What Happened to Human Development after the Arab Spring? Analysis of the Middle-East Region

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Abstract

Lagging human development constitutes a major obstacle that prevents the Arab region from confronting the challenges of globalization. The Arab Spring that changed governments in Tunisia, Egypt, Libya and Yemen did inspire others to demand democratic rules. This paper examines how the region's per capita income, democracy level and petroleum revenue affected human development before and after the Arab Spring. Our analysis considers data from 21 Middle East economies drawn from a sample of 47 African and 39 Asian countries on two time points, viz., 2010 and 2013. Our results suggest a statistically significant and positive impact of both per capita GNI and democracy level in the HDI regressions. We subsequently include intercept and slope dummies in the regressions to capture any qualitative change in variable relationship after the Arab Spring in 16 nations. The significance of intercept dummy indicates that HDI during 2013 remained higher in the Arab Spring nations. The interaction dummies suggest that the impacts on HDI could run either from per capita GNI or petroleum rents.

Keywords: Human Development, Political Process, Institutions and Growth, Resource and Economic Development, Middle East, Cross-sectional Models.

JEL Classification: O15, D72, O43, Q32, O53, C21.

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1. Introduction:

The literature on interactions between economic growth and human development often raise an important question on the suitability of country's development strategies. The argument takes the view that economic growth may not be sufficient to generate progresses in human living conditions and the Arab world is commonly used as a fitting case in pointing this feature. In the context of the Arab world it is regularly stated that while surges in oil prices could promote the economic progress, the quality-of-life levels remained poor in a majority of countries in the region. The petroleum revenue although had helped many governments to finance their development projects, successive declines in the petroleum revenue due to oil price fall contained the pace of developments in these nations. According to the first regional HDR for the Arab world covering a total of 22 countries from the Maghreb to the Gulf, some states in this region did register progress in human development but economic inequality and joblessness also affected these countries more severely than any other developing region (UNDP 2002).

It is frequently argued that the Arab region failed to experience a transition to democracy and instead operated on the institutional bases that supported authoritarianism (Harik 1987, Bromley 1994, Kedourie1994, Norton1995, Brynen et al 1995, Owen 2004, Pratt 2006). The Arab Spring, which led to a series of political changes in the Middle East and North Africa (MENA), is observed by many as attempts to achieve political stability and economic development to impact on the lives of the people. The events, which were initiated in Algeria, Egypt, Jordan and Yemen, has largely been attributed to demands by people for reforming the government forms, institutions and processes that allow greater freedom, increased opportunity and equitable development. Although, the uprising at the commencement raised hopes that the region would be transformed with greater opportunities, it produced dissimilar results across the region. Some researchers maintain that the transition varies across countries and most of them have experienced deterioration in their development performances. For instance, Mulderig [2013] found that the missing education dimension and employment opportunity for the youth led to a more uncertain future after the uprisings. Similarly, Sanchez et al [2013] highlighted the importance of

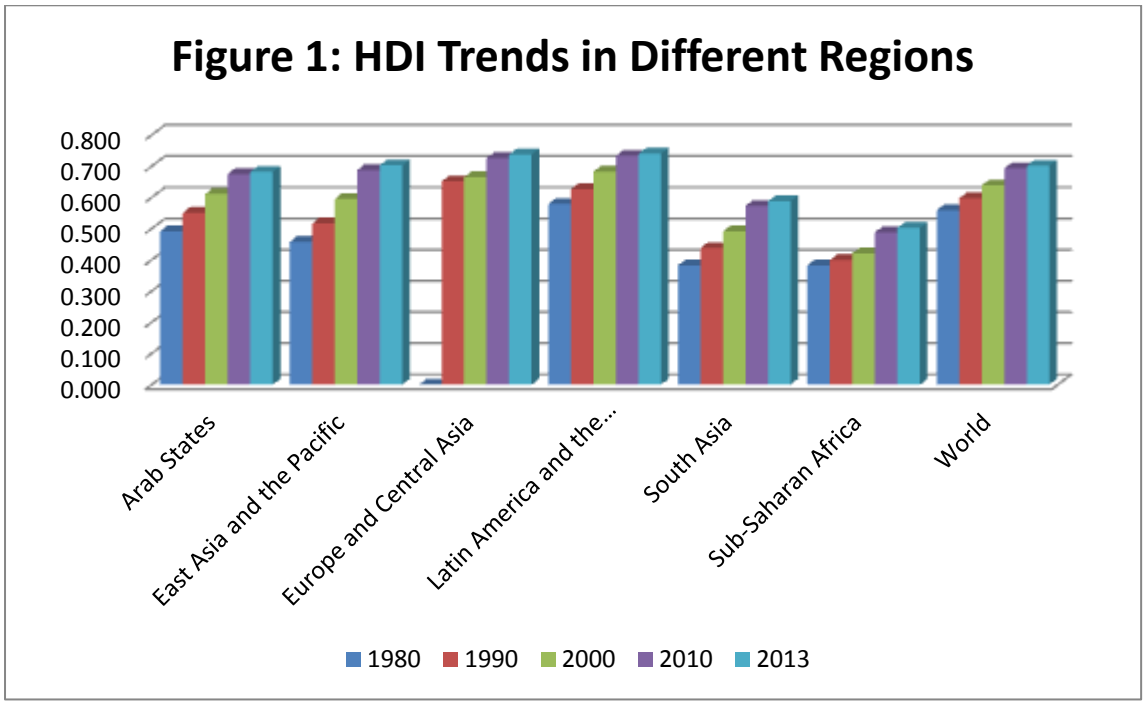
macroeconomic policies and investments in human development in order to generate employment creation, end poverty and overcome deep-rooted inequalities in the region.

A number of studies have earlier acknowledged the role of governance and democratic institutions in explaining the relatively poor development performances of the MENA region (Page and Van Gelder 2001, Nabli 2007, Makdisi et al 2007). In this background, this paper provides a statistical assessment of achievements made in human development after the uprisings in Arab world. The empirical analysis examines changes in human development due to the impacts of economic growth, democracy level, petroleum revenue and political changes before and after the Arab Spring. In order to focus on the period before and after the Arab Spring, we have estimated this relationship separately for the HDI data referring to two time-points, viz., 2010 and 2013. Subsequently we introduce dummy variables (intercept and slope dummies) in the 2013 sample to question whether the occurrence of 'Arab Spring' influenced the strength of the relationship involving HDI and explanatory variables. The plan for the rest of this paper is as follows. In section 2, we provide an account of human development achievements of the region. Section 3 focuses on the system of governance and democracy levels in the Arab world. Section 4 focuses on the literature that discusses the analytical connection involving natural resources and economic or social developments. We provide a brief account of the uprising and review its implications from available studies in section 5. The empirical examination is carried out in section 6. While the methodology and database are discussed in sub-section 6.1 and 6.2, respectively, sub-section 6.3 presents the results. Section 7 summarizes the results and implications of our findings.

