Gulf Research Centre Cambridge
Knowledge for All

Workshop 13

Towards Sustainable Consumption and Production in the Gulf

Workshop Directors:

Professor Maurie Cohen
Professor of Sustainability Studies &
Director of the Program in Science,
Technology, and Society
New Jersey Institute of Technology
United States of America
Email: mcohen@njit.edu

Dr. Robert Mason
Associate Professor & Director of the
Middle East Studies Center
American University in Cairo
Egypt
Email: robert.mason@aucegypt.edu

Dr. Mohamed Abdelraouf
Sustainability Research Program
Manager
Gulf Research Center
Egypt/Saudi Arabia
Email: mhdraouf@yahoo.com

Abstract

While countries of the Gulf Cooperation Council (GCC) are experiencing rapid economic development, they face many current and potential problems related to sustainability. In the absence of numerous urgent measures, including policy reforms, the populations of these nations are likely to experience in future years a wide array of water, energy, and food-security challenges, which in turn will have extremely negative environmental, economic, and social impacts. With growth of the middle class across large parts of the region, consumption patterns are rapidly evolving and these developments have significant implications in terms of resource utilization and social equity. This workshop aims to

address the current status, progress, and prospective outlook of sustainable consumption and production in GCC countries.

Description and Rationale

Background

Current economic trends in the Gulf region are not sustainable and to a large extent this is a reflection of our society's patterns of consumption and production. There are multiple areas of concern pertaining to energy, water, and food security, especially in the context of a changing climate. The need to modify the way we consume and produce has been recognized for a long time. It is therefore extremely notable that the United Nations 2030 Agenda for Sustainable Development reaffirms the importance of sustainable consumption and production (SCP) and emphasizes efforts to "ensure sustainable consumption and production patterns" as an explicit Sustainable Development Goal (SDG 12).

Research on SCP has to date largely focused on the "over-consuming North," where consumerist lifestyles are most prevalent and associated practices have given rise to a cycle of economic growth and increasing throughput of energy and materials. At the same time, across most of the global South—including some of the Gulf countries and the MENA region in general—the most pressing problem is insufficient consumption. Nonetheless, an affluent consumer society has achieved extremely visible prominence in several countries in the region and current problematic patterns are becoming more deeply entrenched.

Workshop Goals

The goal of this workshop is to explore the social, economic, political, cultural, and infrastructural challenges of shifting current consumption and production in the Gulf countries and commencing a transition towards more sustainable lifestyles. The aim is to provide a venue for scholars and policy makers to discuss this undertaking in the context of the region, as well as to propose and debate possible interventions that are cognizant of locally specific constraining and enabling factors. We anticipate that the workshop will bridge the gap in research, explore common ground among different stakeholders, and formulate visions of a more sustainable future.

We specifically invite contributions that address key elements of SCP as it relates to the 2030 Agenda and the role that GCC countries can play in realizing its objectives. The workshop will explore in detail the obstacles and opportunities for meaningful transition across the region.

Workshop Scope and Proposed Topics

Possible topics for the workshop include but are not limited to:

- How can the aims and objectives of SDG 12 be achieved in the Gulf region and what are the opportunities for cross-national learning?

- Are there instructive case studies of country-specific analysis of current metrics, including political and socioeconomic drivers for SCP?
- What opportunities exist for fostering social innovation and enhancing well-being in the Gulf region and for encouraging grassroots experiments to facilitate more environmentally sustainable and socially equitable lifestyles?
- What policies have thus far been implemented to enable SCP in the Gulf region (including with reference to climate change)?
- What is the scope for considering strategies that encourage shifts towards a circular economy (regenerative system)? What are the consequences of these developments for lifestyles and human security?
- Is it possible to identify interventions to pursue SCP through sectoral interventions that are oriented towards tourism, water, food, energy, and industry production?
- What are the specific gender-related challenges for SCP policymaking in the Gulf region?
- What roles can education, media, and culture play in promoting SCP in GCC countries?
- What is the current status of the Arab Regional Strategy for Sustainable Consumption and Production?

Workshop Outputs

The main output of the workshop will be an edited book based on an invited selection of papers presented at the workshop. We hope that this volume will fill a knowledge gap pertaining to SCP in the Gulf region.

Contributions to Gulf Education, Research, Development, and Innovation

This workshop will contribute to exploration of SCP in the Gulf region with a specific emphasis on sustainable lifestyles. To advance this field of research, a collaborative and interdisciplinary effort will be required. We hope to facilitate an open, enlivened discussion and a critical exchange of knowledge and ideas. The workshop will be a catalyst for identifying innovative solutions to the complex and multilayered challenges of SCP as it relates to the 2030 Agenda in GCC countries.

