

1 Environmental Degradation, Climate Uncertainties and Human Vulnerabilities: Realm of Possible Actions toward a Shifting Security Paradigm in the Arab Gulf Monarchies

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1.1 Introduction

In view of the expected persistence and resilience of the driving forces of human-induced climate change, it is generally acknowledged that even a far-reaching global mitigation effort will need to be complemented by national proactive actions towards adapting to cope with the impacts of future climate uncertainty and its imminent threat to human security. There seems to be a consensus among social scientists that without tenacious preventive measures, prolonged environmental degradation along with climate change will overstretch many societies' adaptive capacities, which may result in internal destabilization processes with diffuse conflict structures.

Particularly in the water-scarce Gulf Arab rentier economies, which have been pursuing inefficient resource allocation combined with an unprecedented population growth rate and disputed economic diversification as well as development pathways, meeting these challenges will require policies and significant societal transformations that have the potential to strike at the heart of the social contract and the redistributive mechanisms that bind state and society in this political environment. With often highly politicized data manipulation and in the absence of reliable assessments, there is a considerable need for additional interdisciplinary research on the ways environmental degradation and climate change might undermine human security in these oil economies. Thus far the level of understanding of people's vulnerability as well as their own perception of this situation are both still insufficient for the purposes of designing effective response strategies. While achieving human security¹ involves resources, ability, and rights to adapt, the deficient performance in governance continuously afflicting the region, especially in the 'voice and accountability' component, will certainly not be condu-

cive to encouraging an open dialogue to confront such sensitive security scenarios or to adopt the urgently needed 'no regrets' policy. Nevertheless, to identify possible spaces for interventions and improve governance a much deeper understanding is required of the way societies operate and the way decisions are made, instead of continuously assuming that our Western-derived standards of conduct be adopted in non-Western politico-cultural contexts.

This chapter will attempt to take a holistic and critical view by showing the multiple effects that further environmental degradation, resource depletion, and climate uncertainties will have in respect of future human security in the region, and will outline their limited adaptation capacities in the absence of an informed and enabled society. Comparative cases will be drawn from Saudi Arabia, Bahrain, and the United Arab Emirates (UAE) to illustrate some of the outstanding differences and to show that each Gulf country needs to be assessed separately. Conclusions will highlight the fact that, while the Arab oil monarchies

1 This chapter applies the broad definition of human security which has been used by the *Arab Human Development Report* (AHDR), 2009: *Challenges to Human Security in Arab Countries*. It defines the concept as "the liberation of human beings from those intense, extensive, prolonged, and comprehensive threats to which their lives and freedom are vulnerable". (UNDP/RBAS 2009: 17) Acknowledging that this concept must be dynamic, this chapter views human security as a precondition for the achievement as well as the safeguarding of state and national security. A comprehensive overview of the global discourse on the reconceptualization of security can be found in the three volumes of the *Global Environmental and Human Security Handbook for the Anthropocene* (Brauch/Oswald Spring/Mesjasz et al. 2008; Brauch/Oswald Spring/Grin et al. 2009; Brauch/Oswald Spring/Mesjasz et al. 2011).

Figure 1.1: Countries of the Gulf Cooperation Council. **Source:** GCC Network for Drylands Research and Development (NDRD).



urgently need to include these new threats in their regional security discourse, their realm of possible actions may already be trapped in a vicious circle, and most apparently well-meant suggestions will trigger a further cascade of negative effects, will take too long, or will simply be unrealistic in some of the Gulf economies.

1.2 Thematic Rationale

There is evidence that the existing progressive resource degradation in the *Gulf Cooperation Council* (GCC) member states² will not only have severe

socio-economic and environmental consequences, but will be further intensified by climate uncertainties (see chap. 19 by Kumetat).

Alongside extreme scarcity³ (UNDP/RBAS 2009: 39), prolonged water extraction, production, as well as utilization, particularly in the municipal, industrial, and highly subsidized agricultural sectors has led not only to severe groundwater depletion in both quantity and quality, but also to soil and water salinization, thermal and chemical pollution (Al-Zubari 2009: 5; Dawoud 2007: 14; Walters/Kadragic/Walters 2006: 85; Al-Kolibi 2002: 225), loss of habitat and biological diversity, declining productivity, and irreversible ecosystem degradation such as topical destruction of

2 The *Gulf Cooperation Council* (GCC) is a 'loose' political and economic alliance formed in 1981 with the main objective of confronting their security challenges collectively and strengthening cooperation. Its members include Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates (UAE).

3 Four GCC member states are rated among the 10 most water-scarce countries in the world. Kuwait (10 m³ p.a.), the UAE (58 m³ p.a.), Qatar (94 m³ p.a.), and Saudi Arabia (118 m³ p.a.) rank as the first, third, fifth, and eighth water-deficient countries respectively.

rangeland vegetation through prolonged processes of desertification (UNEP 2006: 75; Brown/Peacock/Loughland et al. 2006: 92; Erskine/Moustafa/Osman et al. 2004: 1; Al-Awadhi/Misak/Omar et al. 2003: 107). Projections indicate novel 21st-century climates for the eastern Arabian Peninsula (Williams/ Jackson/ Kutzbach 2007: 5739) and along with global climate uncertainties will come enormously increased risks of water scarcity and contamination, species extinction, rise in sea level, extreme weather events, aggregate impacts, and risk of large-scale discontinuities (Kotwicky/Al-Sulaimani 2009: 306). There is widespread consensus among academics that anthropogenic causes of global and regional environmental change are determined by population growth, demographic shifts, economic and technological development, cultural forces, values and beliefs, institutions, and governance structures, as well as by the interactions between all these underlying driving factors (Nelson/Bennett/Berhe et al. 2006: 2; MA 2005: 74).⁴ Understanding these mechanisms and conditions, including both past and possible future evolution, is a prerequisite for developing successful mitigation as well as viable adaptation policies that will reach their stated objectives.⁵ The challenge entails linking a broad range of actors in a variety of combinations to deal with the interrelated dynamics in a context of uncertainty (Folke/Hahn/Olsson et al. 2005: 462). Since the effects of climate uncertainties on societies and states will be mediated through existing economic, social, and political systems, an assessment of the status quo in the Gulf monarchies becomes even more essential.⁶

Policies that implicitly subsidize or even endorse an environmentally irresponsible and destructive use of resources still pervade the GCC (Russell 2009: 96; Elhadj 2006: 190), while any sustainable progress of note faces formidable political, socio-cultural, and institutional constraints on the necessary far-reaching and multi-sectoral approach to adaptation (ESCWA

2006: 9).⁷ However, adaptation will not only depend upon the capacity of systems to adapt (Adger/Agrawala/Mirza et al. 2007: 733), but also on the recognition of the need (Burton/Diringer/Smith 2002: 155) or intent of the leadership to deploy adaptive capacity to reduce vulnerability (Adger/Vincent 2005: 403).

