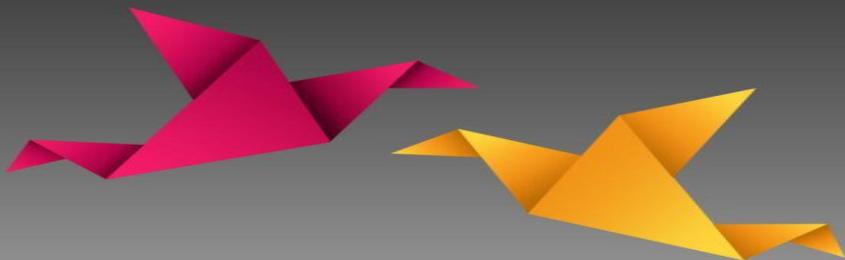


# ISTECC'16



INTERNATIONAL  
SUSTAINABLE  
TECHNOLOGY,  
ENERGY &  
CIVILIZATION

## CONFERENCE

**Exploring the Significance of Islamic  
Environmental Ethics for Fostering Sustainable  
Environment**

**Dr. Salman Ahmed Shaikh**

**Dr. Muhammad Hakimi Mohd. Shafiai**

# Presentation Outline

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- ▶ Introduction
- ▶ Islamic Worldview & Its Socioeconomic Implications
- ▶ Islamic Principles & Environment Related SDGs
- ▶ Comparison of OIC vs. non-OIC Members on Environment
- ▶ Conclusion

# Introduction

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- ▶ Some three centuries after the onset of Industrial revolution, we have achieved phenomenal economic growth.
- ▶ Gross World Product has risen from a mere \$100 billion in 1700 to \$78 trillion in 2014.
- ▶ During the 20th century, world population increased by a factor of 4, whereas industrial output grew by a factor of 40.

# Introduction

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- ▶ However, the intensity with which environmental resources are used increased sharply.
- ▶ The last two generations in the 20<sup>th</sup> century alone brought an increase in energy consumption by a factor of 16.
- ▶ Fish harvesting increased by a multiple of 35 and carbon and sulphur emissions grew 10 times.

# Introduction

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- ▶ The last five human generations have pushed planetary boundaries through:
  - ▶ Unprecedented burning of fossil fuels.
  - ▶ Rapid deforestation.
  - ▶ Contamination of seas.
- ▶ These anthropogenic disruptions have resulted in:
  - ▶ Rise in temperature.
  - ▶ Frequent heat waves.
  - ▶ Floods.
  - ▶ Melting of glaciers.
  - ▶ Enormous loss of marine and tropical forest species.
  - ▶ Rise in sea levels by about 8 inches since 1870.

# Introduction

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- ▶ Huge economic growth has come at a significant cost to the environment and life supporting systems on the planet.
- ▶ Yet, economic growth is not shared equitably. The 62 richest billionaires own as much wealth as the poorer half of the world's population (Source: OXFAM).
- ▶ We produce 17% more calories per person today than 30 years ago, despite a 70% increase in the population. But, we waste almost half of food we produce.
- ▶ Yet, one in every four people in Africa goes to bed hungry every night (Source: FAO).

# Introduction

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- ▶ Even if the fiat money is printed excessively, it cannot substitute and exchange nature beyond capacity.
- ▶ Costanza et al. (1998) estimate that the minimum annual average value of ecosystem services is 1.8 times the global GNP.
- ▶ Hence, the replacement cost is more than the economic output that we produce annually.
- ▶ Many ecosystem services are literally irreplaceable.