Anticipated Participants

We encourage papers from various disciplines including, but not limited to, political and social science, psychology, economics, and public policy. Applications and case studies from the Gulf region and other regions are highly encouraged.

Researchers with Gulf region experience (both native and non-native) are invited to apply. In addition to academic presentations, the workshop also welcomes representatives of NGOs, government officials, and think tank experts who are willing to conform to the paper guidelines.

Workshop Director Profiles

Professor Maurie Cohen is Professor of Sustainability Studies and Director of the Program in Science, Technology, and Society at the New Jersey Institute of Technology. He is a co-founder of the Sustainable Consumption Research and Action Initiative (SCORAI), a member of the coordinating group for the Future Earth Knowledge-Action Network on Systems of Sustainable Consumption and Production, and Editor of the journal *Sustainability: Science, Practice, and Policy*. His most recent books are *The Future of Consumer Society: Prospects for Sustainability in the New Economy* (Oxford University Press, 2017) and *Social Change and the Coming of Post-Consumer Society: Theoretical Advances and Policy Implications* (Routledge, 2017; with Halina Brown and Philip Vergragt).

Dr. Robert Mason is Associate Professor and Director of the Middle East Studies Center at the American University in Cairo. His research focus is on the international relations of the Middle East, with a particular emphasis on the Gulf States. His most recent books include *Reassessing Order and Disorder in the Middle East: Regional Imbalance or Disintegration* (Rowman and Littlefield, 2017) and *Egypt and the Gulf: A Renewed Regional Policy Alliance* (Gerlach Press, 2017).

Dr. Mohammed Abdelraouf leads GRC's research program on Sustainability and Environmental Issues. He was the lead author for the West Asia chapters on environmental governance in the United Nations Environment Programme (UNEP) GEO 5 and GEO 6 reports. He has published various policy papers on environmental issues in the MENA region and authored five books. Dr. Abdelraouf is a part-time lecturer on environmental economics at universities in the MENA region. Since 2010, he has represented the Science and Technology Major Group at UNEP and is currently co-chair of the Major Groups Facilitating Committee (MGFC) at UN Environment.

Selected Readings

Adnan Badran et al, *Water, Energy and Food Sustainability in the Middle East*, (Berlin: Springer, 2017)
Chris Martenson, *The Crash Course: The Unsustainable Future of our Economy, Energy and Environment*, (Hoboken, NJ: Wiley, 2011)
Elie Azar and Mohamed Abdel Raouf, *Sustainability in the Gulf: Challenges and Opportunities*, (Abingdon: Routledge, 2017)
Emirates Centre for Strategic Studies, *Water and Food Security in the Arabian Gulf*, (London: I. B. Tauris, 2013); Zahra Babar and Suzi Mirgani eds, *Food Security in the Middle East*, (Oxford: Oxford University Press, 2014);
Jean-Pierre Chauffour, *Morocco 2040: Emerging by Investing in Intangible Capital*, (Washington DC: World Bank, 2017)
Mohamed Abdel Raouf and Mari Luomi, *The Green Economy in the Gulf*, (Abingdon: Routledge, 2015)
Mohamed Behnassi and Katriona McGlade, *Environmental Change and Human Security in Africa and the Middle East*, (Berlin: Springer, 2019)
The World Bank, *Beyond Scarcity: Water Security in the Middle East and North Africa (MENA Development Report)*, (Washington DC, 2017)

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Towards Sustainable Consumption and Production in the Gulf

Paper Presenter Abstracts:

Energy-Water-Environment Nexus and the Transition towards a Circular Economy in Qatar

Dr. Nasim Shah Shirazi
Professor, College of Islamic Studies, Hamad Bin Khalifa University, Education Qatar
nshirazi@hbku.edu.qa

Abdul-Jalil Ibrahim
PhD Student in Islamic Finance and Economy, College of Islamic Studies, Hamad Bin Khalifa University, Education City
Qatar
abdibrahim@mail.hbku.edu.qa

Abstract:

This study is seeking to explore the energy-water-environment nexus in Qatar and how this can be leveraged to transition the country towards a circular economy and sustainable development. The energy and water sectors present opportunity for policy makers and stakeholders to accelerate and scale-up scientific and innovation towards the circular economy. This study provides an opportunity for Qatar to formulate policies that will be geared towards enhancing resource use efficiency

which will contribute to achieving the QNV 2030. For instance, leveraging on the abundant solar renewable resource to replace the finite hydrocarbon energy use will save the country some money and elongate the production to reserves ratio of hydrocarbons. This will enhance intergenerational equity as future generation will more likely to have access to the hydrocarbons to meet their developmental needs. The study adopts explorative approach by reviewing and analysing of literature, policy documents and relevant economic data of Qatar to understand the policy landscape and propose the way forward in transitioning towards a circular economy policy. Qatar has to consider the synergistic interactions of these economic variables in developing the circular economy policy framework in order to accelerate the transition. Policies in electricity, transport, agriculture and water supply system must explore opportunities of virtualizing, optimizing, regeneration, sharing, exchanging and closing the loop towards renewable energies to achieve circular economy in Qatar. Additional findings are that there is a need to embark on public awareness on sustainable consumption and production with emphasis on moving away from make, use and dispose to make, reduce, reuse and recycle. There is a need for attitudinal change towards resource efficiency and policy makers may have to undertake behavioural studies towards nudging social behaviour towards CE adoption. There has to be a comprehensive policy on CE that consolidates the QNV2030 and NDS in order to provide policy clarity and communication towards CE transition.

Virtual Water as an Important Factor for Sustainable Water Governance in GCC

Prof. Jalal Halwani
Head of Health & Environment department (Bachelor & Master), Lebanese University
Lebanon
jhalwani@ul.edu.lb

Naji Bey Merhaby
Lausanne University
Switzerland
najimerhaby@gmail.com

Abstract:

Needless to say that GCC -which lack major river basins- already the most water-stressed region in the world, faces a worsening crisis in terms of its access to water in the decades to come. There are several reasons why the water crisis is set to get worse - key ones include the region's burgeoning population, irrigation and the consequences of climate change. The concept of water security has become increasingly popular during the past decade and the issue of water scarcity in GCC has forced the government to rely on water desalination. It should be noted that the current policy of the GCC States focused on meeting the shortages in supply of the water. The need for water governance at the local and regional scale results

from growing concerns over, first, water security in GCC, and secondly, whether the existing commodity market system can deliver security as well as the necessary stewardship of water resource. According to Booz & Company study, desalination provides two-thirds or more of the potable water used in the GCC. In the modern state system, meeting basic security needs is the remit of governments. Governments derive their legitimacy from protecting society against basic insecurities. Accordingly, understanding the virtual water concept is important for formulating policies and legislation. Its aim is to raise awareness of the scarcity of water resources globally, and of the need to exploit them rationally. The virtual water concept will improve the understanding of the power relations of the actors of food and other necessary goods and water security in the local, regional and global political economy. Thus, law can play an important role in addressing the issue of virtual water, law has a lot to say about virtual water and its manifold aspects, legal provisions can be determinants of social facts no less than other types of norms, such as physical or economic laws. Law shapes the human behavior by giving incentives or establishing constraints to the conduct of virtually any kind of social actor, be they farmers needing to decide what to grow, entrepreneurs willing to invest in the water market what factories should produce or governments requested to address their communities' problems. All of them will make their choices in consideration of the costs, opportunities, and limits set by a number of regulations. In the second place, and strictly connected with the aforementioned reason, law may offer some answers to the challenges that virtual water and, more in general, the water- economic activities nexus bring with them. The aim of this paper is to discuss and analysis the importance of "Virtual Water concept" for effective GCC's water governance from a legal and technical perspective these diverse purposes might entail different legal and scientific considerations, and different legal tools to be attained.

Thirst for Water in the Gulf Countries: Is there a Solution towards Sustainable Consumption and Production?

Mushtaque Ahmed, Ph.D.
Professor, Sultan Qaboos University
Oman
Email: ahmedm@squ.edu.om

Abstract:

The Sustainable Development Goal 12 (SDG 12 of the United Nations 2030 Agenda for Sustainable Development) aims at responsible consumption and production. In the GCC countries, water is in short supply leading to production of potable water at very high cost using the desalination technology. Because of high standard of living water consumption is among the highest in the world. It is difficult to contemplate that SDG 12 can be realized with respect to water management in an arid region which includes the GCC countries. But success in achieving such a goal will ultimately lead to sustainable consumption and production in all sectors of economy and will lead to conservation of energy and water and reduce concerns in achieving food security. The reasons for water problems are mainly

population growth and an increasing demand for water for various sectors of economy. These countries are rich and lifestyle of local population is comparable to developed countries in the North. In Oman and other GCC counytries, agriculture still constitutes largest share of annual water demand. The desalination has been aggressively used to tackle the water shortage problems in all of the Gulf countries. Energy use in desalination is extremely high and consequently the Gulf countries are among the highest in greenhouse gas emitters on a per capita basis. In such conditions sustainable consumption and production (SDG 12) in water will be difficult to attain in the Gulf countries. The various aspects of water consumption and production has been discussed in this paper with Oman as a case study and potential sustainable management strategies have been articulated. Many efforts have been made in the past and many are currently underway in Oman to tackle the water shortage problems. The focus has been to increase the supply of water in the most efficient way for the various sectors. The various solutions discussed in this paper are overwhelmingly 'supply side' oriented. This in no way signifies that 'demand side' solutions are not feasible in Oman. These examples from Oman have the following attributes: decreased water footprint, increased water conservation, greater efficiency in water use and augmented reuse and recycling of wastewater and low quality water. The positive approaches with learnt experiences from Oman if replicated in other GCC countries will lead to sustainable consumption and production in the water sector in the Gulf.

A Sustainable Method of Production toward Food Security: A Case Study from Oman

Ahmed Al-Busaidi
Department of Soils, Water and Agricultural Engineering, Sultan Qaboos University
Oman
ahmed99@squ.edu.om

Mushtaque Ahmed, Ph.D.
Professor, Sultan Qaboos University
Oman
Email: ahmedm@squ.edu.om

Wenresti Gallardo
Department of Marine Science and Fisheries
College of Agricultural & Marine Sciences
Oman

Waad Al-Aghbari
Department of Soils
Water and Agricultural Engineering
Sultan Qaboos University
Oman

Yahya Al-Yahyaei
Department of Marine Science and Fisheries
College of Agricultural & Marine Sciences
Oman

Abstract:

In order to achieve Sustainable Development Goal (SDG) 12, Gulf countries need to look for innovative and sustainable production of food for local and expatriate population. Opportunity exists for method of food production using limited but highly treated wastewater. A change to fish and vegetable production using treated waste water will contribute to sustainable consumption and production (SCP) in the region. Therefore, the objective of the study was to evaluate the effect of treated wastewater on fish growth and later on the effect of the produced effluent coming from fish tank on grown crops. Nine tanks with dimensions of 80*40*40 cm were filled either with freshwater or a mixture of freshwater and treated waste water at (50:50 & 75:25 % ratios). Each tank was stocked 25 pieces of Tilapia with an initial body weight of 49 g. Each tank was connected with another tank of same dimensions that was used to grow lettuce and bean crops on the top layer. Water was circulating between two tanks. No fertilizer was added to all treatments and all tanks got similar amount of fish feed.

It was found that tanks with treated wastewater got higher values of dissolved oxygen due to algae growth and more salts content due to minerals added from treated waste water compared to fresh water alone. Therefore, lettuce and bean growth was much better and got higher values of chlorophyll content compared to control tanks. For heavy metal analysis, all waters got similar values but in some samples, the concentration of B, Cu, Mn and Zn were higher in treated waste water compared to fresh water and that was reflected in lettuce roots. For the edible part, lettuce grown in treated waste water got higher value of Fe and Ba compared to control. Similar concentrations were found with bean plants with higher values in treated waste water compared to freshwater. However, low concentrations of heavy metals were found in the edible parts of all treatments and it was within the international standards**.**

Fish analyses showed that all tested heavy metals were within the safe limit. However, applying this technique in the farming system will help the environment by utilizing treated waste water and reducing fertilizer applications. Moreover, farmer income will increase since both fish and crops will be produced with minimum resources.

Towards Successful Achievement of SDG Goal 12 in GCC Countries: Interventions towards Food Security and Water

Parita Shah
Department of Geography & Environmental Studies, University of Nairobi
Kenya
suryasuru@yahoo.co.uk

Abstract:

This paper indicates the financial strength of the Gulf Cooperation Council (GCC) countries through the mineral wealth but at the same time critically deals with the challenges of the changing trends in the Sustainable Consumption and Production (SCP) of food production and water in the GCC countries. This study shows the current scenario in terms of food security and water in the GCC countries whereby most countries are hyper arid areas and are physically water scarce. The purpose of this study is to provide a basis for sustainable future in the GCC countries on the SCP in various sectors namely food security and water. The future sustainable pattern of consumption and production is analyzed using the Sustainable Development Goals and the natural, physical, human, financial and the social capitals.

