecting all these factors also means respecting God. Literature also refers to the same ideas (Bucaillae, 1978; Khalid& O'Brien, 1992; Ammar, 1995; Ba-Ubaid, 1999; Ammar, 2000; Asmal, 2000; Ammar, 2001; Haleem, 2001; Loo, 2001; Khalid, 2002; Foltz& Baharuddin, 2003; Nasr, 2005; DeHanas, 2010). According to the literature the Holy Quran is environmentalist, but application is not environmentalist. This could be related to the interpretation of the Holy Quran and the life of Prophet Muhammad. Governance passion of Arap elites is effective to comment on Surah, Verse and Sunnah.

Education

According to 2006 Education for All (EFA) statistics eight million elementary-school-age children are out of school and five million of them are girls in Arab countries. Illiteracy rates of MEACs are around the mean value of the world but the values are very low according to developed countries (EFA Report, 2011, UNESCO 2011, Table 3). Female illiteracy is a big problem for MEACs. There are some reasons to happen this result: culture, disability among children, rural populations and nomadic life, and poverty (Hammoud, 2006).

Table 3
Some Educational Data of MEACs

Country	Adult Literacy Rate (15 and over) (%) (2005- 2010)			Adult Illiterates (15 and over) %		Mean years of schooling	Gross National Income (GNI) per capita (US$)	
	Total	Male	Female	Female (2005-2008)	Female (2010)	2010	2010	
Kuwait	94	95	93	46	-	6.1	55,719	OPEC
Qatar	93	94	90	29	25	7.3	79,426	OPEC
United Arab Emirates	90	89	91	24	-	9.2	58,006	OPEC
Bahrain	91	92	89	46	42	9.4	26,664	
Oman	87	90	81	57	-	12.1	25,653	
Saudi Arabia	86	90	80	59	59	7.8	24,726	OPEC
Jordan	92	95	89	70	71	8.6	5,956	
Lebanon	90	93	86	69	-	-	13,475	
Yemen	61	79	43	73	74	2.5	2,387	
Iraq	78	86	69	69	68	5.6	-	OPEC
Egypt	66	75	58	63	65	6.5	5,889	
Iran	-	-	-	-	-	7.2	11,764	OPEC
Palestine	94	97	91	76	76	-	-	
Syria	84	90	76	69	70	4.9	4,760	
World Rank	**83**	**88**	**79**	**64**	**-**	**7.4**	**10,631**	

(HDI, 2011; EFA Report, 2011, UNESCO 2011)

Culture: Traditional early age marriages, poverty, uneducated parents are effective not to send girls to schools. Cynthia Gorney and Stephanie Sinclair (2011) had a report in National Geography related to child brides in Yemen, India and Afghanistan. Some of the girls are married 6 or 8 years old in Yemen although the legal marriage age is 17. There is a religious base of early marriage. Mohammed Al-Hamzi, who is a Yemeni member of parliament, says "If there were any danger in early marriage, Allah would have forbidden it (Hammoud, 2006: 89)". They also say that Prophet Muhammed got married to Ayesha when she was nine years old so early marriage is an admissible application. Sometimes some of the girls escape from husbands and asylum to the government because early age marriage is banned in Yemen. One of these escape stories was published as a book in 2008: 'I am Nujood, Age 10 and Divorced' but religion is still very dominant, and tradition is very rigid.

The Saudi Ministry of Education has a plan, which is called the Illiteracy-free Madinah al Munawara Plan, to eradicate illiteracy. The plan has a project and the first two aims of the project 'Deepening the love of Allah among the learners' and 'Providing them with the basics of religious teaching'. The first broad topic of the curriculum is 'The Holy Qur'an, Monotheism, and Islamic Jurisprudence'. The other subjects under this topic are 'Islamic Jurisprudence; the Holy Qur'an; the Prophet's Traditions; the biographies of the Prophet's companions' and 'Culture and conduct that conform to Islamic Jurisprudence'. These topics will offer learners life experiences closely related to their own lives and interests' (UNESCO, 2003: 62). Reading and writing have secondary importance. If a person does not know how to read or write; how could he/ she learn Islam? (UNESCO, 2003)

Disability among children: Blood marriage is very common in Arab culture, especially in Egypt and Yemen. Blood marriage might cause disabilities but there is not enough infrastructure to educate disabled children.