From a security perspective, climate change should be discussed in terms of both human security and the established field of security studies, and it should be emphasized that the probable associations between climate change and security are indirect and highly contingent on the future political decisions of Gulf regimes. The literature concerned with human security, however, tends to be dismissive of the traditional security concepts of geopolitics and nation-state and lays stress on the need to confront and resolve the challenges created by the changing nature of state systems rather than, for instance, on internal tensions, power balancing, and armed conflict. In respect of the Gulf economies, such an approach can be misleading and potentially dangerous, since the effects of climate change have the potential to exacerbate existing problems of instability. The new emerging security threats in the Gulf economies will therefore be directly and indirectly intensified by future developments in the entire Middle East region.⁸ Similarly, the solution to the problems of climate change will create novel challenges in the field of national and international security.

1.3 From 'Elusive' Development to a Shifting Security Paradigm

Mapping out the socio-political and economic variables can reveal something useful about the prospects for environmentally conscious reform in the Gulf. The first step in this process would be to demystify the false perception of political reform and develop-

4 For a comprehensive overview of what the *Millennium Ecosystem Assessment* (MA) calls "indirect and direct drivers" please refer to Nelson, Bennett, Berhe et al. (2006).

5 A portfolio of strategies that represent the most successful methods for overcoming or circumventing the obstacles facing efforts to build knowledge in this area has been provided by Young, Lambin, Alcock et al. (2006).

6 Likewise, the need to conduct additional studies and develop scenarios for the Arabian peninsula was recognized by Maas and Tänzler (2009: 16) in their recent synopsis.

7 Besides multiplication, overlap, and the low level of integration of various state agencies, there is an absence of effective coordination and participatory decision-making processes, as well as dysfunctional legal frameworks, short-sighted planning, extremely low monitoring and data-gathering compliance, inefficient national research strategies, and inadequate capacity building and enabling of society.

8 These have been conscientiously listed by Oli Brown and Alec Crawford (2009) in their study on *Climate change and the risk of violent conflict in the Middle East*.

ment in this context. Contemporary discourse on democratic transformation in the Gulf monarchies often lacks a critical assessment of the kind of progress that is taking place on the ground, whereas the process of development is overshadowed by highly politicized data manipulation and the contested reliance on human development indicators. Conversely, per capita income, life expectancy, and education do not produce an adequate indication of a society's progress or of whether this development is simply 'elusive'. If education is a question of "quantity not quality" (Lord 2008: 8; World Bank 2008: 176), 'life expectancy' merely a consequence of procured foreign skills, and finally 'per capita income' certainly not an adequate reflection of equity and freedom, the perception that comes with high-ranking development indicators should urgently be reconsidered. The distinguished éminence grise Arab economist, Sayigh, showed as early as 1991 that development cannot be bought, and warned that it must instead be soundly oriented and sought with tenacity by the society's leadership and by a people enjoying a large measure of freedom and political participation (Sayigh 1991: 148, 225). This is even more imperative when the ability to generate adaptive capacity to cope with climate change is associated with levels of national development, including political stability, economic well-being, human and social capital, and effective institutional and regulatory frameworks (Stern 2007: 488-489). When exploring how the people-centred human security approach affects the way we should think about key challenges, we should not forget that the United Arab Emirates, despite the glittering façade often associated with them, cannot sustain themselves without foreign help⁹ (Ali 2010: 166), while both Bahrain and Saudi Arabia have reached a development level that not only shows "islands of excellence" (Niblock 2007: 225), but has also produced a national human agency that is often underestimated by foreign analysts.¹⁰ Presuming that the overall adaptive capacity can be increased by en-

hancing the ability of both individuals and organizations to withstand and recover from negative climate impacts or shocks to the system (Lemos/Boyd/Tompkins et al. 2007: 1), such an endeavour eventually requires broad-based interaction with and participation by various stakeholders in the planning and implementation of the policy.¹¹

Furthermore, the GCC states are not as homogeneous as is often claimed in scholarly work; on the contrary, they have wide-ranging socio-economic and demographic conditions impacting on their development. Saudi Arabia is, besides being a G20 member, one of the largest countries in the world, covering an area approximately the size of western Europe. The current estimated population of 28.7 million¹² includes 5.5 million or roughly 19 per cent resident foreigners (PRB 2009: 8); whereas the archipelago of Bahrain, located off the eastern coast of Saudi Arabia, is one of the smallest countries, covering 665 km² (257 sq mi), approximately four times the size of Washington, DC and making the country smaller than the nearby King Fahd International Airport.¹³ Out of Bahrain's estimated 1.2 million inhabitants, 49 per cent are foreign nationals, while the UAE has an estimated population of 6.7 million, consisting of roughly 85 per cent expatriates.¹⁴ According to the *Population Reference Bureau* (PRB) the projected population in-

9 The private sector in the UAE is staffed by 99.6 per cent foreign labour, while the public sector hosts 90 per cent expatriates (Ali 2010: 166). Given the theoretical scenario that all foreign nationals left (from south-east Asian workers to foreign experts), the country would fall into archaic disarray.

10 This aspect becomes relevant when scholarly work is not limited to detached desktop research, but has the objective of establishing a science-policy interface that will increase response capacity, encourage proactive adaptation, and mitigate environmental change in the region.

11 For an overview of the different approaches and definitions of concepts see the editorial by Janssen and Ostrom (2006).

12 By contrast, the *World Factbook 2010* published by the *Central Intelligence Agency* (CIA) presents a population based on July 2010 estimates of 29.21 million (which includes 5,576,076 non-nationals) for Saudi Arabia (CIA 2010).