2. Human Development in Arab World:

The HDI value for the Arab region remained lower than the world (average) throughout the period from 1980 to 2013 (Figure 1). The HDI for Arab States improved from 0.492 in 1980 to 0.682 in 2013, with an average annual growth rate of 1.14%, 1.05%, and 0.85%, recorded in between the time-period 1980-90, 1990-2000 and 2000-13, respectively. If we consider the human development achievements of recent years, then it can be seen from figure 1 that the Arab region has remained above the South Asia or the Sub-Saharan Africa on the indicator of overall HDI. However, the regional HDI has remained far from achieving the levels attained by the East-Asian and the Pacific region or Latin American and Caribbean nations. If we focus on the HDI trends over time, the

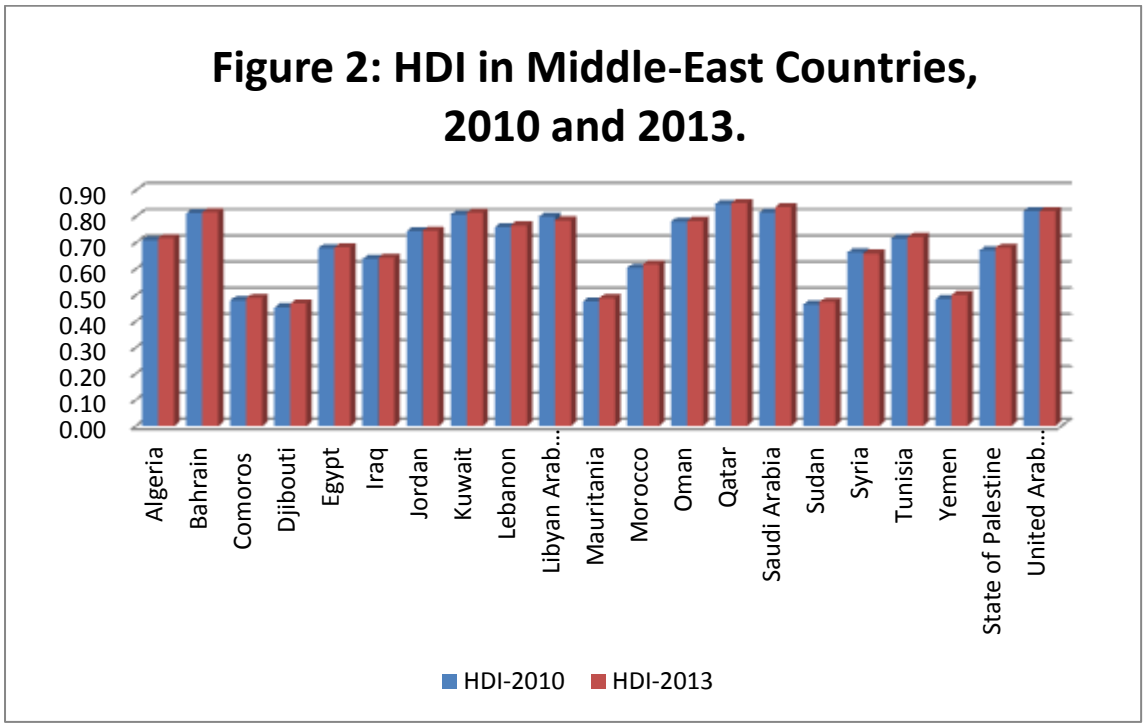
region did better than South Asia or sub-Saharan Africa in all the years between 1980 and 2013. On the other hand, the Arab states remained lower than the Latin American and Caribbean countries in terms of HDI scores over the years in between 1980 and 2013. The Arab region clearly remained above the East Asia and the Pacific region till 2000, but it started falling behind since 2008.



Inequality exists among economies of the Arab region in various development dimensions, viz., unequal growth, democracy levels, poverty and unemployment. The account of progress in human development for the Middle East countries between 2010 and 2013 is provided in Figure 2, which indicates that the HDI improved for all the countries between 2010 and 2013, except for Libyan Arab Jamahiriya for which a deterioration can be noticed. Figure 2 also points out that the HDI improvements remained high in Saudi Arabia, Yemen and Djibouti, whereas moderate improvements is noticed for Morocco, Mauritania, State of Palestine, Sudan, Comoros, Algeria, Kuwait, Lebanon and Tunisia.

The Arab countries also present a disparate representation of HDI achievements in the region. Salehi-Isfahani [2013] reviewed the state of human development in the MENA countries during the last four decades and concluded that regional characteristics, such as, income from oil exports, youth unemployment, low female work participation,

affect the standard human development measurement in these countries. Table 1 reveals that out of the 21 countries in our sample, only 5 countries (Qatar, Saudi Arabia, United Arab Emirates, Bahrain and Kuwait) are classified as very high human-development countries in 2013. It can be further observed that 6 countries (Libyan Arab Jamahiriya, Oman, Lebanon, Jordan, Tunisia and Algeria) belong to the high human development category, 5 countries (State of Palestine, Egypt, Syria, Iraq and Morocco) in the medium human development category and remaining 5 countries (Yemen, Comoros, Mauritania, Sudan and Djibouti) are in the low human development category. It is therefore argued that the range of inequality among Arab countries on the HDI is almost as wide as that observed in the entire world.



People's level of living and social development levels still remains disappointing due to the lack of freedom and women's empowerment in the Arab region. The role of basic services provision by the government also assumes importance for improving the HDI of the region mostly characterized by autocratic and monarchic regimes. The low levels of education, health and human development indicators in the region can also be explained by the wilful neglect of the colonial rulers in the Arab societies (Dunbar 2013). It is maintained that the early stages investments undertaken by most Arab governments on social services and the low initial values for HDI made the progress in human

development significant till 1990s. However, both improvements in human development and reductions in human poverty were least observed in the Arab LDCs after the 1990s. The Millennium Development Goal (MDG) targets present an appropriate framework to monitor development progress, and many countries of the region are also found to lag behind on MDG targets related to maternal mortality and access to safe water, under-five nutrition and mortality, adult illiteracy and access to sanitation (UNDP 2011).

Table 1: Levels of Human Development in Middle East Countries, 2013.

Low Human Development (< 0.55)	Yemen, Comoros, Mauritania, Sudan, Djibouti. ***(5 nations)***
Medium Human Development (< 0.70)	State of Palestine, Egypt, Syria, Iraq, Morocco. ***(5 nations)***
High Human Development (< 0.80)	Libyan Arab Jamahiriya, Oman, Lebanon, Jordan, Tunisia and Algeria. ***(6 Nations)***
Very High Human Development (Above 0.80)	Qatar, Saudi Arabia, United Arab Emirates, Bahrain and Kuwait. ***(5 Nations)***

Source: Derived from UNDP [2013].