The Constitutions of the GCC Countries and Their Applicability to Enable Civil Society Organizations to Protect Production and Consumption

Omar Al Khataibeh
Center of Al - Khtaibeh Arbitration, Law and Training
Jordan
okhataibeh@yahoo.com

Malika Askal
Jordan
Malikaqueen1981@gmail.com

Abstract:

This study aims at shedding light on the constitutions of the Gulf Cooperation Council (GCC) countries (Saudi Arabia, Bahrain, United Arab Emirates, Sultanate of Oman, Qatar) to demonstrate the flexibility and the possibility of enabling civil society organizations in the GCC countries to maintain sustainability and the mechanisms of empowerment. The study will examine the legislation that emerged from the constitutional texts and the most important institutions of civil society in the GCC countries.This study will address the most important international standards in this regard and whether there is a possibility to implement the Paris Convention for Climate , and as stipulated by the two International

Covenants and their compatibility with the Gulf constitutions and their applications in the national legislation of the GCC countries.

One of the most important objectives of this paper is to study the texts of the constitutions and to investigate the texts that enable civil society. In other words, this paper will try to the answer the following question: Is civil society in light of these texts plays an effective role in the areas of consumption, production and sustainability? In addition, this paper will address the legislative and practical shortcomings, and the possibility of applying international instruments, the most important consequences of this, and what the institutions of civil society enough in this regard. Finally, how these institutions could be upgraded in the future to serve the development and sustainability of the GCC study.

Proposed Scenarios for Reduction of Household Energy Consumption as a Sustainable Way forward in Gulf Region

Mawahib Ahmed
Institute of Engineering Research and material Technology
National Center for Research
Sudan
ahmed.mawahib@gmail.com

Asia Adlan Mohamed
University of Khartoum
Sudan

Quosay A.Ahmed
University of Khartoum
Sudan

Abstract:

Energy contributed largely to climate change since it is a leading source of greenhouse gas emission.This necessitate formulation of an energy policy for each country concerning household energy consumption, including all types of energy consumed in households for cooking, heating, cooling, lighting, washing,…. Etc.. And all other activities that use electrical appliances.After Paris agreement many countries submitted their National Determined Contributions (NDCs) for adaptation and mitigation of climate change. Contribution in CO2 reduction (mitigation) is a challenge for Gulf countries as many other developing countries.Since Gulf region depends mainly on fossil fuel and energy consumption in the household is increasing annually, reducing household energy consumption could be a suitable solution for a sustainable way forward in Gulf countries.This paper will review the most likely applicable and suitable scenarios for reducing energy consumption in household by adopting energy efficiency and energy conservation technologies for example solar applications efficient appliances.Governments could take different initiatives to promote this, such as regulations, financial assistance and

incentive schemes.Public engagement is also important and could be done through different actions that results in consumer behavior change towards energy efficiency and energy conservation.The outcome of this review paper is expected to bridge the gap between researchers, climate change actors and policy makers and highlight the appropriate scenarios that help in decisions to achieve significant reduction in household energy consumption and NDC submission in the Gulf region.

An Innovative Hybrid Floating Power Station (HFPS) driven by Renewable Energy for Red Sea Coastal areas off Saudi border

Nadia Eshra
Nile Research Institute
Egypt
nadiaeshra@gmail.com

Islam Amin
Ocean and Marine Engineering Department
Strathclyde University
United Kingdom

Abstract:

Gulf countries have seen rapid economic growth and have become major energy consumers in their own right. Regional electricity consumption is growing at almost 8% a year, add new challenge to generate capacity has to be doubled every decade. To meet demand, Gulf countries will require to add power 100 GW over the next 10 years. The six GCC countries are in the top 14 per capita emitters of carbon dioxide in the world; renewables offer a financially viable way to improve environment. The Kingdom of Saudi Arabia (KSA) announced an ambitious strategy to diversify their economy from oil dependency in its 2030 vision. One of the goals of the vision is an initial target to produce 9.5 GW of electricity from renewable energy sources. Offshore wind source has advantages when compared with onshore wind, such as, higher wind speed, reduced turbulence, minimal visual and noise impacts. The Saudi coastal areas regions off Red Sea is noted to be one of the world's richest offshore wind potentials area. Many sites in this area has the best wind resource, with a mean power density, at 50 m height, in the range 300-800 W/m2, at mean wind speed of 6-10 m/s. Moreover, KSA which is located on the sun-belt, exposure to a huge amount of direct normal irradiation, on average 2200 kWh/m2 annually; this is considered one of the highest in the world. The present paper aims to develop an innovative solution to generate electricity using a modular HFPS located in RESGA. The proposed floating station will offer a mobility, sustainable energy source, grid-off and zero emission power source. Apply engineering principles and techniques to select the locations and design the hybrid floating station concept for the effective generation of clean, affordable and sustainable electricity from marine current, wind and solar sources. Conduct an analytical study for the morphological characteristics using GIS technique. Hydrodynamic

and morphodynamical studies performed to assess the wind and current flow stream speeds. Solar Radiation model applied to estimate the solar energy in selected site.