13 Located north-west of Dammam (Saudi Arabia) King Fahd International is at 780 km² the world's largest airport in terms of land area - a subtle "superlative" that did not receive adequate branding - archetypal for the clandestine kingdom that prefers not to reveal its secrets to foreigners. By contrast, the United States Department of State Bureau of Near Eastern Affairs (2010a) gives Bahrain an area of 727 km² (274 sq. mi.), possible as a result of aggressive land reclamation

14 The figures are based on estimates from *Population Reference Bureau* (PRB); United States Department of State Bureau of Near Eastern Affairs (2010a, 2010b, 2010c) (esp. for Bahrain); and the *CIA World Fact Book*. By contrast, based on the 1 July 2009 estimate by the *United Nations Department of Economic and Social Affairs* (UNDESA), Population Division Department (2009) the estimated population figures are as follows: 25.7 m for Saudi Arabia, 791,000 for Bahrain, 4.6 m for the UAE. See UNDESA (2009).

crease between 2009 and 2050 will be 74 per cent for Saudi Arabia, 61 per cent for Bahrain, and 79 per cent for the UAE (PRB 2009: 7,8).¹⁵ When comparing the GDP at *purchasing power parity* (PPP) per capita, the UAE leads with US\$39,900, followed by Bahrain with US\$37,300, and Saudi Arabia with US\$20,500.¹⁶ To conclude, the Saudi economy is far bigger than any other in the GCC, producing 55 per cent of the region's total GDP (IEA 2009: 75). The scale of the economy, the physical range, and different demographics should all be taken into account when comparing Saudi Arabia with the rest of the Gulf monarchies.

The prevalent characteristics of the current Gulf Arab reality which pose serious obstacles to sustainable human development and the development of appropriate responses to environmental threats have been adequately discussed in several Arab Human Development Reports (UNDP/RBAS 2002 to 2009). This probing, self-critical look at issues such as the knowledge deficit and the weak institutional structures has engendered a hostile reaction and thereby highlighted one of the essential deficiencies in the region, namely widespread ignorance as well as misinformation, due to the identified knowledge deficit and consequent disregard for these constraints. Hunaidi explicitly warns about this in his foreword: "turning a blind eye to the weaknesses and shortfalls of the region, instead of decisively identifying and overcoming them, can only increase its vulnerability and leave it more exposed" (UNDP/RBAS 2003: III).

Ever since 9/11, while numerous Western self-proclaimed 'experts' have been debating what exactly constitutes 'political reform' in this part of the world, courageous and unobtrusive local voices have been making an effort to provide us with a clear understanding of the delusional transformation in the GCC.¹⁷ The few established foreign scholars have offered instead a careful and comprehensive analysis of

the reform landscape, the current precarious impasse, the imperatives for societal progress, and the immense challenges ahead.¹⁸ It should be noted that none of these respected authors included the progressive environmental degradation and climate uncertainties as either a security or a development challenge for the region. This is especially perplexing since the concept of 'sustainability', requiring that the three dimensions of economic growth, social development, and environmental protection must be considered in any assessment, has been around since the Club of Rome commissioned the infamous landmark publication *The Limits to Growth*, and the United Nations Conference on the Human Environment in Stockholm established a consensus on the urgent need to respond to the global problem of environmental deterioration in 1972. Certainly the evolution of a more responsible approach to development issues had many important key events and an even longer record of failures, but with the discovery that the scenarios of Meadows and his team have been relatively accurate - they relate to economic growth, trade, use of resources, population growth, and the environmental impacts listed in the Fourth *Intergovernmental Panel on Climate Change* (IPCC) Assessment¹⁹ - the question of 'environmental sustainability' deserves to be no longer ignored.

The environmental facet of development, the most salient issue facing the world in the 21st century, was featured by the *Arab Forum for Environment and Development* (AFED) in a comprehensive report in 2008. The authors note in the introduction that the unprecedented growth in the oil economies has come at a cost and they have serious concerns about the region's ability to sustain the livelihood of future generations if present development patterns continue (Tolba/Saab 2008: VIII). A year later, the complex interactions of environmental change were analyzed by

15 Projected population change between 2009 and 2050 in neighbouring or key illegal migrant countries will be as follows: Yemen 124 per cent, Iraq 106 per cent, Palestinian Territory 140 per cent (transit via Jordan), Jordan 62 per cent, and Syria 68 per cent.

16 Data is based on estimates for 2008 provided by the CIA. The *International Monetary Fund* (IMF) provides similar data, but has Oman slightly above Saudi Arabia.

17 For Saudi Arabia see for instance Yamani and Mai: "The mirage of reform", in: *The Guardian*, 3 April 2007; at: <<http://www.guardian.co.uk/commentisfree/2007/apr/03/renovatingthehouseofsaud>> (20 June 2010), for the UAE see Al-Yousef (2008).

18 See Cordesman (2010); Peterson (2009a, 2009b); Burke (2008); Niblock (2007); Nonneman (2006).

19 In 2008 the Australian senior analyst Graham Turner, currently with the National Futures Group at CSIRO Sustainable Ecosystems, published a paper "A Comparison of 'The Limits to Growth' with Thirty Years of Reality", which compared the past thirty years of reality with the predictions made in 1972 and found that changes in industrial and food production as well as pollution are all in line with the book's scenarios of economic and societal collapse in the 21st century; see also as part of CSIRO Working Paper Series. 2008-09 [Socio-Economics and the Environment in Discussion]; at: <<http://www.csiro.au/files/files/plje.pdf>> (27 June 2010).

leading Arab intellectuals in the Arab Human Development Report 2009, which argues that the concept of human security is a useful lens for viewing challenges to and envisioning solutions for human development in the Arab region and should be used as an operational tool for policy formulation and implementation. Influenced by Amartya Sen's concept of "capabilities", they define human security as "the liberation of human beings from those intense, extensive, prolonged and comprehensive threats to which their lives and freedom are vulnerable" (UNDP 2009: 2) and expand the agenda of Arab reform in an integrated manner to include such diverse challenges as water scarcity, pollution, climate change, demographic imbalances, systematic oppression, the imbalance of the oil economy, and food insecurity. The report attempts to move away from the obsolete tendency to think of security only in military or state security terms and recognizes that the security of people themselves is also threatened by environmental degradation, oppression, inequity, unemployment, and poverty. It concludes that progress in human development will only be possible in the Arab world if these sources of insecurity are addressed in a holistic manner. Khadduri, a core team member for the report, reminded readers that the fabled oil wealth presents a misleading picture of the economic situation, masking the typical structural weaknesses of many Arab economies and the resulting insecurity of countries and citizens alike. The current misperception of the Gulf states must however also be attributed to the continuous politicization of science that is principally fostered by foreigners to suit their personal or institutional economic interests as well as Western foreign policy *per se*. This trend is encouraged by those governments that use legal or economic pressure to influence the findings of scientific research or the way it is disseminated, reported, or interpreted, albeit to different degrees in the different GCC states.

The threat, while ignored, is certainly real, and the necessary remedies such as the scaling back of subsidies, the introduction of tariffs, taxes or charges, and major policy reforms may easily trigger social tensions and internal instability to become a conventional national security question. Existing threats to security will be amplified as climate change has increasing impacts on regional water supplies, agricultural productivity, human and ecosystem health, infrastructure, financial flows and economies, and patterns of international migration. Traditional responses to security threats cannot address the root of such problems, and related impacts could persist even if global emissions

are cut dramatically, because of the significant time lag between cause and effect.

