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Article

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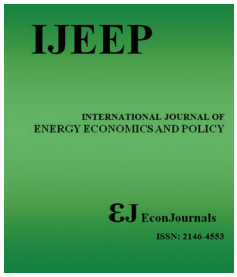

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Improving Environmental Performance of the Muslim World: Evidence from Affluent Countries

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ABSTRACT

Both the Muslim and non-Muslim worlds have a shared commitment to mitigate environmental degradation and repair already degraded areas. However, not much has been said about the good environmental performance of the affluent states of the Muslim world. This study uses the environmental performance index produced by the University of Yale to analyse how to design better strategies for the upper-middle income and high-income Muslim countries when dealing with their environmental performance. This study proposes that the choice of strategy should depend on the environmental and political economy of the countries, the status and ranking of their environmental performance, and an openness to learning from the successes of the environmental foreign policy successes of other affluent Muslim countries.

Keywords: Environmental Performance, Environmental Degradation, Environmental Foreign Policy, Energy
JEL Classifications: O13, Q, Q56

1. INTRODUCTION

Environmental issues, including unsustainable energy consumption, have adversely affected the developing world (Aziz et al., 2013). Although solutions for mitigating environmental problems will emerge through technology and innovation, the rapid collapse of the environment is evident. This has become visible particularly among developing countries - as they are prone to be affected faster and more starkly than developed countries (Homer-Dixon, 2010). As the Muslim world is geographically located within developing countries, assessing its environmental issues would undeniably be mirrored from the same treatment. Similar to the commitments of many developing countries towards defending environmental protection domestically and internationally by means of the United Nations (UN) conferences, the Muslim world declared the same commitments under the umbrella of the Organisation of Islamic Conference (OIC). For instance, the environmental commitments of the OIC countries are inscribed in their performance for ensuring environmental sustainability of the 7th goal of the Millennium Development Goals (MDGs) (IDB Group and COMCEC Coordination Office, 2015).

However, the concerns of the Muslim world for environmental protection are uncertain. Specifically, little has been said about the environmental performance of affluent Muslim countries. As rapid social change has taken place in many countries, including the Muslim world, their traditional and religious values, and culture and good manners about caring for the environment have been diminishing. Some Muslim countries are ill-reputed for wasteful consumption of food during Ramadan (Saniotis, 2012). Some are also questioned for whether they have tainted the image of Islam through intensifying man-made environmental problems such as the destruction of the Aral Sea in Central Asia, desertification in Sub-Saharan Africa, exhaustion of oil deposits in the Middle East and deforestation as well as loss of biodiversity in Muslim countries with mega biodiversity in Southeast Asia (Kula, 2001).

Some reports on the environmental performance index (EPI) produced by the University of Yale (UY) have shown that developed non-Muslim countries have excellent track records for their environmental performance from 2006 until 2018. For instance, in the first EPI score report in 2006, the five best EPI scores were New Zealand (88.0), Sweden (87.8), Finland (87.0), the Czech Republic (86.0) and the United Kingdom (85.6) (Esty et al., 2006). The 2008 five best EPI scores were Switzerland (95.5), Sweden (93.1), Norway (93.1), Finland (91.4) and Costa Rica (90.5) (Esty et al., 2008). Further studies in 2010 revealed the five best EPI scores were Iceland (93.5), Switzerland (89.1), Costa Rica (86.4), Sweden (86.0) and Norway (81.1) (Emerson et al., 2010). For 2012 studies, the five best EPI scores were Switzerland (76.690), Latvia (70.37), Norway (69.92), Luxembourg (69.2) and Costa Rica (69.03) (Emerson et al., 2012). (Hsu and Zomer, 2014) revealed that the five best EPI scores for 2014 were Switzerland (87.67), Luxembourg (83.29), Australia (82.40), Singapore (81.78) and the Czech Republic (81.47) (Hsu and Zomer, 2014). The 2016 study showed that the five best EPI scores were Finland (90.68), Iceland (90.51), Sweden (90.43), Denmark (89.21) and Slovenia (88.98) (Hsu, 2016). A recent study in 2018 recorded that the five best EPI scores were Switzerland (87.42), France (83.95), Denmark (81.60), Malta (80.9), and Sweden (80.51) (EPI Report, 2018).

The environmental issues in the Muslim world are the product of social injustice (Sardar, 1977; Foltz, 2000) such as damaging treatment of the environment related to a lack of awareness of environmental issues (Foltz, 2000) and failing to observe principles from the Quran and thprophetic tradition (Foltz et al., 2003). Little attention has been given to ecological issues of the Muslim world in the literature (Kula, 2001). Therefore, accurately analysing the background and environmental performance of upper-middle income (UMIE) and high-income (HIE) Muslim countries could provide information for governments to understand the importance of commitments to reducing environmental degradation. For that reason, this study uses the EPI produced by the University of Yale to analyse how to design better strategies for the UMIE and high-income Muslim countries (HIE) when dealing with their environmental performance.

2. LITERATURE REVIEW

This paper focuses on environmental performance in environmental foreign policy. Indubitably there are many scopes of environmental performance in the literature (Hatakeda et al., 2012). Among them is the measurable results of a state's management of environmental issues (Björklund and Forslund, 2013; ISO, 2004). Since 2006, UY has been promoting its EPI to be used for benchmarking and explaining the environmental performance of countries. The EPI may not necessarily be regarded as a universal yardstick for assessing the performance of environmental issues and actions among countries. However, owing to the absence of a global environmental assessment, EPI could be used to assist governments and international institutions in observing environmental performance among countries (Böhringer and Jochem, 2007).

Environmental performance may be traced in environmentalism. Muslim environmentalism is diverse involving the role of various state and non-state actors. For example, it includes theologians, scholars, policy-makers, business elites, international (interfaith) networks, civil society organisations, individuals, and Muslim communities living in the West and Muslim majority countries (Vincenti, 2017). Muslim environmentalism refers to Muslim commitments and involvements in mass ecological movements that are not necessarily stimulated by Islamic values and principles (Vincenti, 2017). This paper focuses on environmental behaviour among Muslim majority countries. Some view that the majority of Muslim countries are irrelevant when it comes to mainstream environmental concerns (Saniotis, 2012). However, Muslim environmentalism among Muslim UMIE and HIE countries has yet to be explored comprehensively.

When it comes to Muslim environmentalism, researchers tend to focus on the development within the context of Arab countries. The development of Muslim environmentalism in the context of the Arabs began with the statements made by Arab countries (Schwencke, 2012; Vincenti, 2017). In the 1980s, the Saudi Meteorological and Environmental Protection Administration (SMEPA) joined with the International Union for Conservation of Nature and Natural Resources (IUCN) to publish the Islamic Principles for the Conservation of the Natural Environment (Kader et al., 1983; Vincenti, 2016). It was followed by the declaration of the Islamic faith by the World Muslim League in 1986 to help save the global environment through the Assisi Muslim Declaration (Vincenti, 2016). It signifies the first participation of Muslim institutions in the global environmental debate (Vincenti, 2017). This move was followed by other international projects involving international non-governmental organisations and international governmental organisations such as a collaborative project between the Alliance of Religions and Conservation (ARC), World Wildlife Fund (WWF), and The World Bank (Vincenti, 2017). The 21st century saw the member states of the OIC start to demonstrate their environmental commitments through the UN agenda about the environment such as the MDGs and the United Nations Environment Program (UNEP). The Muslim world, represented by SMEPA, organised in 2000 the first Global Environmental Forum from an Islamic Perspective, in collaboration with the OIC and UNEP. This meeting affirmed in 2001 The Jeddah Declaration on the Environment from an Islamic Perspective. In June 2002, the OIC in its First Islamic Conference of Environment Ministers (FCEM) also formed the OIC's Islamic Declaration on Sustainable Development for submission to the UN-2002 World Summit on Sustainable Development (WSSD) (Vincenti, 2016). The OIC consigned its working draft on the Islamic perspective on sustainable development to the WSSD via a joint statement from OIC and the Islamic Educational, Scientific and Cultural Organisation (ISESCO). The Arab initiatives intensified in the 2000s through the work of the Council of Arab Ministers Responsible for the Environment (CAMRE) which produced several statements on the regional sustainability policies in light of the UN agenda on climate change (Vincenti, 2017).