# Introduction

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- ▶ We face a moral crisis as this position is not a default outcome of random interactions of matter.
- ▶ We have reached here as a result of conscious human actions.
- ▶ The views about life affect our preferences and choices.
- ▶ Thus, sustainable existence of life and life supporting systems hinges upon a social contract and worldview which can inculcate the **notion of responsibility, humility, contentment and commitment** in place of **self-centric pursuit of instinctive pleasures with envy and carelessness in our minds.**

# Islamic Worldview & Its Socioeconomic Implications

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- ▶ The theistic concepts of *Tawheed*, *Khilafah* and *Akhirah* govern the Islamic way of life.
- ▶ Belief in the single source of creation defies racial, ethnic or gender basis of biases.
- ▶ According to Islam, all creations belong to Allah. Animals and plants are partners to man in the universe (Mian et al., 2013).



# Islamic Worldview & Its Socioeconomic Implications

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- ▶ Simultaneously, the concept of *Khilafah* raises the stature of human beings as moral beings with inbuilt and active conscience, which provides the ability to differentiate moral from immoral acts.
- ▶ It inculcates the responsibility of custodianship, trusteeship and stewardship in human beings with regards to the use and ownership of physical property and environmental resources.
- ▶ The two worldly view of life in Islam extends the decision horizon of economic agents, be they firms or consumers.

# Islamic Worldview & Its Socioeconomic Implications

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- ▶ While the concept of *Tawheed* creates an equal basis for humans to use what is bestowed in nature, the concept of *Khilafah* instils stewardship towards the responsible use of natural and environmental resources without pushing planetary boundaries and causing precious loss of biodiversity.
- ▶ According to the World Values Survey sixth wave (2010-2014), 29% respondents in 21 OIC member countries state that 'looking after the environment and to care for nature and save life resources' best describes their view and attitude towards environment as compared to 21% stating the same in 39 non-Muslim majority countries.

# Islamic Worldview & Its Socioeconomic Implications

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- ▶ Environmental stewardship requires that we use natural resources ethically so as to equally improve the welfare of society, other living organisms, and future generations (Alghamdi, 2014).
- ▶ The relationship between human and nature is one of custodianship or guardianship, and not of dominance (Islam, M. N. & Islam, M. S., 2015).
- ▶ The earth's resources are available for humanity's use, but these gifts come from God with certain ethical restraints.

# Islamic Worldview & Its Socioeconomic Implications

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- ▶ In the secular worldview, due to the absence of afterlife accountability, the rich people with absolute and inviolable property rights can command natural and environmental resources whose potential lifespan is much more than the lives of their owners.
- ▶ But, if the rich people believe in no afterlife accountability, they can extract and exploit these resources quickly and deprive future generations of their use.

# Islamic Worldview & Its Socioeconomic Implications

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- ▶ Extinction of species, global warming, climate change, depletion of ozone layer and massive carbon emissions are inevitable results of the individualistic paradigm.
- ▶ Climate change is a slow, but cumulative process.
- ▶ Individual human lifespan is only an infinitesimally small fraction of the life of environmental resources and eco-system services.
- ▶ Hence, the self-centric and this worldly view of life are incompatible with the concerns of sustainability and socially responsible behaviour.

# Islamic Principles & Environment Related SDGs

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- ▶ The Sustainable Development Goals (SDGs) encompass economic development, human development and environmental sustainability.
- ▶ There are at least six out of 17 goals which are closely related to environment.
  - ▶ Goal 6: Water and Sanitation
  - ▶ Goal 7: Energy
  - ▶ Goal 12: Consumption
  - ▶ Goal 13: Climate
  - ▶ Goal 14: Marine-ecosystems
  - ▶ Goal 15: Land Ecosystems

# Islamic Principles & Environment Related SDGs

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- ▶ Islamic principles compliment these SDGs and can act as a catalyst to foster commitment, responsibility and affirmative action for sustainable and congenial co-existence with environment.
- ▶ The discussion of ‘protection of progeny’ as Maqasid-e-Shari’ah by Imam Ghazali shows the ethical commitment for sustainable existence in an Islamic paradigm much well before the reactionary focus in West about sustainable development.