The first scholar to provide a synopsis of the environmental aspect of human security as part of the overall concept of national security in the Arab world was Mohammad El-Sayed Selim. He concluded that Arabs need a paradigm shift toward 'securitizing' their conception of the environment (Selim 2004: 20), while Kristian Ulrichsen in his contribution "Gulf security: changing internal and external dynamics" was a pioneer in providing a comprehensive analysis of the security landscape in the Gulf by suggesting that the future will be framed by the need to find a novel sustainable equilibrium between traditional security and human security approaches. In his view a balance between "competing visions of the national and regional security architecture, between incremental reforms to political and economic structures and the deeper systemic problems which undermine long-term solutions, and between rising demands for, and falling supplies of, natural resources" must be found (Ulrichsen 2009: 30).

1.4 Setting the Frame: Social Contract, Rentier Mentality, and Disillusionment

The changing political situation in the Middle East and the scale of socio-economic problems are presenting new challenges to the modern oil monarchies. One of the factors that shaped Gulf economies in the past and continuously seems to impede political liberalization efforts is the lack of government dependence on citizen support. The major function of the authorities in this so-called 'rentier' or allocation state (Luciani 1990: 72) is to employ a policy of expenditure around its oil revenues, while the distinction between public service and private interest becomes increasingly vague. Such a system fosters a 'rentier mentality', essentially characterized by a disjunction of position and reward from their causal relationship with talent and work (Beblawi 1990: 88) and has therefore led to the emergence and prevalence of an unhealthy attitude towards the acquisition and exercise of authority, to rightful representation based on merit, to the ethical superiority of work, fairness, and equity, as well as to responsibility and freedom.²⁰

20 See Cheema (2009: 454); Noreng (2004: 11); Moaddel (2002: 377); Amuzegar (2001: 201, 217, 218); Ayubi (1999: 225).

Generally this has created a condition of ‘preference falsification’ or ‘negative consent’, in other words the decline of participation on the part of the people at large, thus resulting in a situation where citizens are sinking into a morass of individual interests at the expense of collective welfare (Noland/Pack 2007: 201; Fergany 2000: 84). Contracts are commonly awarded as an expression of gratitude rather than as a reflection of economic or environmental rationale. In extreme cases, income is derived simply from citizenship and in this respect a study revealed that a male UAE national receives an average of US\$55,000 per year in benefits from the government.²¹ The phenomenon was first studied by Zakaria, who described how rentier states frequently create a new bargain in which access to extensive social welfare programmes is exchanged for the political submission of its citizenry (Smith 2004: 233). Furthermore, it has been argued that the regional shortcomings of the education system and the low output of science²² (Fasano/Goyal 2004: 15; Nour 2005: 22) bring about many manifestations of the weaknesses of the society, but undeniably the rentier mentality would flourish and acquiesce in such a system of uncritical thinking (Fergany 2006: 33,34; Giles 2006: 28). The contemporary situation has been best described by Niblock as “primarily living in a cocoon created by apparently unearned income, divorced from the problems facing other peoples, sets a population apart from the global community – creating attitudes and mentalities out of touch with international realities” (Niblock 2007: 1). Certainly it is this internalized mentality that needs to be altered, and change will come about only if ethical and normative standards are revived and respected.

Nevertheless the performance of traditional patron-client networks and wealth redistribution is increasingly vulnerable not only to the inherent uncertainty implied by dependence on oil revenues, but also to a population explosion aggravated by structural deficiencies, environmental degradation, and fu-

ture climate uncertainties. If these new security challenges are ignored or inadequately tackled, they have the potential to strike at the heart of the social contract and redistributive mechanisms which currently define state-society relations, and will leave a legacy of fractured polities with a greater susceptibility to future external and global threats to security from issues such as climate change (Ulrichsen 2009: 20). As a consequence, all Gulf monarchies have made some progress in adopting more participatory forms of governance, even if these could easily be labelled as an exercise in political decompression designed to renew legitimacy and co-opt potential opponents in a carefully managed, top-down process of incremental change while the balance of political power remains vested in the ruling families (Yamani 2008: 144; Burke 2008: 1). Any current reform movement will be based on an objective analysis of the aspirations and desires of an influential faction in the ruling family, supported by their neo-patrimonial networks linked with the merchant middle class and powerful individuals who want to maintain a status quo that serves their interests and enables them to achieve their political and economic goals (Heydemann 2007: 15). In other words, when rulers eventually opt to promote reforms, it is not because they have come to accept the possibility of having to relinquish power one day, but rather because they want to maintain their current status (Nonneman 2006: 31²³; Neep 2004: 81; Ehteshami 2003: 81). Subsequently, if reform is defined by the redistribution of power from the centre, the question of whether any meaningful political reform has taken place in Bahrain, the United Arab Emirates, or Saudi Arabia can unequivocally be denied.

1.5 Scientific Ethics for Sale: Despotism, Profit, and the Manipulation of Science

Contemporary Gulf governments are finding themselves in a vicious spiral driven by the necessity to reduce public spending to avoid budget deficits and by the immense social pressure to provide public services. The massive state-organized welfare polity of the

21 See Brown, Matthew, 2007: “UAE's Drive for Emirati-Run Economy Is Thwarted by Handouts”, in: *Bloomberg.com*, 3 October 2007; at: <<http://www.bloomberg.com/apps/news?pid=20601085&sid=axmdijbZMj5k&refer=europe>> (21 June 2010).

22 Consequently, despite its enormous wealth and huge spending on education, the GCC region scores worst in the world when it comes to research and development, and the situation is deteriorating. This should trigger some questions about the real purpose of those foreign university campuses.

23 Gerd Nonneman describes this as a ‘divide and rule’ tactic. In Bahrain, for instance, former opposition leaders are given access to limited parliamentary institutions and hence are upgraded to stakeholders. In return they seek the favour of the ruling elites to implement their differing objectives in state structures.

past has unintentionally expanded the citizens' view and expectation of consumption, concurrently with a low personal level of commitment towards the welfare state. Any reformulation of the social contract through the introduction of complex and context-specific social and economic reforms will especially affect the younger generation who have internalized the above-mentioned 'rentier mentality' and hence take the current redistributive mechanisms and generous provision of public services for granted. With an average estimated population of roughly 50 per cent under the age of 30 in 2025 who lack any experience with the pre-oil hardships, rising income distortions, inflation, and declining individual living standards will certainly trigger frustration and open a potential challenge to regime legitimacy.²⁴ In the absence of employment opportunities and legal means of expression, and other growing socio-economic stresses, conditions will be ripe for disaffection, growing dogmatic religiosity, and eventually even a shift to radicalism.