Numerous researchers have explored Muslim environmentalism in the context of Islamic teachings and the Arabs such as Bagader (1983), Izzi Dien (1992; 2000) and Foltz (2000). Muslim environmentalism that covers practices from within and beyond

the Arab narratives have not been sufficiently addressed in the literature. In the 1990s, Khalid and O'Brien (1992) shed light on the components of ecology in Islam in a book entitled Islam and Ecology. Erdur (1997), through a case study on Turkey, highlighted misinterpretations of Islamic environmental ethics rendered using some environmental actions in the local policies of national authorities in the country. Nagel and Staeheli (2016) explored the growing phase of environmental activism in Lebanon as a substitute group of politics in the political sphere. Vincenti (2016) examined sustainability from what Islam - as a religion - has to offer and the cultural, social, and political aspects of sustainability mobilisation and activism in the Muslim world, using a qualitative method and a case of Morocco and Tunisia. According to him, sustainability concerns are inherited from the tradition of the religion, from what he referred to as "eco-Islamic" wisdom. Saniotis (2012) presented environmental and non-environmental practices among Muslims and Islamic environmental ethics among Muslims in Western and Muslim majority countries. However, he did not cover the scope of environmental performance of the affluent Muslim countries comprehensively. The literature above highlights the development of environmental performance studies in light of Muslim environmentalism that lacks attention to the analysis from the dimension of Muslim UMIE and HIE countries.

3. METHODOLOGY

To fill the gap, a qualitative study was conducted under a sabbatical project in 2018 to obtain EPI (secondary) data from UY and primary data on UMIE and HIE countries from the official websites of OIC and The World Bank. Official reports were also used to validate the choice of strategy when dealing with their environmental performance. The EPI provides countries' performance on high-priority environmental issues concerning the protection of human health and protection of ecosystems (Esty et al., 2006). The limitation of the study was that, first, it used only 2006 and 2018 EPI data. Second, a few UMIE and HIE countries were rejected as UY inadequately provided EPI data of the rejected countries. According to OIC (2017) and The World Bank (2017), there were 16 UMIE countries. Table 1 shows the list of UMIE countries of the Muslim world. However, only 11 UMIE countries have been considered as UY data for four countries for 2006 and 2018 - Guyana, Iraq, Jordan, Libya and Maldives - were inadequate and thus rejected.

According to OIC (2017) and The World Bank (2017), there were 7 HIE countries of the Muslim world. For the same reason, UY data for Bahrain, Brunei, Kuwait and Qatar were limited. Therefore, only data for Oman, Saudi Arabia, and the United Arab Emirates (UAE) were used. Table 2 shows a list of HIE countries.

For consistency in rating the EPI score for the selected UMIE and HIE countries, a 5-point Likert Scale was used as expressions of good and bad, ranging from "very important", "important," "moderately important," "unimportance" and "very unimportant" as shown in Table 3. Such a scale is a suitable choice for countries involved. According to Likert (1932), the scale is useful to study the attitudes of countries in international relations. It is because it provides standardisation score for comparable priority care for the environment. Say the EPI score of the countries is in the "crucial" position, it means that they take their environmental actions as a significant movement and few environmental issues are confronted. If the EPI score of the countries is in the "very unimportant" position, it means that they deliberately ignore the care for the environment and they face many environmental issues domestically and internationally.

3.1. The Nature of Environmental Political Economy of the UMIE and HIE Countries

According to Clapp and Helleiner (2012), the environmental, political economy is about the multifarious interaction between the economy and the environment. This study found that of all the sampled countries were crude oil producers. Table 4 shows that all 11 UMIE countries including Malaysia and all 3 HIE countries were crude oil producers (OIC, 2017; The World Bank, 2017). As many crude oil producing countries are still economically dependent on non-renewable energy. Therefore, the environmental, political economy of the sampled countries falls in that category.

Table 1: UMIE Countries of the Muslim World

Country					
1. Albania	3. Azerbaijan	5. Guyana	8. Jordan	11. Malaysia	14. Turkey
2. Algeria	4. Gabon	6. Iran	9. Lebanon	12. Maldives	15. Turkmenistan
		7. Iraq	10. Libya	13. Suriname	16. Kazakhstan

Source: OIC and World Bank (2017)

Table 2: HIE Countries of the Muslim World

Country						
1. Bahrain	2. Brunei	3. Kuwait	4. Oman	5. Qatar	6. Saudi	7. UAE

Source: OIC and World Bank (2017)

Table 3: Scales for grading the EPI for UMIE and HIE Countries

Scale	Good			Bad	
	Very important	Important	Moderately important	Unimportant	Very unimportant
EPI Score	(80 and >80)	(70-79)	(60-69)	(50 and 59)	(49 and <49)

Source: Likert (1932)

3.2. EPI Score and Rank for Muslim Upper-Middle-Income Countries

This study found that the majority of UMIE countries had low levels of environmental performance. Figure 1 shows the EPI scores for UMIE countries as a comparison between 2006 and 2018 data. The figure shows that 8 UMIE countries (73%) had low and declining EPIs, except for Azerbaijan, Turkmenistan and Albania. There was a significant drop in Malaysia's EPI. In 2006, its EPI score was 83.3, which was excellent, but fell to 59.22 in 2018. The EPI score for Azerbaijan was 55.7 in 2006 but increased to 62.33 in 2018. Turkmenistan's EPI score was 52.3 in 2006 but grew to 66.1 in 2018. The EPI score for Albania was 65.46 in 2006 but rose to 68.9 in 2019. Of all UMIE countries, Malaysia used to hold an excellent EPI score in 2006 (Etsy et al., 2006; EPI Report, 2018). The figures imply that environmental issues in the majority of the UMIE countries are worsening. Second, there is hope for improved performance for the UMIE countries, if Azerbaijan, Albania and Turkmenistan continue to show progress in their EPI scores to serve as a model for other UMIE countries.

This study found that based on the 5-point scale of the EPI score, all 11 UMIE countries were in the bottom three positions from "moderately important" to "unimportance" and "very unimportant". It means that no EPI score was "very important" or "important." Table 5 shows that about half (6 countries = 54%) of the countries were in the category "unimportant," followed by the category of "moderately important" (4 countries = 36%) and "very unimportant" (1 country = 9%). If countries in "unimportant" and "very unimportant" are combined, the percentage increased to 64%. This means that UMIE countries are facing many environmental issues.