Sustainability and the practice of material consumption in the construction sector in Jordan

Maiss Razem
University of Cambridge
United Kingdom
Maissrazem@hotmail.com

Abstract:

The construction sector is considered a major consumer of materials that undergo processes of extraction, processing, transportation, and maintaining when used in buildings. Several metrics have been devised to capture the environmental impact of the materials consumed during construction that include Life Cycle Cost Analysis, material efficiencies, carbon footprint and many others. Rarely has the materiality of this sector been explored qualitatively and the sustainability claims analyzed. This paper aims to explore socio-cultural forces that drive the use of certain materials in the Jordanian construction industry, using practice theory as a heuristic method of analysis. Through the analysis of photos taken for residential building typologies in Jordan and by conducting semi-structured interviews with experts in the construction field, the results unravel an undercurrent of human motivations towards the selection and use of certain materials. The study highlights the inadequacy of using quantification and the designation of sustainable materials as the main roadmap to achieve a shift in the construction sector's material use and stresses the need to supplement the scientific inquiry of metrics with accounting for the economic, social, cultural, and aesthetic driving forces. Such comprehensive outlook of the practice of construction in its use of materials, competences, and meanings can offer policy makers and economists better nuanced representation to green this sector.

Identification of the Constraints Hampering the Sustainable Management of Sewage Sludge in Morocco

Abdessamad Ghacha
Faculty of Sciences and Techniques Tanger
Morocco
aghacha@onee.ma

M. Ammari
Faculty of Sciences and Techniques Tanger
Morocco

L. Ben Allal
Faculty of Sciences and Techniques Tanger
Morocco

Abstract:

In order to overcome the delays accumulated in the field of sanitation, the Moroccan Government approved The National Sanitation Program (Programme National d'Assainissement - PNA) in 2005. The PNA has the ambitious objectives of achieving a 60% treatment rate for collected wastewater and an 80% rate for connections to the sanitation network in urban areas by 2020.

The PNA concerns 260 urban centers (excluding private delegates) with total investment cost of 43 billion dirhams until 2020. To achieve PNA goals, all the stakeholders have intensified efforts. Indeed, up to the end of 2016, the PNA has achieved a connection rate in urban areas of 75% and a wastewater treatment rate of 45% instead of 7% in 2006 (DGCL 2017).

This remarkable development of sanitation in Morocco has inevitably led to the production of sludge generated from Waste Water Treatment Plants (WWTPs) in increasing quantities. Consequently, and since the initial version of the PNA did not include the sludge component, the problematic of sludge management becomes persistent and worrying.

After explaining the extent of the problematic of sludge management in Morocco, this work aims to identify the various constraints hampering the sustainable management of sludge generated from WWTPs and come up with recommendations for the managers.

To carry out our study, a methodological approach was defined based on the bibliographic research and the interviews and surveys with different stakeholders. In the context of improving by learning from best practices and seeking common solutions, a benchmarking with other countries has been realized as well.

As a result of this study, it became clear that the constraints hampering the sustainable management of sludge are numerous and complex and aren't just technical but also

regulatory, institutional-organizational and economic-financial nature. Therefore, Local authorities, government and academia ideally would be encouraged to participate in the decision making process regarding sewage sludge management. Technical solutions, when coupled with stakeholder participation, can lead to policy implementation with a higher chance of improving the present situation.