The fact that crude oil prices more than quadrupled between 2002 and 2008 allowed the Gulf monarchies to accumulate huge capital reserves and also allowed the elites to ignore or delay some of the domestically challenging socio-economic reform measures they had contemplated, albeit to different degrees, prior to the boom. They simply resorted to substantially increasing domestic spending on current and capital expenditure by, for instance, allocating more resources to subsidies, infrastructure development, vocational training, education, and government salaries for nationals. Nevertheless, recent wealth accumulation masks mounting wealth disparities and alienation in the Gulf. This trend is particularly noticeable in Bahrain, especially between Shias and Sunnis (Wright 2008: 9; Peterson 2009b: 179), and Saudi Arabia (Champion 2003: 142), but emerging discontent can also be observed in the Emirates. Peterson concludes in his latest publication that what he refers to as the "third transformation" may be the last opportunity for these regimes to reform (Peterson 2009a: 2). Other analysts provide a much gloomier projection for the next 15 years and claim that the odds are that one or two of the states will end up with civil disorder and conflict because rulers have miscalculated the trade-offs or taken gambles that didn't pay off. In these pessimistic scenarios, authoritarian leaders will

fail to prepare their bulging populations to participate productively in the global economy, regimes will hold tightly to power and become even more repressive, and regional conflicts will remain unresolved as population growth strains natural resources that are further diminished by climate change (NIC 2008: 64). Regrettably, the first signs of this worst-case scenario were already witnessed in the form of a recent "fierce deterioration of the freedom of expression" in Bahrain and the United Arab Emirates according to the latest World Press Freedom Index 2009 (RWB 2009: 1).²⁵ Based on the latest *Worldwide Governance Indicators* (WGI), the situation is further deteriorating in the 'voice and accountability' component, which measures the extent of basic civil liberties, political and human rights, and media freedoms (Kaufmann/Kraay/Mastruzzi 2009: 80, 82). The latest Arab Human Development report continues to highlight the spectrum of interlinked deficiencies that retard meaningful and sustainable Arab development by emphasizing the role of the behaviour of the state security sector. As Al-Rasheed, a Saudi professor at King's College in London, notes: "The civil state ruled by laws that respect human rights is the best guarantor of human security. In the Arab region, states are far from this ideal."²⁶

This orientation towards growth, instead of sustainability and basic civil liberties such as freedom of speech, press, assembly, and association, was demonstrated by the Emirates when confronted with the consequences of the global economic recession in a display of extreme media censorship (Ali 2010: 56–59; Davidson 2009: 13), threats, and intimidation towards any criticism from foreign scholars and especially against the national intellectual elite that refuses to be coerced by the government. Al-Yousef, a prominent

24 By contrast, Basedau and Lacher (2006: 16) identified this downward trend in stability as a result of a poorly-managed rapid population growth only for Saudi Arabia.

25 According to Freedom House's Freedom of the Press index in 2009 all three countries fall into the category "not free" (Freedom House 2009); at: <http://www.freedomhouse.org/uploads/fop/2009/FreedomofthePress2009_MOPF.pdf> (23 June 2010). For the situation in the UAE see also *Arabic Network for Human Rights Information* (ANHRI): "United Arab Emirates: Freedom of expression is missing despite a decision banning imprisonment for press crimes", 27 November 2007; at: <<http://anhri.net/en/reports/2007/pr1127.shtml>> (23 June 2010).

26 See *United Nations Development Programme* (UNDP), 2009: "Human Security' offers new way to understand development challenges in the Arab region" - Press Release, Beirut, 21 July 2009; at: <www.undp.ps/en/newsroom/pressreleasespdf/2009/18.pdf> (23 June 2010).

Emirati professor, describes the current situation as follows:

the government has not ceased to impede its own, where there are groups among the citizens of the nation possessed of sufficient qualifications who are barred from teaching or writing in local newspapers or from discussion with local and regional media and subject to other than these among the means of pressure and terrorizing that the rest of the world has left behind (Al-Yousef 2008: 636).

He further reminds his readers of the ongoing politicization of science when it comes to the production of knowledge with respect to the Gulf States, and that foreigners who glorify the achievements of the Gulf regimes while hoping for worldly gains are pursuing an unethical approach characterized by “injustice and slander” (Al-Yousef 2008: 639).

This deliberate ignorance of the reality can be witnessed in almost any analysis of the UAE and it is certainly reprehensible when respected journalists are capable of giving us an exhaustive picture of the unsustainable ecocide, while academics are busy praising the ‘green leadership’ and visionary future ideologies. The latest data from the *Global Footprint Network* (GFN) may serve as an almost incomprehensible example of this scholarly trend. According to previous reports the per capita *ecological footprint* (EF) of the UAE based on data from 2003 showed an ecological deficit of 11 global hectares (gha) per capita.²⁷ Following a so-called partnership with the UAE government, their ecological footprint has undergone a mysterious decline in the period between 2003 and 2008 to a deficit of 8.38 gha per capita and an EF of consumption of 9.52 gha per capita, with claims being made that the government review of national footprint accounts is partial or in progress (Ewing/Goldfinger/Wackernagel et al. 2008: 42).²⁸ Furthermore, the analysis was based on a dated population figure of 4.5 million, consisting of an estimated 2.7 million impoverished

migrant workers many of whom work in the construction and domestic service industries and who are certainly not responsible for the predominant excessive lifestyle and hyper-consumption.²⁹

In comparison Bahrain, which is undeniably more liberal than the UAE, both socially and politically (Wright 2008: 14), gets little attention, albeit of a more critical kind, from both local and foreign scholars, while Saudi Arabia remains in modest isolation and in return polarizes the academic community into various extremes. In reviews of scholarly contributions Al-Rasheed and Peterson both explain that balanced and sensible discourse on Saudi politics, economic situation, culture, and society is rare, and its absence tends to validate hostile and outrageous opinions routinely expressed as fact by journalists, politicians, and think tank advisors, but also by scholars.³⁰ As a refreshing exception, it has been pragmatically noted by Wilson that Saudi Arabia faces development challenges comparable with those of other middle-income economies (Wilson/Al-Salamah/Malik et al. 2004: i). In a further best-practice critical assessment of Saudi Arabia, Cordesman found in 2003 that the persistent unwillingness to develop realistic data was a deliberate failure to come to grips with some of the critical problems with Saudi demographics. He labelled this strategy as a crippling deficiency from the viewpoint of development planning and said that the problems created were further compounded by a recent tendency to politicize other aspects of econometric data (Cordesman 2003: 244).