Rural populations and nomadic life: Estimated percentage of rural population is around 43 % recently and some of them have nomadic life. Most of these people do not access educational resources. However, the most remarkable point is that the education curriculum applied in rural areas has little connection to daily life. There is also not enough data about nomadic populations, their number or specific properties. (Hammoud, 2006) These subjects are needed to have a robust education program. In terms of environmental problems, it is thought that rural or nomadic populations are lucky because they live in nature peacefully otherwise how they could survive up until now (Okur-Berberoglu, 2020b). Governments should understand how nomadic or rural people survive. It is thought that people can find significant clues about how to live sustainably in the natural environment (Okur, 2012; Okur-Berberoglu, 2015a, 2015b, 2017a, 2017b, 2020b). The other big problem is the young generation and unemployment because recently there is migration to urban or coastal areas. Increased population pressure damages natural environmental life.

Poverty: It is stated that poverty is a big problem in front of having enough educational opportunites. But there is a contradiction in this situation. The world's mean value of Gross National Income per capita is $USA 10,631 in 2010 (Table 3). Four (Jordan, Yemen, Egypt, Syria) of the countries are only under the mean value. It means that financial distribution disparity occurs. A UNESCO regional report states that there are gaps among governmental commitment, educational plans, financial resources, NGO participation (UNESCO, 2003; Hammoud, 2006). In the 1960s and 1970s, Arab governments developed a kind of socialist model and governments subsidized the food to have the public loyalty and sustainability of Arab regimes (UNESCO, 2009) but it did not work.

Politics and Conclusion

Muslims believe that the Quran is the word of God and it is unchangeable (Frieling, 1978; Warraq, 1995). Christianity was also unchangeable until the Reform era. Martin Luther's opinions and publication of the Bible in German shifted Christianity and Protestant doctrine has come out (Rodinson, 2002). Christian people have become very open to discussion after Reformism. It is very normal not to believe God as well as to believe God. For instance, Bertrand Russell wrote 'Why I am not a Christian' in 1927. Some researchers study Jesus's family. Some of the Christians believe in Jesus as a prophet but they do not believe in the 'Virgin Birth' (Leach, 1966; Piper, 1964).

Islam culture is quite rigid, so it is so difficult to determine and propose any changes. For instance, Salman Rushdie or Denmark Caricature Crisis events. Ibn Warraq (1995) wrote a book 'Why I am not a Muslim' inspired by Bertrand Russell. Ibn Warraq also has religious education in Pakistan. He tries to explain contradictions of the Quran and Islam, but the author could not explain why he is not a Muslim in his book. Nevertheless, his attempt is very brave and remarkable in terms of Islamic perspective. Warraq also criticizes the polity properties of Islam in the book.

Is religion a kind of government policy? Israel's legal religion is Judaism, but its development rates are higher than MEACs. The Vatican's legal religion is Christianity; it is not evaluated as a country, but it is the capital place of Christianity. The Vatican's annual income

was $340 million in 2010 according to Catholic News Service (Catholic New Service, 2011). It is one of the richest places in the world. MEACs' legal religion is not Islam, however most of the populations are Muslim (Table 1) but their developmental rates are quite lower than the developed countries (Table 2, Table 3).

Is religion essential to learn how to live or to help when people are stuck in their life? It is thought that developed countries apply the second point. They help their population when they need help. It is also an important regulation of being a social state. UNESCO (2009) says that Arab governments developed a kind of socialist economic model in the 1960s and 1970s to have loyalty and sustainability of Arab regimes, but this application is to dictate how to live rather than being a social state.

The Middle East population is generally called Arab and most of the people are Muslim (Table 1) however there are many subcultures in this area (Rodinson, 2002; Warraq, 1995). It is unknown how much it is true to dictate how to live these subcultures according to Islamic rules.