# Islamic Principles & Environment Related SDGs

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- ▶ It is pertinent that humans incorporate social cost in their private actions for achieving environment related SDGs.
- ▶ If we want clean air, fresh water and proper sanitation for ourselves, then we must also like these things for others living in the present age as well as those who are to come in this world in the next generations.

# Islamic Principles & Environment Related SDGs

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- ▶ Prophet Muhammad (peace be upon Him) said:
- ▶ **“A Muslim is the one who avoids harming Muslims with his tongue and hands.”**
- ▶ *(Source: Sahih al-Bukhari, Vol 1, Book 2, Hadith No. 9)*

# Islamic Principles & Environment Related SDGs

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- ▶ The realization of enormous value of nature and environment even if it is in no one's private ownership is vital for fostering a culture of caring and responsibility towards environment.
- ▶ Quran refers to nature as 'Ayat' (signs). Prophet Muhammad (peace be upon Him) said:
  - ▶ **“There is none amongst the Muslims who plants a tree or sows seeds, and then a bird, or a person or an animal eats from it, but is regarded as a charitable gift for him.”**
  - ▶ (Source: *Sahih Al-Bukhari*, Vol 3, Book 39, Hadith No. 513)

# Islamic Principles & Environment Related SDGs

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- ▶ Climate change and environmental degradation is a slow and cumulative process.
- ▶ To resurrect environment, the efforts also need to be cumulative and consistent.
- ▶ A self-centric secular worldview encourages self-centric use of private property resources.
- ▶ However, even small things done collectively and consistently can have compounding effect.

# Islamic Principles & Environment Related SDGs

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- ▶ The two-worldly view of life in Islam encourages socially responsible behaviour as one of the prime determinants of salvage in life hereafter.
- ▶ Prophet Muhammad (peace be upon Him) said:
- ▶ **“If the Resurrection were established upon one of you while he has in his hand a sapling, then let him plant it.”**
  - ▶ (Source: *Musnad Ahmad, Hadith No. 12491*)



# Islamic Principles & Environment Related SDGs

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- ▶ Quran informs that other species also praise and thank the Creator for the blessings. It brings humility, congeniality and peaceful co-existence with other life in the environment.
- ▶ Quran says: **“Do you not see that to Allah bow down in worship all things that are in the heavens and on earth - the sun, the moon, the stars; the hills, the trees, the animals; and a great number among mankind?”** (Chapter 22, Verse 18).
- ▶ The single source of creation as encapsulated in the concept of *Tawheed* undermines the tendency to feel ‘**fittest survivors**’.



# Islamic Principles & Environment Related SDGs

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- ▶ Prophet Muhammad (peace be upon Him) said:
- ▶ **“A good deed done to a beast is as good as doing good to a human being; while an act of cruelty to a beast is as bad as an act of cruelty to human beings”, and that: “Kindness to animals was promised rewards in life hereafter.”**
- ▶
- ▶ (Source: *Mishkat al-Masabih*; Book 6; Chapter 7, 8:178)

# Islamic Principles & Environment Related SDGs

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- ▶ In another narrative, the Prophet (pbuh) was asked whether acts of charity even to the animals were rewarded by Allah or not.
- ▶ He replied: **‘yes, there is a reward for acts of charity to every beast alive.’**
  - ▶ (Source: *Sahih Muslim*, Book 26; Hadith No. 5577)
- ▶ In order to protect land, forests and wildlife, the Prophet Muhammad (peace be upon Him) created inviolable zones known as *hima* and *haram*.

# Islamic Principles & Environment Related SDGs

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- ▶ Almost half of food goes wasted while on the other hand, one out of every 9 people in the world suffers from hunger (FAO).
- ▶ Islamic principles discourage conspicuous consumption on luxuries. The Quran says:
  - ▶ **“But waste not by excess: for Allah loveth not the wasters.”**
  - ▶ *(Source: Holy Quran, Chapter 6: Verse 141)*



# Comparison of OIC vs. non-OIC on Environment Indicators

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- ▶ There are 57 members in the OIC including 27 from Africa, 26 from Asia and 2 each from Europe & South America.
- ▶ Some of the oil rich Muslim countries have per capita income comparable to developed countries.
- ▶ Yet, some of the member states from Africa have one of the lowest per capita incomes.
- ▶ E.g. Qatar has per capita income in excess of \$93,000, while Somalia has a per capita income of \$133 only. At least 7 OIC member states have per capita income below \$650.