So while the Gulf monarchies have to a various degree silenced any local critical views, manipulated global public opinion, proliferated false perceptions of their accomplishments, or kept secretly quiet, and

27 Per capita *ecological footprint* (EF) is a means of comparing consumption and lifestyles, and checking this against nature’s ability to provide for this consumption. In comparison Saudi Arabia’s was 3.7 gha and Bahrain was ignored (GFN 2006).

28 In their most recent report the GFN corrected this deliberate data manipulation a little and at least mentioned that “Residents of the United Arab Emirates have the world’s highest average Ecological Footprint, at 10.3 gha per person” (Ewing/Goldfinger/Oursler et al. 2009: 46). However, the methodology remains mysterious with respect to the UAE and the population that the data was based on was further reduced to 4.2 million.

29 For further information on the exploitation of labourers in the UAE see the *Human Rights Watch* (HRW) report “Building towers, cheating workers. Exploitation of Migrant Construction Workers in the United Arab Emirates” (HRW 2006); at: <<http://www.hrw.org/sites/default/files/reports/uae1106webwcover.pdf>> (20 June 2010). An update on how the global financial crisis has made their situation even worse was published on Al Arabiya.net “Returning home means wasted life savings and poverty - Dubai’s labourers bear the brunt of financial crisis” (Moussly 2009); at: <<http://www.alarabiya.net/articles/2009/03/01/67503.html>> (20 June 2010).

30 See Peterson (2006: 147–156); and Al-Rasheed and Madawi (2006): Review of “The Paradoxical Kingdom: Saudi Arabia and the Momentum of Reform” by Daryl Champion; at: <<http://www.madawialrasheed.org/index.php/site/more/70/>> (20 June 2010).

successfully coerced the majority of foreign “producers of knowledge”, the fragility of the region’s political, social, economic, and environmental structures, as well as its lack of people-centred development policies and its increasing impact on the likely severe impact of global warming remain.

1.6 Outsourcing Food Insecurity: Short Term Responses to an Enduring Challenge

The first noticeable reaction of Gulf monarchies to a changing security landscape, in other words their increasing vulnerability to transnational threats, came with the sudden spike in food prices in 2008. While that abrupt rise in world market prices was widely acknowledged to be a result of the untimely convergence of multiple structural and cyclical factors, sustained high prices, and increased volatility created concerns about food security in the GCC. As an immediate response, several Gulf States introduced price controls, including food subsidies and caps on rent increases, as well as public sector pay rises, to offset the impact of rising food prices on their citizens.³¹ In Bahrain for instance the government raised the salary of public sector employees by 15 per cent, as well as including other important products in its subsidy programme and granting families around US\$120 in monthly assistance.³² In comparison, the UAE announced a massive 70 per cent public-sector wage increase and Saudi Arabia introduced an entire list of sophisticated new measures including the lowering of custom duties on key staples and a prudent incremental increase in wage allowance (Sfakianakis 2008: 1). However, with a region or country being considered as food secure “when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (FAO 2009: 8), inflation at the macro level increasing at more than twice the speed of the world average will have an especially disproportionate impact on low-in-

come groups.³³ Thus with the current food import dependency exceeding 90 per cent according to some estimates, neither the current quick fixes nor the piecemeal policy approaches will suffice.³⁴ According to the Economist Intelligence Unit, GCC spending on food imports is projected to more than double from US\$24.1 billion in 2009 to US\$53.1 billion by 2020 (EIU 2010: 16). By contrast, the International Trade Statistics 2009 published by the *World Trade Organization* (WTO) show that the UAE alone imported food (SITC sections 0, 1, 4 and division 22) worth US\$15.28 billion in 2008, representing an annual percentage increase of 47 per cent to 2007, while Saudi Arabia imported food worth US\$15.25 billion in 2008, representing an annual increase of 29 per cent (WTO 2009: 54).

However, instead of giving certain proactive adaptation measures some serious thought, the Gulf governments opted for a new strategic choice that raised grave international concern: the purchase or long-term lease of agricultural land for offshore food production from highly volatile nations, predominantly by state-owned and private investors, is seen as the best possible option for securing the increasing local demand (NIC 2008: 12).³⁵ Given that the World Food Programme is trying to feed millions of refugees and drought-stricken impoverished populations in Sudan and across the countries of the Horn of Africa, it certainly is problematic that Gulf governments are buying up farmland to produce and export inexpensive food

31 See for instance Joanna Hartley, 2009: “Food prices to halve as part of UAE gov’t plan”, in: *ArabianBusiness*, 4 February 2009; at: <<http://www.arabianbusiness.com/545656-food-prices-to-half-as-part-of-uae-govt-plan>> (23 June 2010).

32 See Oxford Business Group, 2008: “Bahrain - Investing in Food Security”, 22 August 2008; at: <<http://www.zawya.com/pdfstory.cfm?storyid=ZAWYA20080822131715&l=131700080822>> (25 June 2010).

33 Elevated food prices were a driving force for the substantial inflation in the Gulf, eventually outpacing overall inflation by several percentage points. In the UAE food prices increased by an estimated 40 per cent, in Bahrain by 20 per cent, and this certainly places immense stress on the large migrant blue-collar workforce in the Emirates and Bahrain. This may serve as an additional concern about the possibility of social unrest, next to the pressures on citizens’ households. Consequently, since the FAO definition of food security includes all residents in a given locality, it can be stated with certainty that large segments of those currently living in the Gulf, especially lower income expatriates, are food insecure.

34 See “GCC Becomes the Largest Food Importer”, in: *TOBOC - An International Initiative for Global Trade*, 17 February 2010; at: <<http://www.toboc.com/trade/news/gcc-becomes-the-largest-food-importer/1451.aspx>> (25 June 2010) The profound dependence on external markets also makes the GCC extremely vulnerable not only to price variations but also to the increasingly changing food policies of the exporting countries such as a blanket ban on the exports of certain food commodities.

for their own citizens as well as millions of foreigners (GRAIN 2008: 4).³⁶ The myth that there are abundant unused land resources in Africa and that for instance Sudan's underachievement in productivity could be dramatically improved without compromising further environmental degradation has received extensive coverage in the literature in the past two decades. The 'Post-Conflict Environmental Assessment of Sudan' prepared by the *United Nations Environment Programme* (UNEP) provides a detailed analysis and clearly describes how issues of conflict and displacement and environmental degradation and Sudan's rising population are considered to be intrinsically linked. The contemporary situation in the more arid regions can according to the report "only be described as an intense and unremitting competition amongst an impoverished population for scarce and diminishing natural resources" (UNEP 2007: 163).