Sánchez et al [2013] investigated the issue of financing human development in Africa, Asia and the Middle East and emphasised on restructuring the macroeconomic policies and increased investments in order to end poverty and inequalities in less developed countries of the Middle East. It is also argued that the pursuit of oil-led growth remained unstable due to the volatility in oil prices and resulted in weak structural foundations in most of the Arab economies. The per capita consumption expenditure in Arab countries did not rise in real terms to allow for any poverty reduction and moreover the income distribution did not show any signs of major improvement. On the contrary, the Arab region remained most vulnerable to increases in poverty as a result of shocks, such as rising food prices and economic recession. The defence expenditure has remained high in all the countries in the Middle East, resulting in lower rates of economic growth in the region (Looney 2013). The failure of job creation, high rates of unemployment of nearly 15% and lower work participation of the female labour force have remained a long-standing problem in the Arab world. Salehi-Isfahani [2012] argued that the earlier

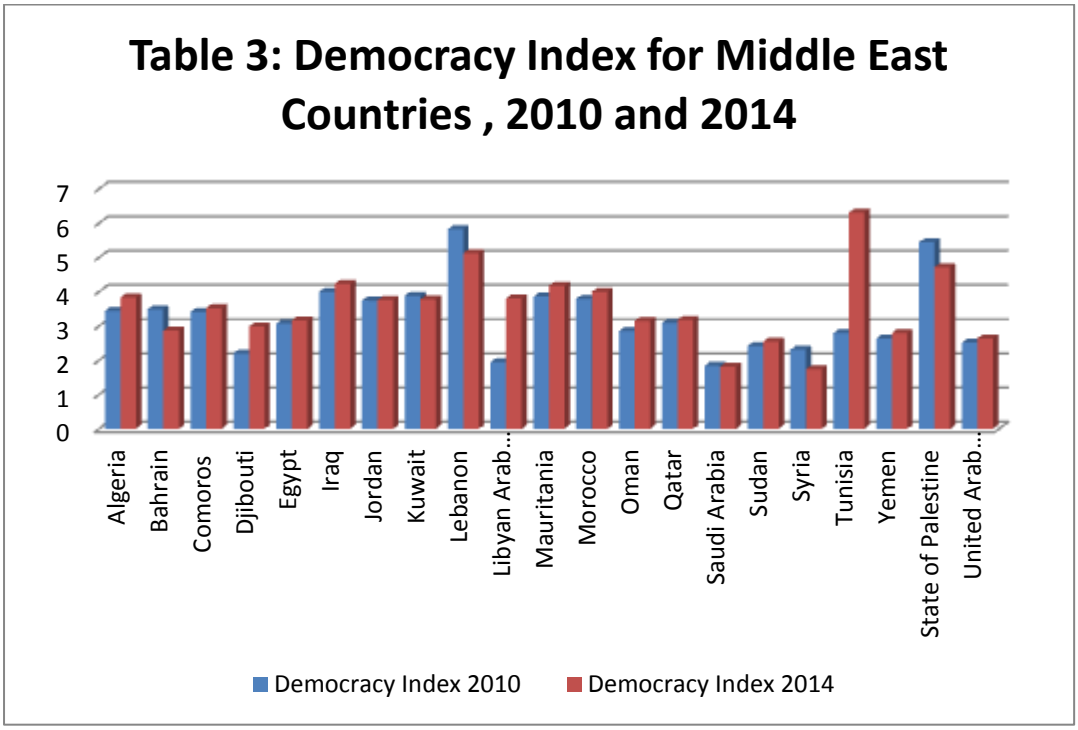
practice of linking formal schooling to government jobs has been failing in recent decades due to the shrinkage of public sector jobs and a rapidly rising youth population. These developments in the employment prospects have adversely affected the social and economic mobility of the Middle Eastern societies. As a result, the absorption of the new labour force in new jobs remains a real challenge of the region in the present day.

3. Democracy in Middle East:

The Middle East constitutes three major cultural groups, viz., Arab-Turkic-Persian and a large number of secondary groups that include Jewish, Kurds, Berbers and Assyrians (Ismael and Ismael 2011). In terms of population, a major portion lives in the countries of Egypt, Turkey and Iran that have a level of development similar to that of Asia or Latin America. Further, the oil dependency on the Middle East has resulted outside involvement in the affairs of the region. One has to look at several aspects to understand the political system and levels of democracy in the Middle-East nations, viz., the colonial legacy (the British and French colonial interests), the prevalence of monarchies that are dominated by a single political party, the variety of religious ideologies that reign over the region, the close relations between the state and military establishments and the international aspects. The military has remained responsible for playing a critical role in the implementation of domestic policy making, and the region evidenced conflicts like the Arab-Israel dispute or the war against Iraq as a consequence. Although, the building of nation remained a basic political challenge for the Middle-East in the post-World War II era, the governments often lacked the political, economic and social institutions since the political structures of many Middle-Eastern countries were imposed by outside powers rather than internally evolving out of the internal development processes. Further, the political systems of the Middle-East, which is inhibited by citizens of the Arab, Israeli, Turk and Persian, also faced a series of challenges brought on by the global political and economic changes. Thus, the direct or indirect outside involvement into the affairs of the region or an economic crisis have often created crises of legitimacy in distinguishing between the traditional and modern ideologies and development strategies.

The political analysis on the Middle East region has been focussing on the unexpected resilience of the authoritarian monarchs for a long time (Albrecht and Schlumberger 2004, Anderson 2009). The traditional or parliamentary forms of monarchies prevailing in the Middle-East and the autocratic governments generally ruled

without fair elections and political checks and balances. A number of authoritarian regimes described their rule as democratic even without any free and fair elections. In other cases, democracy characterized by electoral corruption of parties or the violation of rights to organize politically became the dominant ideological basis for legitimizing political power in the region. The states of the Middle-East were also confronting several major political challenges like generational changes in leaders and many governments were under pressure to implement policies that would improve economic performances in the competitive global economy.