There are sectarian battles in Syria, Yemen and Bahrain. Saudi Head Mufti Sheikh Abdül Aziz Bin Abdullah says that in his statement of reportage "There is no place for a second religion in the Arab Peninsula. Necessary to destroy all churches" (Washington Post, 2012). It looks like MEACs do not tolerate or respect either subculture or the other religion in this standpoint. It is also stated in the Quran that Islam is based on tolerance [Al- Baqarah Surah, 256 th Verse (Al- Baqarah, 2012); Al-Kafirun Surah, 6 th Verse (Al- Kafirun, 2012); An-Nahl Surah, 125th Verse (An-Nahl, 2012)]. If Islam has tolerance how can this religious restraint be explained?

There are good examples of Muslim countries such as Malesia, Indonesia, Türkiye in terms of development but the aim of this study is not to compare Muslim countries' development levels. I try to evaluate the roots of environmental problems of MEACs in terms of statistical data and Islamic perspective. It is thought that interpretation of the Quran causes differentiations amongst countries because religion does not exist on its own.

Religions might have interactions with local culture (Frieling, 1978). For instance, Tariqah of Mawlawiyah was created in Anatolia in the 13th century by Mawlana. Vision of Mawlana is called Sufism and his famous work is Masnavi (Hanut, 2000). Mawlana says in his poem:

"Come, come, whomever you are-
Wanderer, idolater, worshiper of fire,
Ours is not a caravan of despair
Come even if you have broken your vows a hundred times,
Come, and come yet again." (Hanut, 2000: xiii).

Sufism is still very effective in Anatolia culture. Yunus Emre, who is a Turk and Muslim philosopher and poet of the 13th century, says "We love created [humans] because of the creator (God)". As it is seen in two examples, Anatolia Muslim culture is very compromising. Pre-Islamic cultural properties of the Middle East region should be researched, and development rates should be evaluated and revised again. I could find statistical data but unfortunately, I could not find any data about what Arab people think of themselves. This could be a research question for further studies. It is needed to research the historical and cultural background of MEACs one by one because statistical data is not enough to evaluate the roots of environmental problems. This study's findings are quite superficial, so it requires deeper analysis by conducting qualitative studies.

The main point of environmental ethics is to respect all things in the universe (Okur-Berberoglu, 2018, 2020a, 2020b, 2021, 2022).

The aim of this research is to scrutinise the reasons of environmental problems of MEACs. If people do not respect each other, how do they respect the natural environment (Okur-Berberoglu, 2015c, 2015d, 2015e)? MEACs firstly need to solve respect problems, in other word political problems. Political problems are the root of other problems, and the origin of political problems could not be Islam but could be the Arab culture.

Disclosure Statement

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References

Al- Baqarah (2012). http://quran.com/2

Al-Damkhi, A. M., Abdul- Wahab, S. A., Al-Khulaifi, N. M. (2009). Kuwait's 1991 Environmental Tragedy: Lessons Learned. *Disaster Prevention and Management*, 18 (3), 233-248, www.emeraldinsight.com/0965-3562.htm

Al- Kafirun (2012). http://quran.com/109

An-Nahl (2012). http://quran.com/16

Ammar, N. H. (1995). "Islam and the Environment: A Legalistic and Textual View." In *Population, Consumption, and the Environment: Religious and Secular Responses*, ed. Harold Coward, 123-136. Albany: State University of New York Press, 1995.

Ammar, N. H. (2001). "Islam and Deep Ecology." In *Deep Ecology and World Religions: New Essays on Sacred Ground*, ed. David Landis Barnhill and Roger S. Gottlieb, 193-211. Albany: State University of New York Press, 2001.

Ammar, N. H. (2002). "An Islamic Response to the Manifest Ecological Crisis: Issues of Justice." In *Visions of a New Earth: Religious Perspectives on Population, Consumption, and Ecology*, ed. Harold Coward and Daniel C. Maguire, 131-46. Albany: State University of New York Press, 2000. Reprinted in *Worldviews, Religion and the Environment: A GlobalAnthology*, ed. Richard C. Foltz (Belmont, Calif.: Wadsworth Thomson), 376-385.