Concerns also come from Pakistan, after recent media reports announced that private companies have acquired large areas of arable land on behalf of the UAE government.³⁷ While Pakistani officials provide

the same inexorable rhetoric heard in other troubled developing nations, notably that there is no threat of the displacement of indigenous communities or the erosion of local food sovereignty, the environmental hazards posed due to deforestation, land degradation, and increased water consumption never seem to be considered in any such confident claims. In the light of this, Ali warns about the repercussions of corporate farming and that countries which remain willing to capitalize on their natural resources are not facing up to their acute water scarcity problems.³⁸

A recent collaborative effort between the *International Institute for the Environment and Development* (IIED), the *UN Food and Agriculture Organization* (FAO), and the *International Fund for Agriculture and Development* (IFAD) confirms these worries by emphasizing that these large-scale land acquisitions have the potential to directly dispossess and displace large numbers of rural people from land that they consider their long-standing heritage and who crucially depend on this land for sustaining their livelihoods (Cotula/Vermeulen/Leonard et al. 2009: 15). Smaller and Mann take the discussion further by examining the uncertainties and impacts relating to the commodification of land and water in such deals, keeping in mind that the local tenure situation may be very complex, involving customary rights. They conclude that if governments are determined that an investment should take place despite the opposition of a land or rights holder, expropriation of land rights or water use rights might be possible and that the fulfilment of compensation requirements will be unlikely in the event of diminishing water resources (Smaller/Mann 2009: 15).

In May 2009 the Geneva Academy of International Humanitarian Law and Human Rights organized an international seminar on "The Global Land Grab: A Human Rights Approach" to take an urgently-needed closer look at this emerging trend and the potential and actual consequences on the realization of human rights.³⁹ Among the objectives were exploring ways of promoting human-rights-consistent investment in land and the question of how food security can be secured in the future in ways that do not undermine human rights in other countries.⁴⁰ The loopholes in international law that enable domestic

35 Saudi Arabia bought 500,000 hectares of land in Tanzania, Sudan already hosts 400,000 hectares of wheat fields leased to the United Arab Emirates, and Bahrain is looking at south-east Asia. Government involvement in recent or planned international business events also reflects growing interest from the Gulf economies, particularly the Gulf-Africa Strategy Forum 2009 (Cape Town) and 2010 (Riyadh), convened by the Gulf Research Centre, the seminar on "Climate Change, Energy, Water, and Food Security in the Arab Region", sponsored by the Zayed Charitable Foundation (UAE government) and hosted by the Arabian Gulf University in Bahrain in May 2009, and the Joint Afro-Arab Ministerial Meeting on Agricultural Development and Food Security hosted by the African Union and the Arab League in October 2009 in Sharm El Sheik, Egypt (according to the draft schedule 'food security' was postponed till 2010).

36 These include millions of inclusive package deal tourists. For instance, for the UAE there were roughly 10 million tourists in 2008.

37 In the south-western province of Balochistan as much as 800,000 acres of farm land were purchased near the Mirani Dam. See for instance Kerr, Simeon & Bokhari, Farhan, 2008: "UAE investors buy Pakistan farmland", in: *Financial Times*, 11 May; at: <<http://www.ahrc.se/new/index.php/src/news/sub/article/action/ShowMedia/id/4461>> (June 25 2010) or Khan, Sarmad, 2008: "UAE investors acquire land in Pakistan for food production", in: *The National*, 27 October; at: <<http://www.thenational.ae/article/20081027/BUSINESS/618179339>> (June 26 2010). Many other examples can be found.

38 See Syed Mohammad Ali, 2009: "The dangers of corporate farming - Pakistan's bid to open its agricultural sector to foreign corporations may accentuate rural poverty and inequity", in: *OpenDemocracy*, 11 May; at: <<http://www.opendemocracy.net/print/47903>> (26 June 2010).

legislation and human rights obligations to be overridden must be addressed immediately, and hopefully the risk to their image involved in such practices will not be underestimated by the Gulf monarchies.⁴¹ In the coming years the depletion of oil reserves may also substantially reduce the extent to which current oil exporters are shielded from the negative fiscal impacts of high food prices, and this will be especially true for Bahrain. Nevertheless, with food prices tied to a host of resource scarcity issues, notably climate change and water depletion, the issue of food security will be a lasting challenge. Despite serious political hazards involved with safety nets and the ‘quick-fix’ responses already mentioned, there have been no real policy shifts towards addressing the core problems or any of the suggested proactive adaptation measures, in particular that family planning and education about the consequences of an unhealthy diet could provide sustainable long-term benefits (World Bank 2009: 23).

1.7 Beyond Silenced Voices: Scrutinizing the Stressors

The political reality already described clarifies the motives for some of the nonconformist policies in the region which are entangled with supporting different sections of society. Water allocation and pricing policies are often based on supporting special interest groups, next to specific tribal, traditional, or economic activities.⁴² The global economic downturn and lower crude prices showed the Gulf monarchies that their current capacities for meeting the rising demands of their fast-growing populations at the same

time as investing in their development initiatives can easily be overstretched. The Kingdom’s budget for the fiscal year 2009 showed an increased spending as well as the first deficit since 2002, based on a very modest oil price projection, and can primarily be seen as a response to public expectations and decline in sentiment.⁴³ The continuous focus is primarily on welfare distribution as a means of ensuring legitimacy, even if the official claim refers to making best use of available resources and giving priority to projects that ensure sustainable and balanced development. The same analysis can be made of the zero-deficit UAE budget, which projects a further increase in public spending by 3.4 per cent in the 2010 draft budget.⁴⁴ Bahrain has already faced its future post-oil challenging economic reality by displaying immense budget deficits, while parliament demanded even higher welfare spending from the authorities.

There is little doubt that meeting the future expectations of growing populations will prove to be increasingly difficult, but the fear of the possible social tensions and instability that might result from the scaling back of subsidies and introduction of charges is even higher and in view of past experiences around the globe certainly not unfounded.⁴⁵

When King, the former chief scientific adviser to the UK Government, emphasized in 2004 that climate change is graver even than the threat of terrorism and is the most serious challenge facing humanity today (King 2004: 176), he was certainly correct, but oversimplified the causal relationship. In other words, the urgently needed climate change mitigation and adaptation implementation measures in the Gulf econo-

39 See *Geneva Academy of International Humanitarian Law and Human Rights* (Geneva: ADH), 2009: “The Global Land Grab: A Human Rights Approach”. Conference at the Graduate Institute of International and Development Studies, 16 May 2009, Geneva; at: <http://www.3dthree.org/pdf_3D/globallandgrab_seminar2009_programme.pdf> (27 June 2010).

