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## **Dynamism of Green Economy for Progressive Middle-East and GCC Countries**

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### **ABSTRACT**

The middle-east and GCC countries have a heavy reliance on energy-intensive sectors due to the comparative advantage of cheap energy. But recently GCC economies have been diversifying their industries to reduce their dependence on the traditional oil-backed economy to a green industry with a long-term sustainability. This study casts light on the dynamic transition towards a green economy in the Gulf region and its overall impact on the economic development of the region. The dataset referred in this study is secondary in nature which has been compiled from various sources like GCC Annual reports, IMF Report on GCC Industrial Diversification and some articles on the Middle-East and GCC. The time horizon considered for this study is of 20 years ranging from 2001 to 2020. The dynamism of Green Economy in the middle-East and GCC countries is analysed with a comparative assessment of Pre-Arab Spring and Post-Arab Spring periods in three aspects of Green Economy. The study has revealed that Industrial diversification with a less energy-reliant industrial base is a prominent strategy for ensuring a Green economy in the Gulf Region. Sectors such as Financial Sectors, Logistics, Tourism and Energy-efficient manufacturing are emerging in the Gulf Countries. The average investment in Green industries has improved significantly to \$77.6 billion post 2010 periods from the \$44.4 billion averaging over 2001 to 2010. The Non-Oil GDP growth post 2010 is averaging around 11% in GCC, as compared to the 6.8% average growth rate for the period over 2001 to 2010. Non-Oil sectors, especially Tourism has seen a boom in post-2010 period, triggering high growth in green sector. This trend shows a positive sign of green economic adoption in the Middle-East. With the industrial diversification and Green push in the GCC countries in Middle-East and GCC countries, per capita Income has risen with an average of \$18805 in the Post-Arab Spring period. The t-test also has brought out a significant improvement in the macroeconomic parameters post-2010. The study recommends that a greater private partnership in oil-based sectors should also be ensured all over the middle-east to add more green technology solutions to reduce the carbon footprints by the oil-based sector as adopted by the UAE. The green economic development and sustainable development agenda face a great danger due to lack of skilled labour and heavy reliance on the Labour outsourcing. An immediate need to localize skill base should be materialized to sustain the green progress in the GCC region. There is a necessity to convert the existing industrial components from energy-intensive to technology-intensive to lessen the dependence on gulf industries on hydrocarbon-based energy sources. Higher usage of renewable energy sources such as Solar, Wind power can help achieve the green economic goals in the GCC and middle-east region.

**Keywords:** Gulf Countries, Green Economy, Sustainable Development, Oil-based Industries, Non-Oil sectors, Arab Spring.

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## INTRODUCTION

Green Economy is a concept that has been in focus in recent times in the era of increased environmental awareness. Green economy stands for the economic activities that emphasis on the human well-being and social quality along with reducing environmental impact in terms of lower carbon emission and lesser resource utilization. The term is closely associated with the concept of sustainable development which takes notes of a holistic nature of development covering the social, economic and ecological aspects. A green economy runs on a sustainable development model which limits the usage of non-renewable natural resources and substitute with the renewable sources of inputs and energy. It leverages technology to lessen the intake of natural resources and diminish the environmental impact of the production. Not only the production side, a Green Economy also considers equitable distribution of output and income to bolster the human development in an economy. Green economy is the only balance framework that is capable of meeting the global demand in a sustained manner continuously over the long term.



Source: Internet

The Middle-East and GCC economies have been increasingly transitioning towards green economy especially after the Arab spring of 2010. In lines with the Sustainable Development Goal targets of 2030, several Gulf economies has rolled out their Green Economy frameworks. Saudi Arabia has unveiled a \$186 billion plan to transform it into a green economy and help the neighbourhood to step into the same. \$10.4 billion fund has been proposed by Saudi backing to reduce carbon footprint in middle-east region. The Middle-East Green initiative launched by Saudi Arabia envisions the largest afforestation drive in the region to reduce carbon footprints by 60%.



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In the similar lines, UAE has rolled out Climate Change Action Plan for 2017-25 to invest heavily in the Green sectors to expedite the renewable energy sector, green infrastructure building, energy-efficient technologies, reducing carbon footprints and climate change mitigation initiatives.

## **REVIEW OF LITERATURE**

**Beblawi (2011)** stated that the hydrocarbon-based sectors are expansive scale, capital-intensive and for the most part state-owned. On the other hand, the non-oil businesses, primarily steel, cement, aluminum businesses are little scale, labour-intensive and primarily private claimed. He iterated that the oil businesses can hardly survive after the depletion of oil. So, a more prominent attention ought to be given on the non-oil businesses that has a higher certainty with a sustained operability in the long term.

**Looney (1994)** surveyed the period 1973-93 and realised that the secondary industries performed ineffectively within the GCC nations as compared to other non-fossil-fuel-based nations within the Arabian Peninsula as well as the non-manufacturing divisions within the GCC locales. He stressed on a few basic accumulations within the mechanical approach definition and execution that avoided the production activities from developing up.