3.3. EPI Score and Rank for Muslim High-income Countries

This study found that the EPI scores for all 3 HIE countries were declining. Figure 2 shows that the EPI score for Oman was 67.9 in 2006 but fell to 51.32 in 2018. The EPI score for Saudi was 68.3 in 2006 and dropped to 57.47 in 2006. The EPI score for UAE was 73.2 in 2006 and plummeted to 58.9 in 2018 (Esty et al., 2006; EPI Report, 2018). Similar to the majority of the UMIE countries, environmental issues in the HIE countries are deteriorating. This falling trend of environmental performance is incomparable with the progress shown by Azerbaijan, Albania and Turkmenistan. Therefore, they may look outward towards those countries as a model for learning lessons.

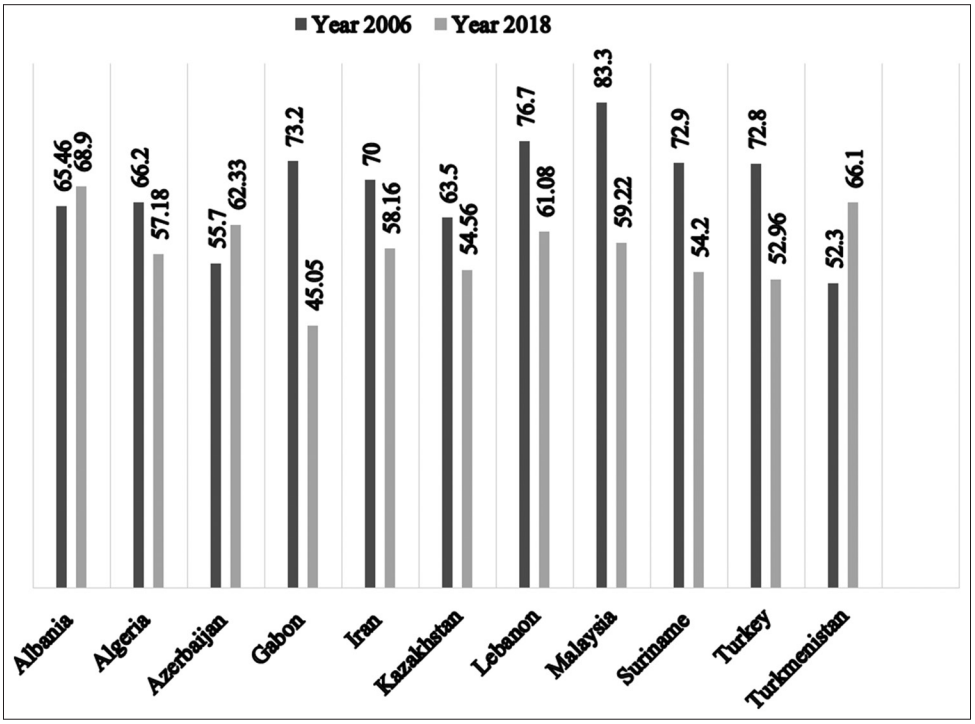
This study found that based on the 5-point scale of EPI scores as shown in Table 6, all (100%) HIE countries were in the bottom two positions at the level "unimportant". Like UMIE countries, HIE countries are also confronting many environmental issues.

Table 4: UMIE and HIE Countries as crude oil producers

UMIE				HIE
1. Albania	4. Gabon	7. Lebanon	10. Turkey	1. Oman
2. Algeria	5. Iran	8. Malaysia	11. Turkmenistan	2. Saudi
3. Azerbaijan	6. Kazakhstan	9. Suriname		3. UAE

N for UMIE countries=11, N for HIE countries=3. Source: OIC (2017) and The World Bank (2017)

Figure 1: Environmental performance index s for UMIE Countries, 2006 and 2018 (N=11)



Source: Environmental performance index score is based on Etsy et al. (2006) and EPI Report (2018)

Table 5: Rankings for UMIE Countries using EPI score in 2018

Scale	Very important (80 and >80)	Important (70-79)	Moderately important (60-69)	Unimportant (50 and 59)	Very unimportant (49 and <49)
Albania			68.9		
Algeria				57.18	
Azerbaijan			62.33		
Gabon					45.05
Iran				58.16	
Kazakhstan				54.56	
Lebanon			61.08		
Malaysia				59.22	
Suriname				54.2	
Turkey				52.96	
Turkmenistan			66.1		

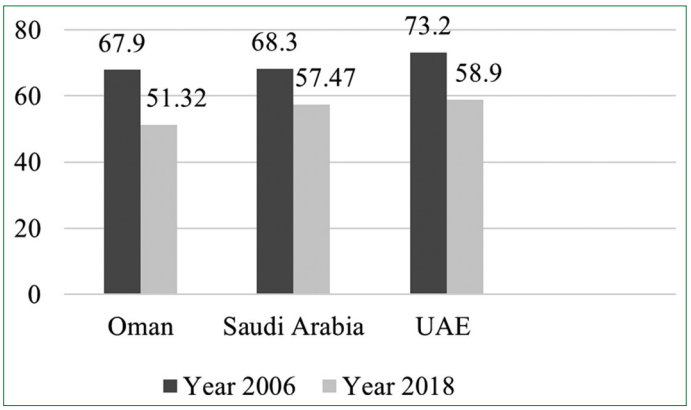
N=11. Source: EPI score is based on EPI Report (2018)

Table 6: Rankings for HIE Countries using EPI score in 2018

Scale	Very important (80 and >80)	Important (70-79)	Moderately important (60-69)	Unimportant (50 and 59)	Very unimportant (49 and <49)
Oman				51.32	
Saudi Arabia				57.47	
UAE				58.9	

N=3. Source: EPI score is based on EPI Report (2018)

Figure 2: Environmental performance index for the HIE Countries, 2006 and 2018 (N=3)



Source: Environmental performance index score is based on Etsy et al. (2006) and EPI Report (2018)

3.4. Learning the Lessons from Environmental Foreign Policy Successes of Other Affluent Countries of the Muslim World: Albania, Azerbaijan and Turkmenistan

As the results discussed above deduced that while overall the UMIE and HIE countries of the Muslim world have not made improvements in their environmental performance, the cases of Albania, Azerbaijan and Turkmenistan were clearly different. Such development provides an opportunity for this paper to explore the success factors in the environmental policies of these countries. Other UMIE and HIE countries could draw on their experience to ascertain and overcome obstacles to environmental performance and depletion. The sections that follow provide an outlook on the implementation of environmental foreign policy in Albania, Azerbaijan and Turkmenistan - the former countries of the Union of Soviet Socialist Republics (USSR) which are now under the institutional region of The United Nations Economic Commission for Europe (UNECE). The discussion highlights that with regard to experiences in implementing environmental foreign policy, this paper found that there were at least three significant indicators shared by Albania, Azerbaijan and Turkmenistan in their environmental foreign policy; renewable energy use and efficiency, national-international policy collaboration and development of Protected Areas (PAs).