Asmal, A. C.& Asmal, M. (2000). "An Islamic Perspective." In *Consumption, Population and Sustainability: Perspectives from Science and Religion*, ed. Audrey Chapman, Rodney Peterson, and Barbara Smith-Moran, 157-65. Washington, D.C.: Island Press.

Ba Ubaid, A. Y. (1999). Environment, ethics and design: An inquiry into the ethical underpinnings of Muslim environmentalism and its environmental design implications (Saudi Arabia). Ph.D. diss., University of Pennsylvania.

Bahrain (2012). http://www.education.gov.bh

Bell, D. R. (2004). Creating green citizens? Political liberalism and environmental education. *Journal of Philosophy of Education*, 38 (1), 37-53. http://greencitizen.pbworks.com/f/Creating%20Green%20Citizens%20in%20Education.pdf

Bucaille, M. (1978). *The Bible, the Qur'an and science*. North American Trust Publication, Crescent Publishing Company, Aligarh, India.

Campbell, T., Medina-Jerez, W., Erdogan, I. and Zhang, D. (2010). Exploring science teachers' attitudes and knowledge about environmental education in three international teaching communities. *International Journal of Environmental & Science Education*, 5(1), 3-29. http://www.ijese.com/IJESE_v5n1_Campbell.pdf

Catholic News Service (2011). *Vatican budget, Vatican reports budget surplus for 2010, says worldwide giving down*, http://www.catholicnews.com/data/stories/cns/1102663.html

DeHanas, D. N. (2010). Broadcasting green: grassroots environmentalism on Muslim women's radio. *The Social Review*, 57 (2), 141-155.

EFA (2011). *Education for all (EFA) Global Monitoring Report: The hidden crisis: Armed conflict and education*. http://unesdoc.unesco.org/images/0019/001907/190743e.pdf

Environmental Performance Index (EPI). (2022a). *2022 EPI Results*.https://epi.yale.edu/epi-results/2022/component/epi

Environmental Performance Index (EPI). (2022b). *Main report*, https://epi.yale.edu/downloads/epi2022report06062022.pdf

Frieling, R. (1978). *Christianity and Islam, a battle for the true image of man*. Floris Books, Edinburgh, Great Britain.

Foltz, R. D.& Baharuddin, F. A. (Eds.). (2003). *Islam and Ecology: A bestowed trust*. Harvard University Press. Cambridge, Massachusetts, USA.

Gorney, C.& Sinclair, S. (2011). Too young to wed, the secret world of child brides. *National Geogaphy, June 2011, 219* (6), 78-99. http://ngm.nationalgeographic.com/print/2011/06/child-brides/gorney-text

Haleem, H. A. (2001). Review of The Environmental Dimensions of lslam,by Mawil Izzi Dien. *Journal of Islamic Studies*, 12(2), 179-82.

Hammoud, H. R. (2006). *Illiteracy in the Arab world, education for all global monitoring report 2006 literacy for life*. http://unesdoc.unesco.org/images/0014/001462/146282e.pdf

Hanut, E. (2000). *Rumi - card and book pack: Meditation, inspiration, self-discover*. Tuttle Publishing, Boston.

Human Development Index (HDI) by Country. (2023). https://worldpopulationreview.com/country-rankings/hdi-by-country

Ibrahim, A. (1991). The Ummah and tomorrow's world. *Futures*, 23 (3), 302-310.

Iskandar, L. (2007). *Programme delivery and approaches to curriculum development in selected countries of the Arab Region*. Research paper prepared for the UNESCO Regional Conferences in Support of Global Literacy (Doha, 12 – 14 March 2007). https://unesdoc.unesco.org/ark:/48223/pf0000161146?posInSet=4&queryId=cd89c9a3-5900-4f5f-8ec5-fcd5d7ab77d5

Khalid, F. (2002). Islam and the Environment. In Timmerman, P. (Ed.) Volume 5, Social and economic dimensions of global environmental change. (pp. 332-339). Munn, T. (Editor-

in-Chief) *Encyclopedia of Global Environmental Change*. John Wiley and Sons Ltd. Chichester, UK.