By now, it is agreed that the anti-government protests that toppled the autocratic regimes in Tunisia and Egypt, voiced grievances not only against the identity factors of people, such as, religion, region, class or ethnicity; but also against income inequality, unemployment, corruption, inflation and inclusive participation or democracy. Whether this upheaval brought about subsequent changes in the democracy levels and political orders can be examined by using a Democracy Index.[1] Figure 3 reflects on the changes in

[1]The Economist Intelligence Unit's Democracy Index is based on 60 indicators that are grouped in 5 different categories, viz., electoral process and pluralism, civil liberties, functioning of government, political participation and political culture. The five category indices are then averaged to find the democracy index for a given country, which varies in the range of 1 to 10 for different countries.

the Democracy Index for Middle East countries between 2010 and 2014, where it is evident that 15 out of 21 countries recorded an improvement. On the contrary, 6 countries indicated deterioration in democracy levels between 2010 and 2014, which are Saudi Arabia, Kuwait, Syria, Bahrain, Lebanon and State of Palestine. The democracy level recorded highest deterioration in the State of Palestine, Lebanon, Bahrain and Syria, whereas moderate fall in democracy index was experienced in Kuwait and Saudi Arabia. On the other hand, the improvements in the democracy level remained highest in Tunisia and Libyan Arab Jamahiriya, while some significant improvements were noticed for Djibouti, Algeria, Mauritania, Oman, Iraq, Morocco, Yemen, Sudan, United Arab Emirates, Comoros, Egypt and Qatar. Thus, there are signs to suggest that democratization trends and greater governmental accountability within the monarchies of the Arab region are being noticed after the period of Arab Spring. Some analysts have argued that civil societies and religion-based organizations are keeping away from the influences and interventions of the political parties after the uprisings.

4. Oil Revenue and Development:

There exists a large body of literature that attempted to explain why natural resources could be bad for economic growth and development, popularly known as the theory of a natural resource curse. The idea that resource endowments are bad or the *resource curse* hypothesis, emerged following the first oil price shock of 1973, when crude oil prices increased significantly bearing implications for the oil revenues of the oil exporting countries. The hypothesis refers to the paradox that countries with an abundance of natural resources, e.g., minerals and fuels tend to have less economic growth and development outcomes in comparison to countries with fewer natural resources. This phenomenon can happen for different reasons, viz., decline in the competitiveness of other economic sectors, volatility of global commodity market swings, government mismanagement of resources or corrupt institutions. The resource curse may not be universal for all countries with an abundance of natural resources, but on average, economies with abundant natural resources have tended to grow more slowly than natural-resource-scarce economies.

The oil-rich Arab world has been a case towards depicting strong correlation between energy dependence and authoritarianism government structures in the sense that countries that derive majority of their export revenues from oil and natural gas are not

democracies. Although, there are some countries that have managed to use extractive resources for sustained growth and human development, the contribution of extractives sector for sustaining human development remains somewhat complex and ambiguous.[2] The growth literature has emphasized on the importance of investments in health and education for contributing towards development, but the resource revenues generally reduce incentives for the authoritarian governments to tax other productive activities or use the revenue for social expenditures. Similarly, it is argued that if the growth process improves the level and distribution of income in favour of the poor households, then their propensity to spend on food items, basic education such as school enrolment, and healthcare improves. On the contrary, the revenues from extractive resources usually generated wealth and power for the elites and regime supporters thereby causing inequalities of income. It is therefore commonly held that although extractive industries might make significant budgetary contributions to the nation, it might be the failure of governments to effectively deliver quality health, education and basic services equitably across the entire population.

5. The Arab Spring and After:

After the protest against decent work opportunities and corruption erupted in Tunisia in December 2010 that led to the ouster of the long-time President, a popular uprising of people emerged in the whole of Arab world. The movement called the *Sidi Bouzid Revolt* in the Arab region and the *Jasmine Revolution* elsewhere inspired uproar against the dictatorships and monarchies. The autocratic government in Egypt subsequently became the target of demonstrations and violent clashes between protesters and security forces escalated demanding greater democracy through constitutional changes and economic freedom through reforms. These events in Tunisia and Egypt have undoubtedly inspired the protesters elsewhere in the Arab world to take to the streets. It was realized that if the people's protests in these two countries could remove their long-time rulers, the same could be true for other regimes. Subsequently the events of Arab Spring occurred in Algeria, Djibouti, Egypt, Libyan Arab Jamahiriya, Mauritania, Morocco, Sudan, and

[2] For instance, Pineda and Rodriguez [2010] have argued that natural resources are possibly better for the human development, particularly the non-income elements of human development. They found that changes in human development from 1970 to 2005 are positively and significantly correlated with natural resource abundance.

Tunisia in Africa and Bahrain, Iraq, Jordan, Kuwait, Oman, Saudi Arabia, Syria and Yemen in Asia.

It is apparent that the uprising was not only driven by economic concerns like better work and living conditions but also demanded political reforms to limit the powers of monarchical rulers. Many reports have indicated that the coordination of protest was enabled by the modern communication devices, viz., internet and social networking sites such as 'Face book', 'Twitter' and 'You Tube'. By the help of these devices, people could exchange ideas, constitute communities and organize demonstrations much faster than they may have happened otherwise (Abood 2013). The internet had also allowed the individual and group expressions to go beyond the geographical boundaries. The ruling governments in many nations blocked the internet in an attempt to restrict the political mutinies. In Libya, the government had blocked 'Face book' and 'Twitter', whereas Iran banned all social networking websites and disconnected the internet as well as mobile telephones. It appears that the 18% of its internet population in Tunisia and 14% in Egypt did play a key role in their revolt by working as a forum for organization.

Some analysts have also pointed towards primacy of democracy in the context of the recent wave of political unrest that swept through North Africa and the Middle East. The countries in Africa came to political independence from colonial rules or control both later and more rapidly than other developing regions (Collier and Gunning 1999). Thus, an average independent African state had held sovereignty for lesser years as compared to the rest of the developing world. (N'Dulu 2007). Similarly, after a long period of stagnation, the Arabs marked their unprecedented revolutionary waves for a democratic struggle. It is emphasized that domestic institutions strengthen the social contract by responding to the social and economic grievances and thereby reduce the risks of conflict (Reiter and Stan 2006).

The previous colonial powers that controlled the Middle East through monarchs and rulers never developed any democratic institutions in the region. The political institutions are slowly emerging after years of autocratic rule and the uprising. Finally, given the multitude of young faces that was prominent in these anti-government protesters, it is also indicated that the youth are the ones that propelled the nation-wide pro-democracy protests. Improving the youth situation in the Arab world remains necessary for the economic and social development in the region. The inability of youth to access the opportunities of education, employment, and family formation led to massive resentment motivating youth to actively seek change within their country and

region. The financial cost of massive youth unemployment in the region is maintained to be high in terms of potential loss in GDP. If the countries in the region fail to address the issues of employable workforce in the future, they may become vulnerable to continued unrest even after the Arab Spring (Mulderig 2013).