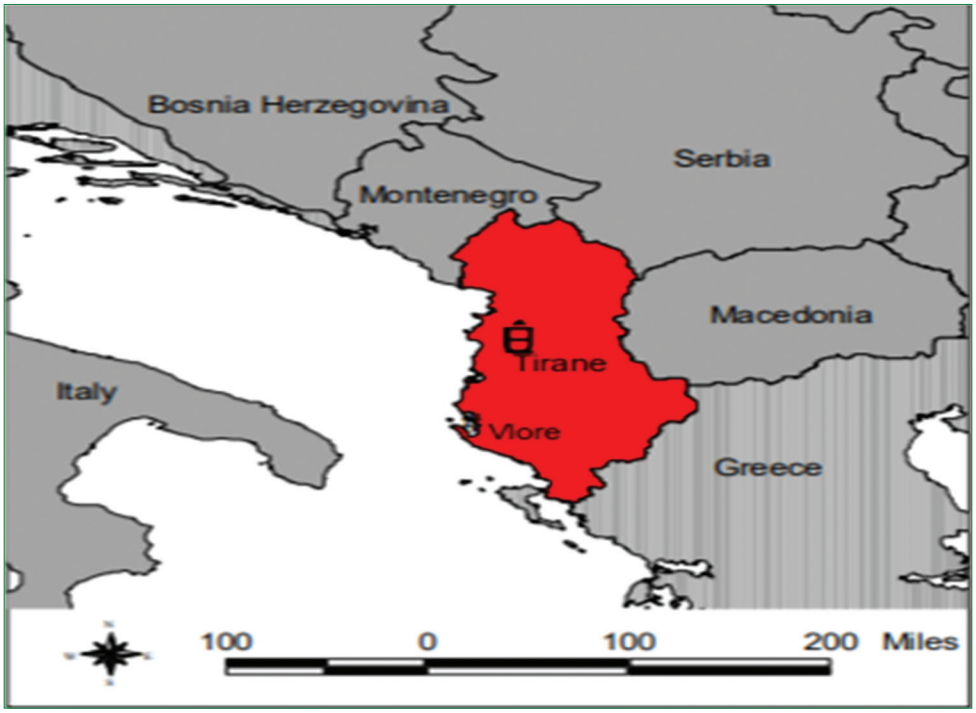
3.5. Albania

Figure 3 shows a map of the Republic of Albania. It is a small NATO country located in western Balkan and is in the south-east of Europe (Rickerson and Perroy, 2005). The country is rich with natural resources and biodiversity (Qiriazi and Sala, 2000). Albania used to inherit environmental issues from the policy legacy of the Soviet Union communist regime. However, in the post-Communist era, it managed to restitute policies that have empowered the conservation and protection of the environment (Xhafa and Kosovrasti, 2016).

Using the reports from The European Environment Agency (2015) and The United Nations Economic Commission for Europe (2017), this study found five indicators for the outlook of Albanian's environmental foreign policy, as shown in Figure 4. They include creating a legal framework to decentralise waste management, progress in environmental issues, designate new protected areas in accordance with IUCN, establish European Union (EU) standards of local environmental policy measures and institute regional renewable energy policy and collaboration.

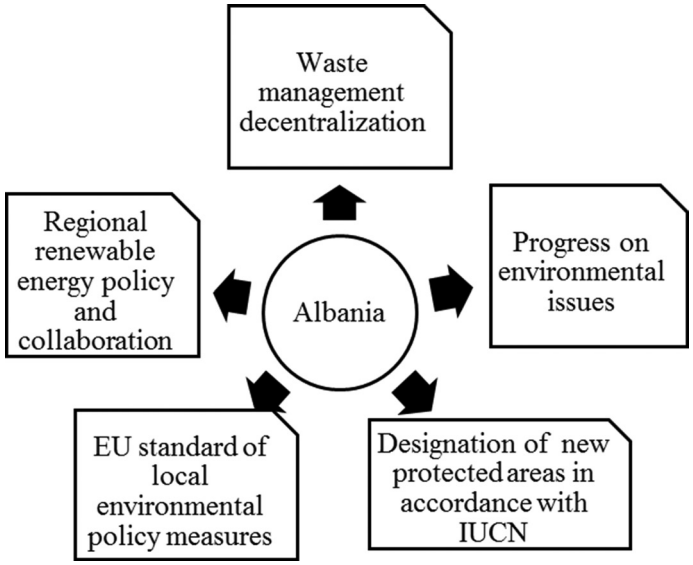
As waste management in Albania is decentralised, environmental management functions have been assigned to local public administrations and the local governments held responsibility for it under the National Plan on Waste Management and compliance with the EU Directives on Waste requirements. The government adopted an integrated waste management approach in accordance

Figure 3: Map of Albania



Source: Rickerson and Perroy (2005)

Figure 4: Indicators for Albanian's environmental foreign policy



Source: The European Environment Agency (2015); The United Nations Economic Commission for Europe (2017)

with the EU Directive on Waste, which has been regarded as the main policy success of Albania (European Environment Agency, 2015). The Albanian government established priority areas of environmental issues through the preparation of an annual report on The State of Environment so that the agencies are able to tackle the issues with a holistic coverage (European Environment Agency, 2015). The protected areas (PA) in Albania are categorised according to terrestrial, marine, national parks, nature parks and others. All these were established by the government in accordance with the category set by the International Union for the Conservation of Nature (IUCN). The government gives upmost standing to the designation of new PAs, that in 2013 itself it made 16% of the surface area of the entire country (The European Environment Agency, 2015).

As Albania is on the road towards integration into EU, most its local environmental policy measures, including policy monitoring have been designed in fully accordance with EU standard. In 2012 environmental protection in Albania took into effect, following the fulfilment of EU standards. It was designed in a way that combined all environmental institutions at domestic and local levels and connected with ecological programme execution. At the same time, Albania's work involved many international environmental conventions. Albania also set a high position on the role of local government as a key player in local environmental management and protection (The European Environment Agency, 2015).

In the aspect of renewable energy, Albania joined actively in the Renewable Energy Network (REN) – as a high-quality information system coordinated by UNECE and that gather governments, non-governmental organisations, research and academic institutions, international organisations and industry to study from one another and develop achievements that expand renewable energy (The United Nations Economic Commission for Europe, (2017). To ensure the progress of REN, the Albanian National Agency of Natural Resources served as a contributor and reviewer representing the government of Albania to liaise the work on renewable energy use and efficiency. Albania also joined European regional collaborations on energy such as the Energy Community, Energy Charter and Central European Initiative to support the progress of renewable energy use and efficiency at national and European levels (The United Nations Economic Commission for Europe, 2017).