Islamic Finance and Social Impact in GCC Countries: A Framework of Measurement using VBI approach for Social Impact Matrix

Saadiah Mohamad
Universiti Teknologi MARA
Malaysia
saadiahmohamad@salam.uitm.edu.my

Ruhaini Muda
Universiti Teknologi MARA
Malaysia
ruhaini@salam.uitm.edu.my

Nur Amirah Borhan
Universiti Teknologi MARA
Malaysia
nuramirahborhan@yahoo.com

Abstract:

Despite rapid growth in Islamic Finance in the past decades, more recent data indicates what might be the beginning of a declining trend in the growth rate of Islamic banks. In addition, although the *maqasid al-shariah* is supposed to be the guiding principle, the industry is criticized as creating only minimal positive social and environmental impact. These developments signal that the industry needs to realign their focus beyond compliance, targeting towards more comprehensive value creation and value-based activities in ensuring sustainable business practices and long-term sustainable growth. It is also possible that the problem lies in not having a proper measurement tool that could reflect the different nature of Islamic finance, thus the positive spillover effects of the industry is not efficiently captured. Impact measurement has attracted substantial interests because using conventional performance standards that only measure economic and financial impacts would seriously undermine the positive impacts generated by investments to the social sector. In moving towards creating more positive impacts and value-based products and services, the Central Bank of Malaysia BNM has taken the initiative to promote the concept of Value-based Intermediation (VBI) as a new strategy in July 2017. Could the VBI framework be made a global standard or has banks in GCC have their own sustainability reporting framework? Banks in the GCC are already engaged in sustainability mission adopting established concepts such as the ESG and SRI. This study aims to fill the gap in the lack of comprehensive Islamic-based impact measurement by

proposing a Social Impact Matrix to identify and assess the impact generated from IFI's intermediation activities. The parameters and indicators of the matrix are based on the Value Based Intermediation (VBI) concept proposed by BNM. A case study using the proposed Social Impact Matrix to measure the contribution of an Islamic bank to social impact is applied on Abu Dhabi Islamic Bank, a leading Islamic bank in the UAE. This paper highlights the importance of having a clear global framework and measurement for social impact assessment for IFIs which should be supported and adopted by Islamic banks in the GCC. As the Gulf represents an important hub for global Islamic finance, the sustainability of the industry itself lies in the Gulf providing leadership in the sustainable consumption and production patterns of the Islamic finance industry.

Financial Inclusion for Sustainable Development: An Empirical Assessment of the Impact of Islamic Finance

Nur Amirah Borhan
Universiti Teknologi MARA
Malaysia
nuramirahborhan@yahoo.com

Saadiah Mohamad
Universiti Teknologi MARA
Malaysia
saadiahmohamad@salam.uitm.edu.my

Ruhaini Muda
Universiti Teknologi MARA
Malaysia
ruhaini@salam.uitm.edu.my

Abstract:

Although there has been improvement in financial inclusion levels around the world, the World Bank has reported that 1.7 billion adults worldwide still do not have a formal bank account, and nearly half of these are Muslims. Some key countries with the presence of Islamic finance are also lagging behind the global average level of financial inclusion. Meanwhile, the world has witnessed the significant growth of Islamic finance in the past three decades. To be true to its premise, Islamic finance should be able to make a difference in the global agenda on financial inclusion. However, there is limited empirical evidence to attest this claim, and a link between Islamic finance and financial inclusion has yet to be established. Therefore, this research aims to fill the gap by firstly constructing a multidimensional Financial Inclusion Index (*FII*) incorporating supply-side data. Secondly, this research aims to investigate the determinants of financial inclusion, particularly the influence of Islamic finance. Panel data of 24 OIC countries for the period of 2013-2017 is utilized in this study. The sample countries are grouped and separated by regions, with 5 GCC countries and 19 non-GCC countries. The methodology employed for

index construction follows a multidimensional approach similar to the UNDP methodology in constructing some well-known development indices such as the Human Development Index (HDI). Then, using panel data analysis (Fixed Effects Model), the study identifies the determinants of financial inclusion of the two groups of countries. This study contributes to the body of knowledge by providing empirical evidence on the relationship between Islamic finance and financial inclusion. Most importantly, since the link between Islamic finance and financial inclusion is established, this would provide motivation for policymakers to promote Islamic finance as an avenue for improving public usage and access to financial services.