**Hvidt (2011)** centered on the basic changes that have really taken put some time ahead of 2008. He has uncovered that as it were but Qatar and Kuwait, other GCC nations have as of now been actualizing change activities. Be that as it may, he communicated the concern that the long mastery of open division in Inlet businesses isn't to be supplanted with the private segment so effortlessly and a considerable exertion is required in this course.

**Seznec (2011)** has given that the initiation of silver sector within the GCC locale can be marked at late seventies of last century. In any case, the story was distinctive from the foremost growing businesses overseas. GCC nations were incapable to pick purport substitution arrangement by applying purport tax on outside items. Since, they as of now had a well-established trade connection with their outside accomplices in terms of rough oil trade, a duty seemed to obstruct the connection. So, Middle-east firms grew within the confront of competition from the exceptionally starting with the assistance of overseas talent pool.



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## **RELEVANCE OF THE STUDY**

The middle-East and GCC regions has traditionally fuelled their economies with the hydrocarbon resources and oil-based industries. Due to the comparative advantage of cheap energy, they have a heavy reliance on energy-intensive sectors. However, such an economic model is unsustainable both in terms of uncertainty due to the depleting natural resources and an adverse environmental impact of carbon emissions by the oil-based industries.

In light of this situation, GCC economies are diversifying their industries to reduce their dependence on the traditional oil-backed economy to a green industry with a long-term sustainability.

This study casts light on the dynamic transition towards a green economy in the Gulf region and its overall impact on the economic development of the region.

## **OBJECTIVES OF THE STUDY**

1. To look into the nature of investment in green initiatives, such as renewable energy, energy efficiency and climate change mitigation on year-on-year basis.
2. To observe the growth pattern of non-oil sectors in GCC economies and examine the comparative share of Green industries to the nations' GDPs.
3. To understand the impact of green initiatives on the per capita income and overall development in the GCC region.

## **RESEARCH METHODOLOGY**

### **Nature and Source of Data:**

The dataset referred in this study is secondary in nature which has been compiled from various sources like GCC Annual reports, IMF Report on GCC Industrial Diversification and some articles on the Middle-East and GCC.

The time horizon considered for this study is of 20 years ranging from 2001 to 2020. The data on several macroeconomic parameters are used over the mentioned period for the 6 GCC countries on an average basis. The yearly data is further bifurcated into two time periods, i.e. Pre-Arab Spring period (2001-2010) and Post-Arab Spring Period (2011-2020).



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### **Research Tools & Techniques:**

The Statistical Software used for the research is the IBM SPSS version 26 and the data tabulation is done using MS-Excel.

The statistical techniques used for the research involves analysis of Mean and hypothesis testing using paired t-test.

- Mean value of the macroeconomic parameters of GCC countries are used to bring forth a comparison between the 2 periods.
- Paired t-test is employed to check whether the mean values of two periods are significantly different or not.

### **Research Hypothesis:**

Three Hypotheses have been formed for the purpose of analysing the research problem:

#### **Hypothesis 1:**

Null 1- No Significant difference in Green Investment before and after 2010

Alternate 1- Significant difference in Green Investment before and after 2010

#### **Hypothesis 2:**

Null 2- No Significant difference in Non-Oil GDP Growth before and after 2010

Alternate 2- Significant difference in Non-Oil GDP Growth before and after 2010

#### **Hypothesis 3:**

Null 3- No Significant difference in Per Capita Income before and after 2010

Alternate 3- Significant difference in Per Capita Income before and after 2010

### **ANALYSIS**

The dynamism of Green Economy in the middle-East and GCC countries is analysed with a comparative assessment of Pre-Arab Spring and Post-Arab Spring periods in three aspects of Green Economy.



## Green Investment

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Green_Investment_in_G CC_before_2010	44.40	10	16.794	5.311
	Green_Investment_in_G CC_after_2010	77.60	10	12.703	4.017

Industrial diversification with a less energy-reliant industrial base is a prominent strategy for ensuring a Green economy in the Gulf Region. Sectors such as Financial Sectors, Logistics, Tourism and Energy-efficient manufacturing are emerging in the Gulf Countries, especially in UAE. In 2015, UAE has adopted a Green Growth strategy to establish the country as a Global Business Hub and a pioneer of Sustainable Development Model.

As evident from the above table, the average investment in Green industries has improved significantly to \$77.6 billion post 2010 periods from the \$44.4 billion averaging over 2001 to 2010. UAE and Kuwait are the prominent members of GCC investing in the Green sectors. Other countries such as Saudi Arabia and Qatar are also seen leaning towards Green industries in the later part of the second decade of twenty-first century.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Green_Investment_in_G CC_before_2010 - Green_Investment_in_G CC_after_2010	-33.200	19.113	6.044	-46.872	-19.528	-5.493	9	.000

The t-test also comes out significant at 1% level, indicating that the Green Investment on an average has significantly increased in the Post-Arab Spring periods in GCC countries. This result compels us to accept the Alternative Hypothesis 1.

## 6.2 Non-Oil Sector Growth

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Non_Oil_GDP_Growth_b efore_2010	6.8000%	10	2.74064%	0.86667%
	Non_Oil_GDP_Growth_af ter_2010	10.9000%	10	1.79196%	0.56667%



The Non-Oil GDP growth post 2010 is averaging around 11% in GCC, as compared to the 6.8% average growth rate for the period over 2001 to 2010.