Figure 5: Map of Azerbaijan

Source: O'Connell and Hradszky (2018)

3.6. Azerbaijan

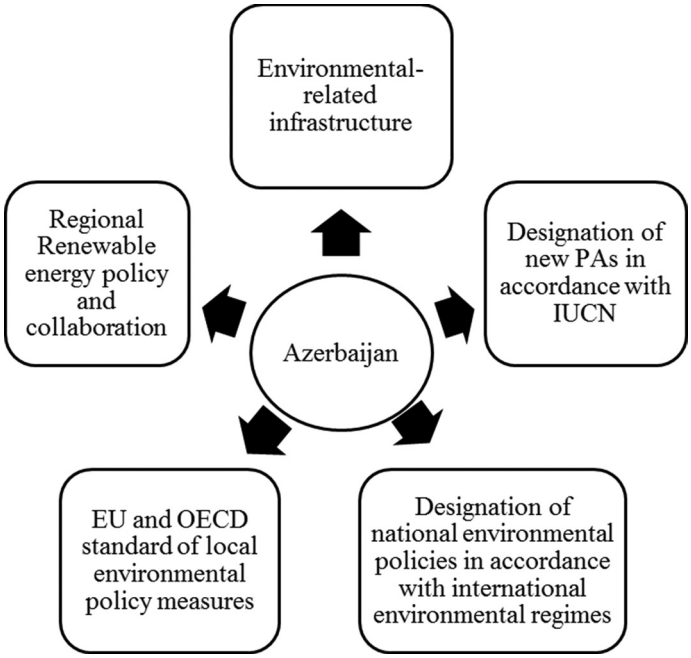
Figure 5 shows a map of the Republic of Azerbaijan. It is located at the north bordering with Iran. Being a resource-rich country that has seven ecosystems (forests, high mountains, dry mountain scrublands, steppe, semi-desert, wetlands and coastal), it has been internationally recognised as one of the 25 global biodiversity hotspots. Like Albania, Azerbaijan also inherited severe environmental problems from the policy legacy of the USSR during its early independence (Asian Development Bank, 2005).

Using the reports from The Organisation for Economic Cooperation and Development (2007), The United Nations Economic Commission for Europe (2017), The Economic and Social Commission for Asia and the Pacific (2017) and the Asian Development Bank (2018), this study found five indicators for the outlook of Azerbaijan's environmental foreign policy as shown in Figure 6. They include creating environmental-related infrastructure, progressing in the designation of new PAs in accordance with IUCN, establishing national policies in according with international environmental regimes, establishing EU standards of local environmental policy measures and instituting regional renewable energy policy and collaboration.

The Azerbaijan government, through state corporations, supported funding for environment-related undertakings. Expenditures in environmental-related activities were considered in the gross domestic product (GDP), where a great deal of the spending and financing has gone to clean-up and municipal infrastructure. The government also implemented climate change related projects funded by various foreign government donors (Harris, 2007). All these are done in conjunction with the goal of renewable energy use and efficiency (The United Nations Economic Commission for Europe 2017).

Azerbaijan's number of Pas expanded to 10.3% of the total land area, reinforced by the Law on Specially Protected Natural Areas

Figure 6: Indicators for Azerbaijan's environmental foreign policy



Source: The Organisation for Economic Cooperation and Development (2007); Asian Development Bank (2018); The United Nations Economic Commission for Europe (2017)

and Objects and in accordance with the International Union for the Conservation of Nature (IUCN). They have been categorised into natural parks, nature reserves, hunting areas, state natural sanctuaries, nature monuments, botanical gardens and health resorts. The expansion of such PAs also contributed to the increase of forested areas in Azerbaijan (Asian Development Bank, 2018).

Azerbaijan has ratified a greater part of international environmental regimes. Since 1997, Azerbaijan has adopted many national

policies that support international environmental regimes, for instance, the United Nations Framework Convention on Climate Change (UNFCCC) and the United Nations Convention to Combat Desertification (UNCCD) (The Asian Development Bank (2018).

Under the Ministry of Ecology and Natural Resources (MENR), Azerbaijan's environmental legislation address the characteristics of environmental management that adjust according to international cooperation, specifically with EU directives, the Organisation for Economic Cooperation and Development (OECD), The United Nations Economic Commission for Europe (UNECE) and The Organisation for Security and Cooperation in Europe (OSCE) (The United Nations Economic Commission for Europe, 2017). In addition to environmental management that adjusts according to international cooperation, Azerbaijan also developed environmental partnerships with foreign partners. Among the main partners of environmental cooperation are the Global Environmental Facility (GEF), World Bank, United Nations Development Program (UNDP), EU, Germany, Japan, the United States, the United Kingdom, Switzerland and Turkey (The Organisation for Economic Cooperation and Development 2007). The issues within which partnerships between the Azerbaijan government and foreign countries were set up include environmental policy, water supply and sanitation, waste and chemicals, water resources, biodiversity, integration, energy, transport, agriculture, public participation, environmental education and transboundary issues (Uitto and Duda, 2007). In addition to the indicators above, Azerbaijan also approved international assistance for the environment. A report shows that Azerbaijan received international assistance in the areas of water supply and sanitation and water resource management from 2003 to 2005 (The Organisation for Economic Cooperation and Development 2007).

Azerbaijan has endorsed a renewable energy plan through the formulation of 10% goals of total domestic energy consumption from renewable resources by 2020. It also joined in the Renewable Energy Network (REN). In order to warrant the progress of REN, the State Agency on Alternative and Renewable Energy Sources of Azerbaijan), Jahangir Afandiyev (local coordinating contributor) and Nazir Ramazanov (State Agency on Alternative and Renewable Energy Sources) functioned as a provider and assessor representing the government of Azerbaijan to liaise the work on renewable energy use and efficiency. Azerbaijan also joined European regional collaborations on energy such as Energy Charter and Central European Initiative (The United Nations Economic Commission for Europe 2017).

3.7. Turkmenistan

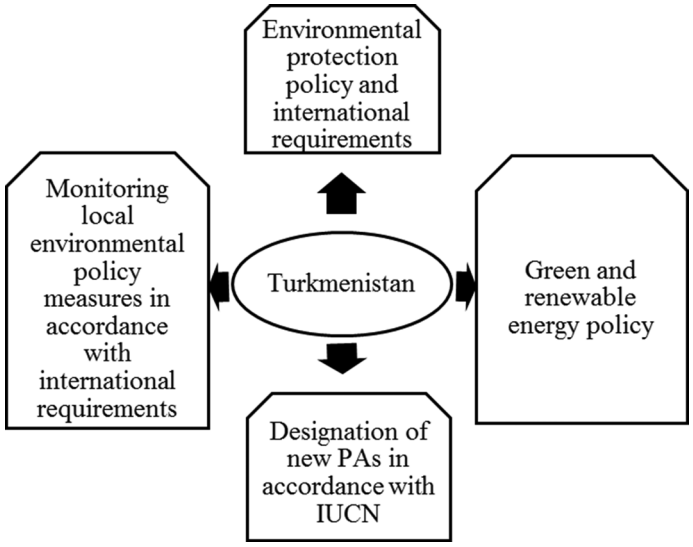
Figure 7 shows a map of Turkmenistan, a mainly Sunni Muslim country, located in Central Asia and bordering the Caspian Sea to the west. It is one of the world's largest natural gas exporters (Chen and Fazilov, 2018) and among the world's top ten cotton producers (Xenarios et al., 2018). Similar to Albania and Azerbaijan, Turkmenistan is rich with natural resources (Xenarios et al., 2018).

Using the reports from The Organisation for Economic Cooperation and Development (2007), Asian Development Bank (2018), The United Nations Economic Commission for Europe (2017) and the UNESCAP (2017), this study found four indicators for the outlook of Turkmenistan's environmental foreign policy as shown in Figure 8. They include creating an environmental protection policy in accordance with international requirements, working on green and renewable energy policy, designation of new PAs in accordance with IUCN and monitoring local environmental policy measures. Turkmenistan's environmental protection has been in accordance with international requirements. It has complied to an

Figure 7: Map of Turkmenistan

Source: The United Nations Economic Commission for Europe (Jordan, 2012)

Figure 8: Indicators for Turkmenistan's environmental foreign policy



Source: The Organisation for Economic Cooperation and Development (2007); The United Nations Economic Commission for Europe (Jordan, 2012); and The UNESCAP (2017)

array of United Nations environmental agreements including the UNFCCC, the UNCCD, the Convention on Biodiversity (CBD), the Vienna Convention for the Protection of the Ozone Layer and its Montreal Protocol, the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, and the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matter.