Khalid, F. & O'Brien, J. (1992). *Islam and ecology*. Fakenham Photosetting Limited, Norfolk Printed, Fakenham, Great Britain.

Khusanjanova, J. (2011). OPEC's benefit for the member countries. *Research in World Economy, 2*(1), 14-23.

Leach, E. (1968). Virgin birth. *Correspondence, Man, 3*, 651-656. http://home.iscte-iul.pt/~fgvs/Leach%201967.pdf

Loo, S. P (2001). Islam, science and science education: Conflict or concord?. *Studies in Science Education*, 36(1), 45-77.

Middle East (2012). http://en.wikipedia.org/wiki/Middle_East

Nasr, S. (2005). Islam, Muslims, and modern technology. *Islam & Science*, *3*(2), 109-126.

Naqvi, S. N. H. (1997). The Dimensions of an Islamic economic model**.** *Islamic Economic Studies,* 4(2), 1-23.

Okur, E. (2012). *Outdoor experiential teaching: Ecology application*. [Doctoral thesis, Canakkale Onsekiz Mart University]. http://acikerisim.comu.edu.tr/xmlui/bitstream/handle/20.500.12428/1932/Emel_Okur_Doktoratezi.pdf?sequence=1

Okur-Berberoglu, E. (2014). Exploitation of environmental resources and rural people by global food companies. *Geography, Environment and Sustainability Journal, 4* (7), 54-68. http://www.rgo.ru/sites/default/files/gi214_sverka.pdf

Okur-Berberoglu, E. (2015a). The Effect of ecopodagogy-based environmental education on environmental attitude of in-service teachers. *International Electronic Journal of Environmental Education, 5*(2), 86-111.

Okur-Berberoglu, E. (2015b). The Opinions of the in-service teachers to ecopedagogy-based environmental education depend on holistic perspective. *Mersin University Journal of the Faculty of Education, 11*(3), 732-751.

Okur- Berberoglu, E. (2015c). Some suggestions for Turkey within the scope of outdoor education success of New Zealand. *Journal of Turkish Science Education, 12* (3), 51-64. https://doi.org/10.12973/tused.10146a

Okur-Berberoglu, E. (2015d). The Effect of ecopedagogy-based environmental education on environmental attitude of in-service teachers. *International Electronic Journal of Environmental Education- Green, 5* (2), 86- 100. http://eric.ed.gov/?id=EJ1077737

Okur-Berberoglu, E. (2015e). The Effect of ecology based environmental education on environmental knowledge gaining of in-service teachers. *Turkish Journal of Teacher Education, 4*(1), 30-49.

Okur-Berberoglu, E. (2017a). Ecological dynamics model and ecopedagogy-based outdoor experiential education. *International Electronic Journal of Environmental Education*, *7*(2), 134-151.

Okur-Berberoglu, E. (2017b). Outdoor experiential environmental education: An adult-centred intervention for the affective domain. *International Electronic Journal of Environmental Education*, *7*(1), 34-58.

Okur-Berberoglu, E. (2018). Development of an ecoliteracy scale intended for adults and testing an alternative model by structural equation modelling. *International Electronic Journal of Environmental Education*, *8*(1), 15-34.

Okur-Berberoglu, E. (2020a). An ecological intelligence scale intended for adults. *World Futures*, *76*(3), 133-152. https://doi.org/10.1080/02604027.2020.1730735

Okur-Berberoglu, E. (2020b). Effect of ecopedagogy-based environmental education on in-service teachers' consumer behaviour in Turkey: A follow-up study after seven years. *Journal of Sustainability Education, 24* (December 2020), 1-22. http://www.susted.com/wordpress/wp-content/uploads/2021/01/OkurBerberoglu-JSE-December-2020-General-Issue-PDF.pdf

Okur-Berberoglu, E. (2021a). Some effects of unstructured outdoor plays on a child: A case study from New Zealand. *International Electronic Journal of Environmental Education*, *11*(1), 58-78.