# Comparison of OIC vs. non-OIC on Environment Indicators

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- ▶ According to World Research Institute 2012 data on total carbon emissions, 17 of the top 50 and 18 of the bottom 50 countries are OIC member countries.
- ▶ But, the top 10 carbon emitting countries include only one OIC member country (Iran).
- ▶ Top 5 countries in the list include China, United States, India, Russia and Japan.
- ▶ The share of top 5 countries in the total global carbon emissions is 60.2%.

# Comparison of OIC vs. non-OIC on Environment Indicators

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- ▶ The share of 56 OIC member countries in total global carbon emissions is 12.77% while their share in total global population is 23%.
- ▶ Conversely, the share of 125 non-OIC member countries in total global carbon emissions is 87.23% while their share in total global population is 77%.

# Comparison of OIC vs. non-OIC on Environment Indicators

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- ▶ In 101 countries out of the total 181 countries for which data is available, the share in total global carbon emissions is lesser than the share in total global population.
- ▶ Strikingly, 40 of these 101 countries are OIC member countries.
- ▶ Thus, 40 out of 56 countries have lesser share in total global carbon emissions as compared to their share in total global population.

# Comparison of OIC vs. non-OIC on Environment Indicators

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- ▶ Top 5 countries with highest positive difference between share in total global carbon emissions and share in total global population include United States, China, Russia, Japan and Germany.
- ▶ United States has the highest difference at 11.34% with share in total global carbon emissions recorded at 15.84% and share in global population standing at 4.50%.
- ▶ Interestingly, none of the OIC member country features in the top 5 countries list with highest positive difference between share in total global carbon emissions and share in total global population.

# Comparison of OIC vs. non-OIC on Environment Indicators

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- ▶ Now we look at the comparative performance of countries in using renewable energy to produce electricity.
- ▶ World Bank's 2012 data on 'Sustainable Energy for All' shows that 6 of the top 20 as well as bottom 20 countries are OIC member Countries.
- ▶ 6 of the OIC countries in the top 20 highest electricity producers from renewable sources include mostly low to middle income countries. E.g. Togo and Mozambique.

# Comparison of OIC vs. non-OIC on Environment Indicators

## Comparison of OIC & Non-OIC Countries on Environmental Indicators

Indicator	Top 50	Bottom 50	OIC Average	Non-OIC Average
<b>Overall</b>				
Environment Performance Index	6	26	42.37	54.50
Environmental Health	7	23	55.86	69.53
Ecosystem Vitality	6	23	33.22	44.37
<b>Selected Individual Indicators</b>				
Wastewater Treatment	9	22	14.54	29.37
Drinking Water	9	25	41.00	61.02
Sanitation	11	23	36.39	48.33
Air Pollution	11	16	80.28	82.38
Household Air Quality	15	22	58.75	68.62
Climate & Energy	9	14	47.49	48.83
Biodiversity & Habitat	11	28	42.72	63.34
Water Resources	9	22	12.78	30.28
Environmental Health Impacts	Source: Environmental Performance Index 2014	52.21	73.08	

# Comparison of OIC vs. non-OIC on Environment Indicators

## Comparison of Economic-Environment Performance Nexus

<b>Growth</b>				
<b>EPI Value</b>	<b>High Growth; High PCI</b>	<b>High Growth; Low PCI</b>	<b>Low Growth; High PCI</b>	<b>Low Growth; Low PCI</b>
<b>High</b>	24 (11)	11 (5)	46 (2)	4 (1)
<b>Low</b>	6 (1)	44 (19)	9 (2)	27 (13)

We categorize countries in 8 sub-groups. There are two economic dimensions, i.e. average GDP growth during 2002-12 and per-capita GDP in 2012. The 'high' and 'low' demarcation is based on median rank. The numbers in parenthesis represent the count of OIC countries in each of the respective sub-categories.