In addition, Turkmenistan also developed a strong connection with foreign actors from various international government and non-governmental organisations as its allies in environmental cooperation. The cooperation with the international non-governmental organisation involves WFF, whereas cooperation with the international governmental organisations include GEF, UNEP, UNDP, Technical Assistance to the Commonwealth of Independent States (TACIS), German Technical Cooperation Agency (GTZ) and Asian Development Bank (The Organisation for Economic Cooperation and Development, 2007). The scopes of partnerships between the Turkmenistan government and the foreign actors include environmental policy, air pollution, water supply and sanitation, water resources, biodiversity, integration, agriculture, public participation, environmental education and trans boundary issues (Uitto and Duda, 2007; The Organisation for Economic Cooperation and Development, 2007).

In addition to the indicators above, Turkmenistan also approved international assistance for the environment. A report shows that Turkmenistan received international assistance in the areas of environmental policy and water supply and sanitation from 2003 to 2005 (The Organisation for Economic Cooperation and Development, 2007). Turkmenistan has also been a dynamic participant in the GEF programmes. Since 1997, the government has carried out dozens of national, regional, and global projects under the auspice of GEF (Global Environmental Facility, 2018). Relations between Turkmenistan and the world's developed countries though environment-oriented assistance of the Official Development Assistance (ODA) as Turkmenistan received US$4.0 million of international environmental assistance between 2002 and 2009 (The United Nations Economic Commission for Europe, 2017).

Turkmenistan has a green and renewable energy policy that aims to develop the greening of the oil production industry and to lessen the ecological impacts of the oil production on the Caspian Sea. Within this scope, the government intends to cope with industrial pollution from the oil and gas and energy sectors. For this reason, the government established partnerships with foreign investors. This has manifested through, for instance, granting contracts to the Irish company Emerol to work on environmental management and remediation services in the coastline municipality of Turkmenbashi (The Organisation for Economic Cooperation and Development, 2007). In relation to the green energy actions, the government also established works with REN on renewable energy use and efficiency. For instance, it appointed Rustam Bekmuradov (an independent research consultant) as its agent to liaise with REN. In order to look after the progress of renewable energy use and efficiency, the government also joined European regional collaborations on energy such as Energy Charter and Central Asia Regional Economic Cooperation. Turkmenistan has actively coordinated with the REN to learn experiences from countries under UNECE and to develop successes in increasing renewable energy use in Turkmenistan itself (The United Nations Economic Commission for Europe, 2017).

In Turkmenistan, comprehensive works have been executed to safeguard natural resources. This has been performed mainly through the establishment of PAs under its national system and in connection with the IUCN objective. In addition, the government also created man-made forest land for reforestation and conservation in the country through The National Forest Program (The UNESCAP, 2017). The government has set up monitoring of the local environmental policy measures. The monitoring accords to international requirements such as from international agreements, conventions, and treaties as well as through the government's environmental indicators. So far, the system of environmental indicators has been established to include a few collections of parameters such as (i) the state, pollution and protection of the atmosphere, (ii) the state, use and protection of water resources and (iii) the state, use and protection of land resources (The UNESCAP, 2017). International recommendations on environmental performance assessment are used to regulate national environmental performance (The UNESCAP, 2017).

4. DISCUSSIONS AND SUGGESTIONS

Muslim UMIE and HIE countries are crude oil producers. Although crude oil is no longer seen as a feasible source of energy supply due to its rapidly exhausting supply, it still shapes economic development (OIC, 2017; The World Bank, 2017). In other words, Muslim UMIE and HIE countries are economically dependent on non-renewable energy. Non-renewable resources include gold, copper, oil, gas and other minerals that cannot be restored (Asafu-Adjaye, 2000). Therefore, the dependence of countries, including Muslim UMIE and HIE countries on non-renewable resources is a

scenario that does not provide a benefit to the long-term economic sustainability of the country (Asif and Muneer, 2007). That is why as shown in the findings in the discussion in the paragraphs above, Albania, Azerbaijan and Turkmenistan made renewable energy as an important indicator of their environment foreign policy. At the same time, crude oil also threatens the environment sensitivity of these countries (O'Rourke and Connolly, 2003). The threat of crude oil to environmental conditions in the three republics of the former Soviet republic had existed before they became independent in 1991 (Jordan, 2012). Therefore, while the development and economic growth of Muslim UMIE and HIE countries are partially affected by the demand for oil, environmental performance pressures in the form of environmental issues associated with oil – as non-renewable energy will continue to increase.

Islam (2004) argues that everyone is responsible for caring for the environment. However, the inefficiency of environmental performance among Muslim UMIE and HIE countries is not new in the post-westernisation era. In the Muslim world, the enduring inefficiency of environmental performance is contrary to the teaching of Islam (Dien, 1997). Environmental problems continue to occur due to the unrestricted and unethical development and disregard for Islamic environmental ethics (Foltz, 2002). This has made environmental problems critical issues in the Muslim world (Foltz et al., 2003).

The declining EPI scores and rankings for the majority of the Muslim UMIE and HIE countries show how governments have mismanaged environmental issues. Rice (1999) admits that many Muslim countries have ignored Islamic environmental teachings and ethics in their policy actions. Although Saniotis (2012) is more optimistic about countries like Malaysia to be able to regard the teachings and ethics in its policy, the findings of this study for Malaysia and many affluent countries of the Muslim world support Rice (1999).

However, the cases of Albania, Azerbaijan and Turkmenistan are the opposite. Given that these three countries have shown better environmental performances as there is growth in their respective environmental performances, it is desirable to argue that there are still affluent countries of the Muslim world who see the importance of addressing environmental issues. In reality, addressing environmental issues through environmental foreign policy has been done by many countries of the Muslim world. However, the commitment of these countries is inconsistent. For example, for Albania, Azerbaijan and Turkmenistan, they are consistent in terms of emphasis on renewable energy use and efficiency, national-international policy collaboration and development of PAs. However, for the collective levels of the countries of the Muslim world, although the OIC may be a political platform that can support Muslim UMIE and HIE countries to mitigate environmental issues through the Environment Ministers (ICEM) of the member states and the Islamic Educational, Scientific and Cultural Organisation (ISESCO), it appears that the environmental agenda for the Arab region is more visible than the collective states of the OIC (Foltz, 2000; Cherfane and Makdisi, 2007). At the individual country level, little effort has been taken by UMIE and HIE countries to engage in environmental efforts through environmental foreign policy, except for Malaysia (Ismail, 2011).

To improve the environmental performance in UMIE and HIE countries, institutional reforms are crucial. Many Islamic eco-writers for instance Foltz (2003), Fazlun (2002), Hassan (2016) have suggested regaining consciousness on the utility of the Islamic approach for resolving environmental problems instead of depending solely on the hegemony of Western-style conservation policies and programmes that are not universally suitable for all countries and culture (Foltz et al., 2003). They also suggested the possibility of integrating Islamic environmental ethics and laws in legislative and education programs.