6. Empirical Analysis:

The uprising and its outcomes in the MENA countries are mostly regarded with expectations because they suggested change to the decades old economic, political and social orders in the region. The main purpose of our empirical analysis is to determine whether there is any change in the impact of economic growth or democracy levels upon human development levels in these economies after the Arab Spring. Most of the previous research work has demonstrated a strong connection between per capita income and levels of human development in the cross-country framework. We have considered per capita GNI in constant USD as the main explanatory variable. Currently, the levels of per capita income varies widely across countries of the Middle-East, which includes some of the wealthiest economies (Qatar, Kuwait or United Arab Emirates) as well as countries that record the lowest per capita incomes in the region (Syria, Iraq or Yemen). It may be noted that the majority of the population is concentrated in countries of Egypt, Turkey and Iran, which remains as middle-income countries.

A major differentiating feature of Middle Eastern economies remains with regard to the role of oil extraction in some of the economies. According to Moghadam and Decker [2014], the Middle East region on economic considerations can be defined comprising of oil economies poor in other resources (Kuwait, Libya, Oman, Qatar, Saudi Arabia,` United Arab Emirates), mixed oil economies (Algeria, Iraq, Iran, Egypt, Tunisia, Syria), and non-oil economies (Israel, Jordan, Morocco, Turkey, Yemen). The oil-revenue had a major role in the development process of Middle-East during the 1970s and early 80s, but the decline in oil revenue experienced since late 1990s made the petroleum revenue insufficient to finance economic growth and infrastructure.

While democracy may be seen as a goal in itself, a more general argument for the importance of democracy would probably claim that political democracy improves the livelihoods of a country's citizens. Thus, democracy is believed to foster human development more fully than any feasible alternative (Dahl 1998). Thus, when it comes to analyzing the effects of democracy or democratization, it is generally argued that

democracy enhances the human development levels in a country (Muller 1989, Brown & Hunter 2004, Ghobarah, Huth and Russett 2004, Lake and Baum 2001, Welzel and Inglehart 2005, Tsai 2006 and Seth 2009). The logic of this argument rests on the presumption that since participation of the ordinary citizens in the government functioning is the maximum that makes them more accountable to the people; democracy serves as the appropriate mechanism for the government's redistribution measures.

6.1 Methodology:

The objective of our empirical analysis is to examine how the region's per capita income, democracy level due to political changes and petroleum revenue has affected its level of human development before and after the Arab Spring. We enquire on the impacts of the explanatory variables for the HDI level in the Africa, Asia and the combined sample of African and Asian nations. In order to focus on the period before and after the Arab Spring, we have estimated this relationship separately for the HDI data referring to two time periods, viz., 2010 and 2013 sample. Thus, we estimate three regression equations on the HDI and per capita income relationship separately on the 2010 and 2013 samples, as given in Equation (1). The three regressions that we estimate for each time period are as follows:

$$HDI = \alpha + \beta_1 PCGNI + \beta_2 DI + \beta_3 OR \quad (1)$$

where:

HDI = Human development index, 2010 and 2013

PCGNI = GNI per capita (PPP terms) in constant USD (PCGNI)

DI = Level of democracy captured by the Economic Intelligence Unit's Democracy Index

OR = Oil rent as percentage of GDP

Subsequently we introduce dummy variables in the 2013 sample to focus on the question whether the occurrence of 'Arab Spring' influenced the strength of the relationship involving HDI and explanatory variables. We estimate three regression equations on the HDI and per capita income relationship of the 2013 samples by including the intercept dummy variable (D)as given in Equation (2).The intercept dummy variable (D) representing the Arab Spring is included in the regression model to capture the qualitative change in the variable relationship after the uprising. The coefficient of (D) provides the difference in intercepts for the two regression lines involving countries without the uprising (D = 0) and countries with the uprising (D = 1).

$$HDI = \alpha + \beta_1 PCGNI + \beta_2 DI + \beta_3 OR + \gamma D \quad (2)$$

where:

D = Dummy (Arab Spring)

= 1, for Algeria, Djibouti, Egypt, Libyan Arab Jamahiriya, Mauritania, Morocco, Sudan, and Tunisia in Africa and Bahrain, Iraq, Jordan, Kuwait, Oman, Saudi Arabia, Syria and Yemen in Asia,

= 0, otherwise.

The inclusion of intercept dummy assumes parallel regressions across the two categories of nations to capture the influence of the quantitative explanatory variables in the model. But if the occurrence of Arab Spring dummy interacts with one or more of the quantitative explanatory variables, then the regression lines would not be parallel. To examine this aspect we subsequently include the possibility of changes in the slope of the variable relationship by including the interaction variables, which are the product of the dummy variable and each of the continuous explanatory variables in the model.

$$HDI = \alpha + \beta_1 PCGNI + \beta_2 DI + \beta_3 OR + \gamma D + \delta_1 D \times PCGNI + \delta_2 D \times DI + \delta_3 D \times OR \quad (3)$$

Thus, Equation (3) that includes the slope dummy variables in the regression model would analyse whether the impacts of explanatory variables on HDI differs across two categories of nations.

6.2 Data Base:

Considering the availability of comparable data, we have used a sample of 47 African and 39 Asian economies totalling the combined sample to 86 regional economies. The sample of nations that were considered for the analysis are: Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Dem. Republic, Côte d'Ivoire, Djibouti, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libyan Arab Jamahiriya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, South Africa, Sudan, Swaziland, Togo, Tunisia, Uganda and Zambia in the African region; and Afghanistan, Armenia, Azerbaijan, Bahrain, Bangladesh, Bhutan, China, Cyprus,

Georgia, India, Indonesia, Iran, Iraq, Israel, Japan, Jordan, Kazakhstan, Kuwait, Kyrgyz Republic, Laos, Lebanon, Malaysia, Nepal, Oman, Pakistan, Philippines, Qatar, Russia, Saudi Arabia, Singapore, Sri Lanka, Syria, Tajikistan, Thailand, Turkey, Turkmenistan, Uzbekistan, Viet Nam and Yemen from the Asian region.

The data on human development index and each of the explanatory variables, viz., per capita GNI in constant USD, democracy index and oil rent as percentage of GDP have been defined and sourced for the panel of 86 countries as follows. The HDI for the sample countries over two points of time before and after the *Arab Spring* has been gathered from UNDP (2011) and UNDP (2014). The per capita GNI (PPP terms) in constant USD (PCGNI) are arranged from the HDRO calculations of UNDP. The Democracy Index that is used in the analysis is an index compiled by the Economic Intelligence Unit of "The Economist", which measured the state of democracy in different nations during 2010 and 2014. This index is based on 60 indicators that are grouped in 5 different categories, viz., electoral process and pluralism, civil liberties, functioning of government, political participation and political culture. The five category indices are then averaged to find the democracy index for a given country, which varies in the range of 1 to 10 for different countries.[3] Finally, the oil rent as percentage of GDP defined as the difference between the value of crude oil production at world prices and total costs of production is accessed from the World Development Indicators (World Bank 2015).