# Comparison of OIC vs. non-OIC on Environment Indicators

## Comparison of Economic-Environment Performance Nexus

<b>Growth</b>				
<b>EPI Value</b>	<b>High Growth; High PCI</b>	<b>High Growth; Low PCI</b>	<b>Low Growth; High PCI</b>	<b>Low Growth; Low PCI</b>
<b>High</b>	24 (11)	11 (5)	46 (2)	4 (1)
<b>Low</b>	6 (1)	44 (19)	9 (2)	27 (13)

The results illustrate the trade-off between economic and environmental performance. Only 4 countries with both lower economic growth and lower per capita income are able to get above median rank in EPI list. Countries with high median EPI rank are mostly the ones with high per capita incomes as well (70 out of 85).



# Comparison of OIC vs. non-OIC on Environment Indicators

## Comparison of Economic-Environment Performance Nexus

<b>Growth</b>				
<b>EPI Value</b>	<b>High Growth; High PCI</b>	<b>High Growth; Low PCI</b>	<b>Low Growth; High PCI</b>	<b>Low Growth; Low PCI</b>
<b>High</b>	24 (11)	11 (5)	46 (2)	4 (1)
<b>Low</b>	6 (1)	44 (19)	9 (2)	27 (13)

Countries with high growth, but low per capita incomes are likely to have below median rank in EPI. 80% countries with high growth and low per capita incomes obtain below median rank in EPI. Countries with high growth rate struggle to rank high in EPI. Only 35 out of 85 countries with above median rank in economic growth rate are able to have above-median rank in the EPI list.



# Comparison of OIC vs. non-OIC on Environment Indicators

## Comparison of Economic-Environment Performance Nexus

<b>Growth</b>				
<b>EPI Value</b>	<b>High Growth; High PCI</b>	<b>High Growth; Low PCI</b>	<b>Low Growth; High PCI</b>	<b>Low Growth; Low PCI</b>
<b>High</b>	24 (11)	11 (5)	46 (2)	4 (1)
<b>Low</b>	6 (1)	44 (19)	9 (2)	27 (13)

Countries with low growth, but high per capita incomes are likely to have above median rank in EPI. 84% countries with low growth and high per capita income obtain above median rank in EPI. This sub-category is the most ideal trade-off between economic and environment performance nexus. However, only Brunei and Tunisia are two OIC countries in that sub-category.



# Comparison of OIC vs. non-OIC on Environment Indicators

## Comparison of Economic-Environment Performance Nexus

<b>Growth</b>				
<b>EPI Value</b>	<b>High Growth; High PCI</b>	<b>High Growth; Low PCI</b>	<b>Low Growth; High PCI</b>	<b>Low Growth; Low PCI</b>
<b>High</b>	24 (11)	11 (5)	46 (2)	4 (1)
<b>Low</b>	6 (1)	44 (19)	9 (2)	27 (13)

38 out of 54 OIC countries in our results have below median per capita incomes. In the other 16 OIC countries which feature in the above median per capita incomes, 13 of them are able to achieve above median rank in EPI.



# Conclusion

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- ▶ Islamic environmental ethics is harmonized with environment related SDGs and provide the necessary impetus for affirmative and responsible behaviour towards achieving these SDGs.
- ▶ Our comparative assessment of OIC and non-OIC countries showed that OIC countries perform relatively well in total carbon emissions and some of them have begun the transformation towards using renewable energy.
- ▶ But, in a broader spectrum of environmental performance, OIC member countries perform less well.

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Thank You

Questions & Feedback