This paper agrees with the solutions as they are part and parcel of reforming the policy aspects in government institutions. The recommendations for reforming the institutions towards integrating Islamic environmental teachings and ethics in the government institutions can also be embraced in environmental foreign policy. One significant reason is that the approach gives prominence to a variety of actors, institutions and forces (Barkdull and Harris, 2002). The term environmental foreign policy is used here to denote the government's policy concentrating to affairs outside state boundaries as its goals to safeguard, sustain and make better the environment (Ismail, 2011; Papa, 2013). The scope of environmental foreign policy is a two-stage program from which government officials can show their commitment to protecting the environment and mitigating environmental degradation through domestic (inward) and international (outward) policies (Putnam, 1988). In the case of Albania, Azerbaijan and Turkmenistan, their environmental foreign policy approaches have highlighted indicators which can be studied by other countries to help improve their environmental performance. For both the inward and outward policies, one obvious thing that all those countries did was to regard the link between local environmental policies and international environmental policies as measures to tackle local and transboundary environmental issues. This scenario is referred to as policy convergence (Ismail, 2012).

5. CONCLUSION

This paper explored the aspects of environmental performance improvement for the eminent countries of the Muslim world. It focuses specifically on how to design better strategies for UMIE and HIE countries when dealing with environmental performances. The results of this analysis suggest that strategy choices should depend on at least three things. First, an understanding of the nature of the political economy of the countries. Second, the disclosure of the status and ranking of environmental performances of those countries. Third, exposure to countries that increase their environmental performance, in terms of their environmental foreign policy experiences. For these analyses, this paper has found that the entire UMIE and HIE countries that are being studied are crude producers, so they are non-renewable energy-dependent countries. This paper also found that the majority of UMIE countries and all HIE countries were at low levels of environmental performance due to their environmental performance drop in 2018 as compared to 2006. However, environmental performances for Albania, Azerbaijan and Turkmenistan were the opposite as these countries have shown an increase in environmental performance. Based on EPI score for 5-point scale, this study found that the

majority of the UMIE and HIE countries were in the rank of "taking environmental performance as unimportant". Therefore, the countries are facing many environmental issues. The findings imply that they have ineffective or minimal environmental care and environmental distress persists. This situation necessitates urgent measures for improvement.

With regard to experiences in implementing environmental foreign policy, this paper found that there were at least three significant indicators shared by Albania, Azerbaijan and Turkmenistan in their environmental foreign policy; renewable energy use and efficiency, national-international policy collaboration and development of PAs. These indicators may be used as a point of reference for other countries of the Muslim world tackling their environmental performance. This paper provides information for governments of the Muslim world to understand the importance of committing to reducing environmental degradation. It also suggests that measures for improvements could be explored in institutional reforms as proven by Albania, Azerbaijan and Turkmenistan in embracing an environmental foreign policy. This could allow government officials to better commit to protecting the environment and mitigating environmental degradation.

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REFERENCES

Asafu-Adjaye, J. (2000), Customary marine tenure systems and sustainable fisheries management in Papua New Guinea. International Journal of Social Economics, 27, 917-927.

Asian Development Bank. (2005), Country Environmental Analysis: Azerbaijan. Available from: https://www.adb.org/sites/default/files/institutional-document/32178/aze-cea.pdf. [Last accessed on 2018 Feb 01].

Asif, M., Muneer, T. (2007), Energy supply, its demand and security issues for developed and emerging economies. Renewable and Sustainable Energy Reviews, 11(7), 1388-1413.

Aziz, A.A., Mustapha, N.H.N., Ismail, R. (2013), Factors affecting energy demand in developing countries: A dynamic panel analysis. International Journal of Energy Economics and Policy, 3(S), 1-6.

Bagader, A.A., editor. (1983), Islam and Sociological Perspectives. Kuala Lumpur: ABIM.

Barkdull, J., Harris, P.G. (2002), Environmental change and foreign policy: A survey of theory. Global Environmental Politics, 2(2), 63-91.

Björklund, M., Forslund, H. (2013), The purpose and focus of environmental performance measurement systems in logistics. International Journal of Productivity and Performance Management, 62(3), 230-249.

Böhringer, C., Jochem, P.E. (2007), Measuring the immeasurable a survey of sustainability indices. Ecological Economics, 63(1), 1-8.

Chen, X., Fazilov, F. (2018), Re-centering Central Asia: China's "New Great Game" in the old Eurasian Heartland. Palgrave Communications, 4(1), 71.

Cherfane, C.C., Makdisi, K. (2007), Envisioning an Arab agenda for trade and environment. In: Najam, A., Halle, M., Meléndez-Ortiz, R., editors. Envisioning a Sustainable Development Agenda for Trade and Environment. New York: Palgrave Macmillan. p49-76.

Clapp, J., Helleiner, E. (2012), International political economy and the environment: Back to the basics? International Affairs, 88(3), 485-501.

Dien, M.I. (1997), Islam and the environment: Theory and practice. Journal of Beliefs and Values, 18(1), 47-57.

Emerson, J., Esty, D.C., Levy, M.A., Kim, C.H., Mara, V., de Sherbinin, A., Srebotnjak, T. (2010), Environmental Performance Index. New Haven: Yale Center for Environmental Law and Policy.

Emerson, J.W., Hsu, A., Levy, M.A., de Sherbinin, A., Mara, V., Esty, D.C., Jaiteh, M. (2012), Environmental Performance Index and Pilot Trend Environmental Performance Index. New Haven: Yale Center for Environmental Law and Policy. p1-98.

EPI Report. (2018), Environmental Performance Index Yale University; 2018. Available from: https://www.epi.envirocenter.yale.edu/2018-epi-report/introduction. [Last accessed on 2018 Feb 01].

Erdur, O. (1997), Reappropriating the "Green": Islamist environmentalism. New Perspectives on Turkey, 17, 151-166.

Esty, D.C., Levy, M.A., Kim, C.H., de Sherbinin, A., Srebotnjak, T., Mara, V. (2008), Environmental Performance Index. New Haven, CT: Yale Center for Environmental Law and Policy.

Esty, D.C., Levy, M.A., Srebotnjak, T., de Sherbinin, A., Kim, C.H., Anderson, B. (2006), Pilot 2006 Environmental Performance Index. New Haven: Yale Center for Environmental Law and Policy.

Fazlun, M.K. (2002), Islam and the environment, social and economic dimensions of global environmental change. Encyclopedia of Global Environmental Change, 5, 332-339.

Foltz, R. (2000), Is there an Islamic environmentalism? Environmental Ethics, 22(1), 63-72.

Foltz, R.C. (2002), Iran's water crisis: Cultural, political, and ethical dimensions. Journal of Agricultural and Environmental Ethics, 15(4), 357-380.

Foltz, R.C., Baharuddin, A., Denny, F.M., editors. (2003), Islam and Ecology: A Bestowed Trust. Cambridge: Harvard University Press.

Global Environmental Facility. (2018), Available from: https://www.thegef.org/news/turkmenistan-international-environmental-cooperation. [Last accessed on 2018 Aug 07].

Harris, P.G., editor. (2007), Europe and Global Climate Change: Politics, Foreign Policy and Regional Cooperation. United Kingdom: Edward Elgar Publishing.