6.3 Results:

The results of regression equation on the HDI relationship as par Equation (1) estimated on the basis of 2010 sample is reported in Table 2. The three regression equations are separately reported for the samples of African, Asian and combined sample of countries. The coefficients of the explanatory variable reveal correct signs for the functional relationships in the regression. We notice a statistically significant positive coefficient for per capita GNI to suggest a direct impact of economic growth on HDI. Although, the coefficient of per capita income GNI in the HDI regression bear the correct positive, it turns out to be small in magnitude. The coefficient of the democracy variable in the regression equation represents a statistically significant positive impact to indicate that

[3] On the basis of these indices, countries are also classified into 4 different regimes, viz. full democracies (index value of 8 to 10), flawed democracies (index value of 6 to 7.9), hybrid regimes (index value of 4 to 5.9) and authoritarian regimes (index value below 4).

rising levels of democracy have favourable impacts on the HDI scores. Finally, the impacts of petroleum rent on HDI scores turns out to be statistically regressive in the African nations, but although statistically non-significant positive in the Asian nations. The negative impact of petroleum rent on the HDI scores in the African nations represents the inequitable impacts for the African nations. However, we also notice that that the regression coefficient for the petroleum rent on HDI scores is statistically significant and positive in the combined sample of African and Asian nations. Finally, it may be noted that the democracy variable turns out to be the most important variable in the terms of magnitude. Table 2 provides the regression results of Equation (1) for the 2013 sample, and there is no major difference on the nature of impacts of the explanatory variables, except for the effect of petroleum rent on the HDI in the post Arab spring period.

Table 2: Regression Results of HDI-2010, (Sample: 47 African and 39 Asian Countries).

Dependent Variable → Explanatory Variables ↓	HDI in 47 African Countries	HDI in 39 Asian Countries	HDI in 86 African and Asian Countries
Intercept	0.05 (11.53) *	0.08 (12.50) *	0.06 (10.65) *
Per Capita GNI in Constant (2011) Prices in PPP Terms	0.00001 (6.76) *	0.000002 (4.16) *	0.000004 (5.88) *
Democracy Index	0.01 (2.16) *	0.02 (2.42) *	0.03 (3.62) *
Oil Rent (% of GDP)	-0.002 (-1.67) *	0.0008 (0.68)	0.001 (1.73) *
R-Squared	0.69	0.50	0.49
R-Bar-Squared	0.67	0.45	0.47
DW Statistic	1.96	1.77	1.74
F Statistic	31.45	12.02	26.36

Note: * indicate statistical significance at 10% level of significance.

It can be seen from Table 3 that while the influence of petroleum rent on HDI remained significantly negative in the African nations, the regression coefficient of the petroleum rent in the combined sample of African and Asian nations remained statistically insignificant.

Table 3: Regression Results of HDI-2013, (Sample: 47 African and 39 Asian Countries).

Dependent Variable → Explanatory Variables ↓	HDI in 47 African Countries	HDI in 39 Asian Countries	HDI in 86 African and Asian Countries
Intercept	0.05 (13.84) *	0.84 (13.89) *	0.05 (11.60) *
Per Capita GNI in Constant (2011) Prices in PPP Terms	0.00001 (7.83) *	0.000003 (4.36) *	0.000005 (6.35) *
Democracy Index	0.015 (2.57) *	0.01 (1.70) *	0.02 (3.69) *
Oil Rent (% of GDP)	-0.002 (-1.67) *	0.0003 (0.26)	0.002 (1.48)
R-Squared	0.79	0.48	0.51
R-Bar-Squared	0.78	0.44	0.50
DW Statistic	1.83	1.79	1.83
F Statistic	56.46	11.05	28.98

Note: * indicate statistical significance at 10% level of significance.

The results of regression equation on the HDI relationship that includes intercept dummy for the Arab Spring as par Equation (2) based on 2013 data is provided in Table 4. The inclusion of an intercept dummy variable (D) in the regression equation represents the constant vertical separation between the two regression lines, and may be interpreted as the expected change in the explanatory variables after the Arab Spring. It can be noticed that the intercept dummy turns out to be statistically significant in the African sample as well in the combined sample of African and Asian nations, but not individually in the Asian nations. The fact that the coefficient of Arab Spring dummy is significant statistically for the African sample, it means that there is a difference about how our explanatory variables impacted on the HDI between the countries with or without the uprising in the African nations only. It can also be noted that the overall performance of the equation has improved after the introduction of the intercept dummy in comparison to the regression without the dummy that was reported in Table 2. The significance of the intercept dummy indicates that HDI remained higher in Arab Spring nations in comparison to HDI in remaining regional nations after accounting for the influence of explanatory variables.

Table 4: Regression Results of HDI-2013 with Intercept Dummy, (Sample: 47 African and 39 Asian Countries).

Dependent Variable → Explanatory Variables ↓	HDI in 47 African Countries	HDI in 39 Asian Countries	HDI in 86 African and Asian Countries
Intercept	0.05 (13.55) *	0.08 (13.34) *	0.05 (11.09) *
Per Capita GNI in Constant (2011) Prices in PPP Terms	0.00001 (6.63) *	0.000003 (4.29) *	0.000005 (6.31) *
Democracy Index	0.02 (3.95) *	0.01 (1.67) *	0.03 (3.98) *
Oil Rent (% of GDP)	-0.0009 (-0.90)	0.0003 (0.25)	0.001 (1.99) *
$Dummy_{(Arab\ Spring)}$	0.07 (3.69) *	-0.001 (-0.03)	0.06 (1.91) *
R-Squared	0.84	0.49	0.53
R-Bar-Squared	0.83	0.43	0.51
DW Statistic	1.80	1.81	1.74
F Statistic	58.25	8.05	23.36

Note: * indicate statistical significance at 10% level of significance.

Finally, Table 5 reports the regression results of Equation (3) on the HDI relationship that includes both the intercept and slope dummies in the 2013 sample. The interaction dummies, which are the product of the intercept dummy and each of the continuous explanatory variables in the model, are particularly included in this regression equation to accommodate for changes in the slope of the relationship. It can be noticed that the presence of statistically significant positive regression coefficient for per capita GNI and democracy level remained intact in these regressions as well. As concerns the statistical significance of the slope dummy variables, the coefficient of slope dummy variables based on one-tailed *t-test* of significance level rejects the null hypothesis that it is zero for the per capita GNI in the African sample and oil rent in the Asian sample. On the other hand, the zero-mean hypothesis can be accepted for the democracy index variable in both the African and Asian sample. We therefore infer that the influence of per capita GNI on HDI remains higher in the Arab Spring nations of the African region. Similarly, the influence of petroleum rent on HDI remains lower higher in the Arab Spring nations of Asian region. It is important to note that there is no change in the

impacts of democracy level on the HDI for Arab Spring nations of either region. It can be observed that the coefficient of the slope dummy variable for democracy index bears a negative sign, although statistically insignificant, in all the samples. The failure of the democracy impacts on HDI after the uprising however casts serious doubt on any assertion that the Arab Spring contributed to HDI improvements after the Arab Spring.