The GCC countries policies and challenges to enable sustainable consumption and production

Osama D. Sweidan, Ph.D.
Department of Economics and Finance
United Arab Emirates University
United Arab Emirates
osweidan@uaeu.ac.ae

Abstract:

The paper seeks to identify the challenges and explore the policies that have been implemented in GCC countries to protect the environment and enable sustainable consumption and production. We employ the analytical approach and use the findings of the previous studies to cover the paper's subjects. We explore three areas: the institutional arrangements to protect the environment, economic diversification, and energy price reforms. The hydrocarbon sector is a significant source of income to the GCC countries and the main engine for economic development. Unfortunately, GCC economies have massive energy consumption and CO2 emissions per capita. Moreover, the prices of oil and gas are highly volatile which has an adverse influence on the government budget and economic development. Our review, evidence, and analysis show that the GCC countries' institutional actions were not enough to generate effective environmental protection. Further, the GCC countries remain strongly affected by the hydrocarbon sector, and the diversification achievements are weak. Moreover, there are many concerns about energy price reforms. Without a doubt, the GCC countries put great efforts to enhance economic development and increase public welfare. However, there are many challenges to perform the task. The central challenge is the role of the government in the GCC economies. The governments work under the concept of entrepreneurial state capitalist. It implies that the government controls all the sectors, including the private sector, to secure the regime.

Three Dimensions of Subjective Wellbeing, and Luxury Consumption, Sustainability

Necati Aydin
Alfaisal University
Saudi Arabia
naydin@alfaisal.edu

Yousef Aseafan
Alfaisal University
Saudi Arabia

Sabreen Eltahir
Alfaisal University
Saudi Arabia

Abstract:

Existing models of subjective wellbeing (SWB) are generally one-dimensional assuming that people pursue happiness in a similar way. We argue that it is more accurate to categorize people in terms of their objective function for subjective wellbeing to better understand the determinants and level of subjective wellbeing. Furthermore, we hypothesize that consumption decisions are correlated to subjective wellbeing models. In this study, we define subjective wellbeing in three distinctive models: Hedonic (pleasure seeking), Eudemonic (earthly meaning), and G-donic (spiritual meaning). In the hedonic SWB model, the objective is to maximize utility or pleasure through having (possession), doing (pleasant experience), or being (position). In the eudemonic model, the objective goes beyond seeking pleasure. It includes meaning as a second dimension in which consumers pursue meaning maximization through having, doing, and being in harmony with pleasure maximization. In the G-donic model, faith becomes multiplier affecting both derived utility and meaning for consumers. The spiritual meaning becomes the most important determinant of SWB. In this study, we designed a survey instrument to explore the impact of the three SWB models on consumer choices of engaging in luxury consumption in Saudi Arabia. The survey was used to first identify the dominant SWB model for consumers. Then, we conducted econometric analysis to find out the relationship between SWB models and luxury consumption. The survey was conducted online and randomly 239 individuals responded mainly from Saudi Arabia and other GCC countries.

Towards a Sustainable Framework for the Empowerment of Remote Communities through Education

Ramesh Nair
Accounting Research Institute, Universiti Teknologi MARA
Malaysia
rameshnair6789@gmail.com

Roshayani Arshad
Accounting Research Institute, Universiti Teknologi MARA
Malaysia
roshayani@uitm.edu.my

Ruhaini Muda
Universiti Teknologi MARA
Malaysia
ruhaini@salam.uitm.edu.my

Abstract :

A key sustainable development goal is to provide quality education. Everyone deserves access to an inclusive and equitable education system. While figures on global literacy rates and access to education show promise, children in many parts of the world, particularly girls and children in remote communities do not have equal access, and this leads to significant disparities between the rich and the poor, the urban and the rural communities. Malaysia is a nation that strives to provide inclusive and equitable education to its people; however, there are children in some of the most remote parts of the country that do not have access to mainstream education, that is, formal education provided to all Malaysian children through government-aided schools. In this paper, we report of a government-initiated programme that may serve as a sustainable framework for providing quality education to children in remote communities. The entire programme involved community engagement and partnership with Malaysia's aboriginal community to ensure their support for an early childhood education program in their villages. Tapping into funds made available by corporate entities, the programme provides the financial means for notfor-profit organizations to take on the task of providing quality education to Malaysia's aboriginal communities. Our presentation is based on a year-long study of the entire programme. We will reveal how remote communities in ten villages were empowered to take on the responsibility of providing mainstream education to their children, with relatively little strain on public funds. The presentation will focus on several challenges that were faced by the various stakeholders in relation to initiating a progressive training program and providing a support package of resources and materials for teaching and learning activities. We will also present the governing and mentoring structure that was developed for quality delivery of the early childhood program. Finally, we share a result-oriented assessment and reporting framework used to keep stakeholders informed as the programme progressed. Despite limitations and features of the programme that may be culturally unique to the Malaysian context, we contend that the programme can serve to

inform similar initiatives in gulf nations that aim to empower marginalized communities through education. This framework may contribute towards helping realise the SDG goal of ensuring that children have access to free primary and secondary education by 2030.