Non-Oil sectors, especially Tourism has seen a boom in post-2010 period, triggering high growth in green sector. This trend shows a positive sign of green economic adoption in the Middle-East.

		Paired Differences				t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower Upper			
Pair 1	Non_Oil_GDP_Growth_b efore_2010 - Non_Oil_GDP_Growth_af ter_2010	-4.10000%	3.28126%	1.03763%	-6.44727% -1.75273%	-3.951	9	.003

The t-test signifies the Non-Oil sector growth over the 2010 to 2020 periods at 1% significance level. With this, we accept our Alternative Hypothesis 2 that there is a significant difference in Non-Oil Growth Pre- and Post-Arab Spring Period.

### 6.3 Per Capita Income

		Mean	N	Std. Deviation	Std. Error Mean
		Pair 1	Per_Capita_Income_in_ GCC_before_2010	12809.70	10
	Per_Capita_Income_in_ GCC_after_2010	18805.80	10	5087.658	1608.859

With the industrial diversification and Green push in the GCC countries in Middle-East and GCC countries, per capita Income has risen with an average of \$18805 in the Post-Arab Spring period.

This rise in per capita income can be substantiated from the successful outcome of the economic diversification and green economic model implemented in UAE and other GCC economies after 2010-11.



		Paired Samples Test							
		Paired Differences			95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Per_Capita_Income_in_GCC_before_2010 - Per_Capita_Income_in_GCC_after_2010	-5996.100	6071.966	1920.124	-10339.722	-1652.478	-3.123	9	.012

This difference in per capita income pre and post Arab Spring period is also significant at 1% level from the paired t-test analysis. So, the Alternative Hypothesis 3 is accepted here.

## SUGGESTIONS & CONCLUSION

The gradual shift towards green economic activities and its substantial impact on the economic progress in the GCC region is clearly apprehended. However, there are a few suggestions for the GCC countries in this regard.

- Although the green economic activities flourish in GCC region with Private investment and ownership, there is a strong dominance of public enterprises in the oil-based industries. A greater private partnership in oil-based sectors should also be ensured all over the middle-east to add more green technology solutions to reduce the carbon footprints by the oil-based sector as adopted by the UAE.
- The green economic development and sustainable development agenda face a great danger due to lack of skilled labour and heavy reliance on the Labour outsourcing. An immediate need to localize skill base should be materialized to sustain the green progress in the GCC region.
- There is a necessity to convert the existing industrial components from energy-intensive to technology-intensive to lessen the dependence on gulf industries on hydrocarbon-based energy sources. Higher usage of renewable energy sources such as Solar, Wind power can help achieve the green economic goals in the GCC and middle-east region.

## REFERENCES

Davidson, C. M., 2005. The United Arab Emirates: A Study in Survival. Boulder, CO: Lynne Rienner.

Looney, R. E., 1994. Industrial Development and Diversification of the Arabian Gulf Economies. Greenwich, CT: JAI Press.



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Hvidt, M., 2011a. Economic and Institutional Reforms in the Arab Gulf Countries. *MiddleEast Journal*, 65 (1), pp. 85–102.

Hvidt, M., 2011b. Economic Reforms in the Arab Gulf Countries: Lip Service or Actual Implementation?, in M. Legrenzi and B. Momani (eds.), *Shifting Geo-Economic Power of the Gulf: Oil, Finance and Institutions*. Farnham: Ashgate, pp. 39–54.

Seznec, J.-F., 2011b. Introduction. In J.-F. Seznec and M. Kirk (eds.), *Industrialization in the Gulf: A Socioeconomic Revolution*. London: Center for Contemporary Arab Studies, Georgetown University/Routledge, pp. 1–14.

Shochat, S., 2008. *The Gulf Cooperation Council Economies. Diversification and Reform: An Introduction*. London: London School of Economics, Kuwait Programme on Development, Governance and Globalisation in the Gulf States.

Kubursi, A. A., 1984. *Oil, Industrialization and Development in the Arab Gulf States*. London: Croom Helm.

Beblawi, H. El, 2011. Gulf industrialization in perspective. In J.-F. Seznec and M. Kirk (Eds.), *Industrialization in the Gulf: A Socioeconomic Revolution*. London: Center for Contemporary Arab Studies, Georgetown University/Routledge, pp. 185–97.

Richards, A. and J. Waterbury, 2008. *A Political Economy of the Middle East*. Boulder, CO: Westview Press.

Legrenzi, M., 2008. Did the GCC Make a Difference? Institutional Realities and (Un)Intended Consequences, in C. Harders and M. Legrenzi (eds.), *Beyond Regionalism? Regional Cooperation, Regionalism and Regionalization in the Middle East*. Aldershot: Ashgate, pp. 107–24.

IMF Staff Discussion Note: Economic Diversification in the GCC: Past, Present, and Future Tim Callen, Reda Cherif, Fuad Hasanov, Amgad Hegazy, and Padamja Khandelwal