Table 5: Regression Results of HDI-2013 with Intercept and Slope Dummy, (Sample: 47 African and 39 Asian Countries).

Dependent Variable → Explanatory Variables ↓	HDI in 47 African Countries	HDI in 39 Asian Countries	HDI in 86 African and Asian Countries
Intercept	0.04 (13.08) *	0.08 (10.17) *	0.05 (9.51) *
Per Capita GNI in Constant (2011) Prices in PPP Terms(PCGNI)	0.00001 (5.85) *	0.000002 (3.51) *	0.000005 (6.06) *
Democracy Index (DI)	0.02 (3.97) *	0.02 (2.44) *	0.03 (4.10) *
Oil Rent (% of GDP) (OR)	-0.0006 (-0.65)	0.003 (1.63)	0.002 (1.62)
$Dummy_{(Arab\ Spring)}$ (D)	0.04 (0.62)	0.13 (1.04)	0.16 (1.57)
$Dummy_{(Arab\ Spring)} \times$ PCGNI	0.00001 (1.78) *	0.000001 (0.92)	-0.000001 (-0.53)
$Dummy_{(Arab\ Spring)} \times$ DI	-0.01 (-0.52)	-0.02 (-0.70)	-0.01 (-0.66)
$Dummy_{(Arab\ Spring)} \times$ OR	-0.004 (-1.36)	-0.01 (-1.73) *	-0.001 (-0.65)
R-Squared	0.86	0.54	0.55
R-Bar-Squared	0.84	0.46	0.51
DW Statistic	1.77	1.74	1.84
F Statistic	34.65	5.35	13.68

Note: * indicate statistical significance at 10% level of significance.

7. Summary and Conclusions:

It is argued that the economic growth and industrialization process in the Arab world could not lead to any place for the region in the global production orders other than the petroleum (UNDP 2011). Further, the growth process has been marked by unbalanced achievements both within and between the Arab countries that has held back meaningful development cooperation in the region. The economic growth generating system remained responsible for the lack of adequate investments and creation of productive jobs for its people. On the contrary, the region's dependence on imports for most of its basic necessities has continued to grow. The rise in international and domestic food prices since 2007 has already placed a burden on the well-being of millions of the poor in several Arab countries. Therefore, this region is generally considered to have failed in transforming its oil-wealth into corresponding progresses in well-being. According to UNDP [2002], there still remain significant deficits in Arab countries with respect to specific well-being elements, such as, civil and political freedoms, women's status and access to knowledge.

By the end of February 2011, almost each country in the Arab world was experiencing massive protests and demands for political and social change. In the academic discussions today, questions are being raised whether the Arab uprisings that involved popular mobilization and political struggles have transformed the region into democracies with higher human development levels. The motivation of this paper was to provide an attempt in this direction, viz., to empirically examine how the region's per capita income, democracy level due to political changes and petroleum revenue has affected its level of human development before and after the Arab Spring. The analyses of HDI data for the year 2010 and 2013 indicate a wide variation in the HDI achievements within the Middle East region. The examination of democracy level data for the year 2010 and 2014 suggested that The Arab Spring and the regime change in Tunisia, Egypt and Libya put countries in this region on the paths of democratic transitions. Regression results on the HDI relationship revealed statistically significant functional relationships with per capita income and democracy levels. We subsequently include the intercept dummy variable in the regression to capture the qualitative change in the variable relationship after the Arab Spring. The significance of the intercept dummy indicates that HDI remained higher in Arab Spring nations in comparison to HDI in remaining regional nations after accounting for the influence of explanatory variables. Thus, the countries in

Arab Spring nations attained higher improvements in HDI scores even after accounting for differences in per capita GNI, democracy level or petroleum revenues. Finally, the slope dummy variables were introduced in the regression model to analyse whether the impacts of explanatory variables on HDI differs across two categories of nations. We find that HDI remained higher in the Arab Spring nations of the African region brought about by a higher positive impact of per capita GNI. Correspondingly, HDI remained lower due to a negative impact of petroleum rent in the Arab Spring nations of the Asian region. It is important to note that the interaction of dummy and democracy variable turned out to be statistically insignificant indicating that impacts of improvements in democratic functioning had little bearing on the HDI improvements after the Arab Spring.

The Arab world today remains left out from the global growth process, while the slow progress of human development prevents the region from confronting the challenges of globalization. It is understood that an important reason underlying the Arab uprisings remains the poor outcomes on the economic front as well as the failures of governance in the region. However, it cannot be said that large scale democratization or changes in government heads have happened in the whole region after the uprisings. In fact, Lynch [2014] maintains that the uprisings in the Middle East did not constitute revolution for the whole region nor did they refute the resilience of the authoritarian monarchs. Although, the monarchies in the past played crucial roles in the nation-building and state-formation in many of the Middle-Eastern economies, the current consensus of the people is on the economic reforms that helps betterment of the poor and not on raising the prosperity of the elite class. In the discussions that followed after the uprising, some analysts have emphasized on the human progress and therefore argued for the effective policies to transform material wealth into human welfare in the region. For instance, although the literacy achievements are happening in Arab countries, there still remain constraints to be resolved in regard of the gap between female-male literacy, adult literacy, disparate educational attainment in rural-urban areas, etc. In the same way, the Arab region still struggles with high unemployment rates among other developing regions. While there have been some improvements in the areas of female labour market participation and economic activities, the involvement of women in the society continues to be determined by religious and political organizations. Thus, the importance of good governance, establishment of institutions and meaningful economic reforms assume prime importance for the Arab world in coming years

Bibliography

Albrecht, H. and O. Schlumberger [2004]: Waiting for Godot: Regime Change without Democratization in the Middle East, *International Political Science Review,* 25 (4), pp. 371-92.

Abood, A. [2013]: Revolution in the Middle East: demands for Political, Social, and Economic Changes and the State's Repressive Response, in Abbas Khadim [Edited]: *op cit*.

Anderson, Lisa [2009]: Absolutism and the Resilience of Monarchy in the Middle East, in Laleh Khalili [Edt]: *Politics of the Modern Arab World, Volume I: State, Power and Political Economy,* Rutledge: London, 2009.