Okur-Berberoglu, E. (2021b). The comparison of New Zealand and Turkey within in-service teachers' eco-literacy levels. *Turkish Journal of Teacher Education, 10* (2), 70-89. http://tujted.com/makale/2848

Okur-Berberoglu, E. (2022). Some effects of an unstructured outdoor activity on preschoolers: A case study from Aotearoa, New Zealand. *Journal of Sustainability Education, General Issue May 2022: Workings of Transformation, Part Two*, 1-19. http://www.susted.com/wordpress/content/some-effects-of-an-unstructured-outdoor-activity-on-preschoolers-a-case-study-from-aotearoa-new-zealand_2022_06/

Okur-Berberoglu, E., Ozdilek, H. G., & Yalcin-Ozdilek, S. (2015). The short-term effectiveness of an outdoor environmental education on environmental awareness and sensitivity of in-service teachers. *International Electronic Journal of Environmental Education*, *5*(1), 1-19.

Organization of the Petroleum Exporting Countries (OPEC). (2022). *Member countries*. https://www.opec.org/opec_web/en/about_us/25.html

Piper, O. A. (1964). The Virgin Birth: The meaning of the Gospel Accounts. *Interpretation*, *18*(2), 131-148. https://journals.sagepub.com/doi/pdf/10.1177/002096436401800201

Rodinson, M. (2002). *Muhammad*. Tauris Parke Paperbacks, I. B. Tauris&Co Ltd, London.

SANZ (Sustainable Aotearoa New Zealand INC) (2009). *Strong sustainability for New Zealand: principles and scenarios*. Nakedize Limited Publication, Auckland, New Zealand.

Sardar, Z. (Ed.) (1988). *The Touch of Midas: Science, values and environment in Islam and the West*, Pelanduk Publications, Malaysia.

Saudi Arabia (2012). http://www.moe.gov.sa/

UNDP (2009). Arab countries report, http://hdr.undp.org/en/reports/regional/arabstates/ahdr2009e.pdf

UNDP (United Nations Development Programme) (2016). Arab Human Development Report 2016: Youth and the prospects for human development in a changing reality. New York. https://hdr.undp.org/system/files/documents/ahdr2016enpdf.pdf

UNESCO (2003). *Literacy and adult education in the Arab world regional report for the CONFINTEA V mid-term review conference*, Bangkok, September 2003, http://www.unesco.org/education/uie/pdf/country/arab_world.pdf

UNESCO (2011). *National adult literacy rates (15+), youth literacy rates*, http://stats.uis.unesco.org/unesco/TableViewer/tableView.aspx?ReportId=210

United Arab Emirates (2012). http://www.uaeinteract.com/education/

Warraq, I. (1995). *Why I am not a Muslim*. Prometheus Book, New York.

Washington Post (2012). *Saudi's top sheikh: 'Necessary to destroy all churches'*, The news of 3.22.2012, http://www.washingtonpost.com/blogs/guest-voices/post/saudis-top-sheikh-necessary-to-destroy-all-churches/2012/03/21/gIQAFQIiTS_blog.html

Yalçın, S., & Okur, E. (2014). The effects of electromagnetic field (EMF) education within ecopedagogy on EMF awareness. *Pamukkale University Journal of Education, 35* (1), 143-156.

Yousif, A. A. (2007). *Adult literacy and adult education in the Arab States: Bahrain, Egypt, Oman, Saudi Arabia, Sudan, Syria and Yemen*. Research paper prepared for the UNESCO Regional Conferences in Support of Global Literacy (Doha, 12 – 14 March 2007). https://unesdoc.unesco.org/ark:/48223/pf0000161145?posInSet=2&queryId=cd89c9a3-5900-4f5f-8ec5-fcd5d7ab77d5