Hassan, A. (2016), Islamic ethical responsibilities for business and sustainable development. Humanomics, 32(1), 80-94.

Hatakeda, T., Kokubu, K., Kajiwara, T., Nishitani, K. (2012), Factors influencing corporate environmental protection activities for greenhouse gas emission reductions: The relationship between environmental and financial performance. Environmental and Resource Economics, 53(4), 455-481.

Homer-Dixon, T.F. (2010), Environment, Scarcity, and Violence. New Jersey: Princeton University Press.

Hsu, A., Zomer, A. (2014), Environmental performance index. Wiley Stats Ref: Statistics Reference Online. United States: John Wiley and Sons, Ltd. p. 1-5.

Hsu, A. (2016), Environmental Performance Index. New Haven (CT): Yale University.

IDB Group and COMCEC Coordination Office. (2015), Available from: http://www.comcec.org/en/wp-content/uploads/2016/05/COMCEC-IDB-J.pdf. [Last accessed on 2018 Feb 02].

Islam, M.M. (2004), Towards a green earth: An Islamic perspective. Asian Affairs, 26(4), 44-89.

Ismail, R. (2011), Malaysian Economic Development and the Emergence of Environmental Foreign Policy, 1874-1982. Unpublished Ph. D Thesis. Available from: http://www.ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.530770. [Last accessed on 2018 Feb 01].

Ismail, R. (2012), Policy Convergence in international biodiversity regimes: A perspective from Malaysia. International Journal of Social Science, 12(19), 309-316.
ISO, E. (2004), 14001: 2004. Environmental management systems-Requirements with guidance for use (ISO 14001: 2004). Australia: ISO.
Izzi Dien, M.Y. (1992), Islam and ecology. London: Cassell Publishers Limited.
Izzi-Dien, M.Y. (2000), The Environmental Dimensions of Islam. Cambridge, UK: Lutterworth Press.
Jordan, A. (2012), Environmental Policy in the European Union: Actors, Institutions, and Processes. Earthscan: United Kingdom.
Kader, A.B, Ahmed, A.B., Sabbagh, A., Latif, A., El Shirazy, T. (1983), Basic Paper on the Islamic Principles for the Conservation of the Natural Environment. Gland, Switzerland: International Union for Conservation of Nature and Natural Resources (IUCN). Available from: https://www.portals.iucn.org/library/sites/library/files/documents/EPLP-020.pdf. [Last accessed on 2018 Feb 04].
Khalid, F.M., O'Brien, J. (1992), Islam and ecology. London: Burns and Oates.
Kula, E. (2001), Islam and environmental conservation. Environmental Conservation, 28(1), 1-9.
Likert, R. (1932), A technique for the measurement of attitudes. Archives of Psychology, 22, 140, 55.
Nagel, C., Staeheli, L. (2016), Nature, environmentalism, and the politics of citizenship in post-civil war Lebanon. Cultural Geographies, 23(2), 247-263.
O'Connell, J., Hradszky, Z. (2018), Value Chain Gap Analysis Report on Azerbaijan. Rome: Food and Agriculture Organization of the United Nations.
OIC. (2017), Member States. Available from: https://www.oic-oci.org/states/?lan=en. [Last accessed on 2018 Feb 05].
O'Rourke, D., Connolly, S. (2003), Just oil? The distribution of environmental and social impacts of oil production and consumption. Annual Review of Environment and Resources, 28(1), 587-617.
Papa. M. (2013), Environmental foreign policy: Crossovers among levels of governance. In: Harris, P.G., editor. Routledge Handbook of Global Environmental Politics. London: Routledge. p138-149.
Putnam, R.D. (1988), Diplomacy and domestic politics: The logic of two-level games. International Organization, 42(3), 427-460.
Qiriazi, P., Sala, S. (2000), Environmental problems of Albania. In: Buchroithner, M.F., editors. Remote Sensing for Environmental Data in Albania: A Strategy for Integrated Management. Dordrecht: Springer. p13-30. Available form: https://www.doi.org/10.1007/978-94-011-4357-8_4. [Last accessed on 2018 Feb 07].
Rice, G. (1999), Islamic ethics and the implications for business. Journal of Business Ethics, 18(4), 345-358.
Rickerson, W.H., Perroy, R.L. (2005), Renewable Energy Development on the Edge of the European Union: A Case Study of Albania. Denver: A paper presented at the Association of American Geographers 2005 Conference., April 5-9.
Saniotis, A. (2012), Muslims and ecology: Fostering Islamic environmental ethics. Contemporary Islam, 6(2), 155-171.
Sardar, Z. (1977), Science, Technology and Development in the Muslim World. London: Routledge.
Schwencke, A.M. (2012), Globalized Eco-Islam: A Survey of Global Islamic Environmentalism. Leiden: Leiden Institute for Religious Studies, Leiden University.
The Asian Development Bank. (2018), Country Environmental Analysis for Azerbaijan. Available from: https://www.adb.org/sites/default/files/institutional-document/32178/aze-cea.pdf. [Last accessed on 2018 Aug 07].
The Economic and Social Commission for Asia and the Pacific. (2017), Available from: https://www.unescap.org/sites/default/files/Turkmenistan_Environment_Statistics_15-17Nov2017_English.pdf. [Last accessed on 2018 Aug 07].
The European Environment Agency. (2015), Albania Country Briefing the European Environment State and Outlook; 2015. https://www.eea.europa.eu/soer-2015/countries/albania. [Last accessed on 2018 Aug 28].
The Organisation for Economic Co-operation and Development. (2007), Policies for a Better Environment Progress in Eastern Europe, Caucasus and Central Asia. http://www.oecd.org/environment/outreach/39274836.pdf. [Last accessed on 2018 Aug 07].
The United Nations Economic Commission for Europe. (2017), UNECE Renewable Energy Status Report. https://www.unece.org/fileadmin/DAM/energy/se/pp/renew/Renewable_energy_report_2017_web.pdf. [Last accessed on 2018 Aug 27].
The World Bank. (2017), World Development Report; 2017. http://www.worldbank.org/en/publication/wdr2017. [Last accessed on 2018 Feb 08].
Uitto, J.I., Duda, A.M. (2002), Management of transboundary water resources: Lessons from international cooperation for conflict prevention. Geographical Journal, 168(4), 365-378.
UNESCAP. (2017), Preliminary national diagnostics of environmental statistics. https://www.unescap.org/sites/default/files/Turkmenistan_Environment_Statistics_15-17Nov2017_English.pdf. [Last accessed on 2018 Aug 07].
Vincenti, D. (2016), Sustainability transitions in Arab-Islamic countries: Egypt as a case study. Agriculture and agricultural Science Procedia, 8, 135-140.
Vincenti, D. (2017), "Green" Islam and Social Movements for Sustainability: Socio-Ecological Transitions in the Muslim World Doctoral Dissertation. Rome; LUISS Guido Carli.
Xenarios, S., Shenhav, R., Abdullaev, I., Mastellari, A. (2018), Current and Future Challenges of Water Security in Central Asia. In: Global Water Security. Singapore: Springer. p117-142.
Xhafa, S., Kosovrasti, A. (2016), Environmentalism in Albania: Legal and Institutional Management of Environmental Problems. Zagreb, Croatia: Paper Presented at 18th International Scientific Conference on Economic and Social Development Building Resilient Society, December 9-10.