Angrist, M.P. [Edt] [2012]: *Politics and Society in the Contemporary Middle East*, Viva Books: New Delhi.

Bromley, S. [1994]: *Rethinking Middle-East Politics,* Policy Press: Cambridge.

Brown, D. S. and W. Hunter [2004]: Democracy and Human Capital Formation: Education Spending in Latin America, 1980-1997, *Comparative Political Studies, 37*(7), pp. 842-64.

Brynen, R, B. Korany and P. Noble [1995 Edt.]: *Political Liberalization and Democratization in the Arab World*, Vol. 1, Lynne Rienner Publishers: Boulder.

Bueno de Mesquita, Bruce; J.D. Morrow; R.M. Siverson and A. Smith [1999]: An Institutional Perspective of the Democratic Peace, *American Political Science Review,* Vol. 93, pp. 781-807.

Bueno de Mesquita, Bruce and H. Root [2004]: *Governing for Prosperity*, Yale University Press: New Haven.

Dahl, R. A. [1998]: *On Democracy,* Yale University Press: New Haven.

Deegan, H. [1996]: *Third Worlds: The Politics of the Middle East and Africa*, Rutledge: London.

Dunbar, C. [2013]: The Middle East Political Economy and the Arab Awakening: A Difficult Symbiosis, in Abbas Khadim [Edited]: *op cit*.

Fedderke, J. and R. Klitgaard [1998]: Economic Growth and Social indicators: An Explanatory Analysis, *Economic Development and Cultural Change*, 46 (3).

Gerner, D. J. and J. Schwedler [2004]: Trends and Prospects in D. J. Gerner and J. Schwedler [Edited]: *Understanding the Contemporary Middle East*, 2004, Lynne Rienner Publishers: London. 2004.

Ghobarah, H. A., P. Huth and B. Russett [2004]: Comparative Public Health: The Political Economy of Human Misery and Well-Being, *International Studies Quarterly,* 48(1), pp. 73-94.

Gregg, H. S. [2013]: The Prospect for Democratization in the Middle East, in Abbas Khadim [Edited]: *op cit*.

Harik, I. [1987]: The Origins of the Arab State System, in G. Salame [Edt.]: *The Foundations of the Arab State*, Croom Helm: London.

Ismael, T.Y. and J.S. Ismael [2011]: *Government and Politics of the Contemporary Middle East*, Rutledge: London.

Kedourie, E. [1994]: *Democracy and the Arab Political Culture*, Frank Cass: London.

Lake, D. A., M.A. Baum [2001]: The Invisible Hand of Democracy: Political Control and the Provision of Public Services, *Comparative Political Studies* 34(6), pp. 587-621.

Langohr, V. and A. Jamal [2013]: The Improvements of Women's Rights in the Arab World: The Importance of Governing Authorities, in Abbas Khadim [Edited]: *op cit*.

Looney, R.E. [2013]: Governance Constrained Growth in the MENA Region: in Abbas Khadim [Edited]*: Governance in the Middle East and North Africa: A Handbook,* Routledge: London, 2013.

Lust, E. [Edited] [2014]: *The Middle East*, 13th Edition, Sage: Los Angeles.

Lynch, M. [2014]: Conclusions, in Marc Lynch [Edited]: *The Arab Uprisings Explained,* Columbia University Press: New York, 2014.

Makdisi, S, Z. Fattah and I. Limam [2010]: Determinants of Growth in the MENA Countries, in J. B. Nugent and H. Pesran [Edited]: *Explaining Growth in the Middle East*, Elsevier: Amsterdam, 2010.

Milton-Edwards, B [2011]: *Contemporary Politics in the Middle East*, 3rd Edition, Polity Press: Malden.

Muller, E. N. [1989]: Democracy and Income Inequality, *American Sociological Review,* 54 (5), pp. 868-71.

Nabli, M. K. [2007]: Breaking the Barriers to Higher Economic Growth: Better Governance and Deeper Reforms in the Middle East and North Africa, World Bank: Washington D. C.

Ndulu, B. [2007]: Challenges of African Growth, World Bank; Washington D.C.

Norton, A.R. [1995 Edt.]: *Civil Society in the Middle East,* Vol. 1 and 2, E.J. Brill: Leiden.

Owen, R. [2004]: *The Middle East in the World Economy, 1800-1914*, Methuen: New York.

Page, J. and L. Van Gelder [2001]: Missing Links: Institutional Capability, Policy Reform and Growth in the Middle East and North Africa, in Hassan Hakimian and Ziba Moshaver [Edited]: *The State an Global Change: The Political Economy of Transition in the Middle East and North Africa*, Curzon Press: Surrey, 2009.

Pineda, J. and F. Rodriguez [2010]: Curse or Blessing: Natural Resources and Human Development, *Human Development Research Paper 2010/04*, UNDP.

Pratt, Nicola [2006]: *Democracy and Authoritarianism in the Arab World*, Lynne Rienner Publishers: Boulder.

Przeworski, A., M.E. Alvarez, J. Cheibub and F. Limongi [2000]: *Democracy and Development*, Cambridge University Press: Cambridge.
Salehi-Isfahani, D. [2012]: Education, Jobs, and Equity in the Middle East and North Africa, *Comparative Economic Studies*, 54(4), pp. 843-861.

Salehi-Isfahani, D [2013]: Rethinking Human Development in the Middle East and North Africa: The Missing Dimensions, *Journal of Human Development and Capabilities*, 14(3), pp. 341-370.

Sánchez, M. V, Rob Vos, K. Inoue and D. Kabulova [2013]: Financing Options and Challenges to Achieve the Millennium Development Goals in Africa, Asia and the Middle East, in Rob Vos and M.V. Sanchez [Edited]: Financing Human Development in Africa, Asia and the Middle East, Bloomsbury Publishing: London, 2013.

Seth, Suman [2009]: Inequality, Interactions, and Human Development, *Journal of Human Development and Capabilities*, 10 (3), pp. 375-396.
Tsai, Ming-Chang [2006]: Does Political Democracy Enhance Human Development in Developing Countries, *American Journal of Economics and Sociology*, 65 (2), pp. 233-268.

United Nations Development Programme [2002]: *The Arab Human Development Report, 2002*, Arab Fund for Economic and Social Development, Regional Bureau for Arab States, UNDP: New York.

United Nations Development Programme [2011]: *Arab Development Challenges Report, 2011, UNDP Regional Center for Arab States: Cairo.* Oxford University Press for UNDP: New York.

Welzel, C. and R. Inglehart [2005]: Democratization as the Growth of Freedom: The Human Development Perspective, *Japanese Journal of Political Science*, 6 (3), pp. 313-343.