40 Given the involvement in these large-scale land acquisitions and the grave importance of food security in the GCC states, the *GCC Network for Drylands Research and Development* (NDRD) is currently preparing a publication on this topic entitled “Prioritizing Climate Change Adaptation Needs for Food Security: Constraints to New Initiatives for the Arabian Peninsula” with a focus on a rights-based approach.

41 See Joanne Bladd: “Call for GCC ‘land grab’ policy to stop – experts”, in: *ArabianBusiness*, 7 September 2009; at: <<http://www.arabianbusiness.com/call-for-gcc-land-grab-policy-stop-experts-13103.html>> (12 Februar 2011).

42 For a comprehensive analysis of the situation in Saudi Arabia see Elhadj 2006: 38. While in the UAE the combination of agriculture and fisheries accounts for only 2.5 per cent of GDP, it continues to be the prime water-consuming sector, accounting for 80 per cent freshwater use.

43 Analysts projected that U.S. benchmark crude prices would have to average somewhere between US\$43 and US\$55 per barrel in 2009 to cover the budgeted revenue projection (depending on output of course). However, Saudi Arabia traditionally presents extremely conservative government budget estimates based on lower energy prices than the market forecasts.

44 See “UAE to increase spending in 2010”, in: *AmeInfo*, 27 October 2009; at: <<http://www.ameinfo.com/213873.html>> (26 June 2010).

45 In particular, the removal of federal subsidies for agricultural products or fuel prices has proved to be an immense source of friction in numerous states, often leading to escalations of violence

mies could easily trigger a shift to radicalization, a security aspect that should not be underestimated. Accordingly, climate change should conceivably best be seen as a ‘threat multiplier’ that intensifies existing problems and vulnerabilities (CNA 2007: 6). With the UAE currently being one of the highest per capita water consumers on a global scale⁴⁶, the introduction of tariffs to curb the persistent consumption patterns were long overdue when finally introduced in spring 2008. However, the inherent correlation with the social contract could not be more evident, since UAE nationals who are proportionally the highest consumers will be exempt from the changes and will continue to pay significantly lower rates than expatriates.⁴⁷ Saudi Arabia opted for an endless debate on the issue in order to evade uncomfortable policy changes, claiming the subject to be “too political an issue to touch” (Harrison 2004: 45).

Nevertheless, there has been substantial criticism in the Kingdom from Saudi academics as well as published research that states the obvious: the adopted bloc structure provides a substantial subsidy that will cover water costs even to the middle class (Al-Mogrin/Al-Maziad 2002: 12). Some corrective measures seem to be on the way and in January 2009 the ministry announced its plan to increase the water tariff to SR5 per cubic metre. This measure would be applied to certain groups of clients and low-income consumers would be exempted. With a critical lobby for sustainability, including members of the royal family, as well as the privatization of the water sector, some type of change is on the way; the question is when it will finally be realized. In Bahrain water is also 75 per cent subsidized, while an incremental water tariff was introduced in 1985 and revised in 1992. The currently utilized “lifeline rate schedule” tariff policies in the domestic sector does not apparently provide any incentives for consumers to save water (Smith/Al-Maskati 2007: 119). Like Saudi Arabia, Bahrain has several exceptional scientists who disseminate the inconvenient truth through publications, in the media,

and at conferences. Noteworthy in this context is Al-Zubari, a hydrogeologist, who has opted for a multidisciplinary approach. While other natural scientists in the Gulf tend to be extremely apolitical and stick firmly to their disciplines, he has designed three water policy scenarios for the period 1995–2025. His findings show that the Gulf Cooperation Council countries would continue to experience a deficit in their water resources for all three scenarios, although less so in the third scenario, which includes supply augmentation and policy remedies (Al-Zubari 2003: 163).⁴⁸

Needless to say, the idea of imposing electricity tariffs intended to act as a deterrent to the over-consumption of resources and as an incentive to invest in energy efficiency measures is missing from Gulf ideologies. The data from the recently-released International Energy Agency report presents a disconcerting exposé of the growth of CO₂ emissions, their source, and their spatial distribution in the region. In the world rankings, Qatar (58.01 tonnes CO₂/capita), UAE (29.91), Bahrain (28.23) and Kuwait (25.09) occupy the first four places as worst-case scenarios on a global scale. In comparison, Saudi Arabia emits 14.79 tonnes CO₂/capita and Oman 13.79 (IEA 2009: 90).⁴⁹

Being highly dependent on oil exports and faced with difficult challenges at home, it is not surprising that petroleum exporters have long used delaying tactics during climate talks. In general it can be said that all GCC states, particularly the four OPEC members Saudi Arabia, Kuwait, the UAE, and Qatar, identify climate change mitigation as a threat to their economies. However, such perceived security threats, re-

46 Data is inconclusive, but a number of sources claim that the domestic water consumption of 550 litres per capita per day, the UAE’s water consumption, is among the highest in the world. See for example Erika Solomon, 2010: “As tiny UAE’s water tab grows, resources run dry”, in: *Reuters*, 21 Jun 2010: at: <<http://www.reuters.com/article/idUSTRE65K3MK20100621>> (26 June 2010).

47 These charges for UAE nationals are extremely low. They currently pay AED0.07 per kWh for electricity and AED0.015 for a gallon for water.

48 There are certainly many other great scientists in Bahrain, so this should be considered a best practice example. Waleed Al-Zubari (2009) is one of the vice-presidents of the Arabian Gulf University (Bahrain), editor-in-chief of the Arab Gulf Journal of Scientific Research, and runs an NGO called *Water Science and Technology Association* (WSTA). In a later publication he described four scenarios that were mainly based on the United Nations Environment Programme’s *Global Environmental Outlook* (GEO) scenarios (GEO-4).

49 In comparison the annual per capita CO₂ emissions (tonnes CO₂/capita) based on data from 2007 is: for Germany (9.71), UK (8.60), Japan (9.68), US (19.10), Canada (17.37) and Israel (9.19). See IEA (2009: 90, 89); at: <http://www.iea.org/publications/free_new_Desc.asp?PUBS_ID=2143> (26 June 2010). The estimates calculated by the US Department of Energy’s *Carbon Dioxide Information Analysis Center* (CDIAC), mostly based on data collected from country agencies by the United Nations Statistics Division, will show even higher per capita emissions for these Gulf economies.

ardless of how unrealistic they may be, have often been used by governments trying to divert attention away from internal problems.⁵⁰ Yet, following Haldén, we should ensure that climate change policy and international agreements do not cause problems in the international security setting by undermining the economies of the countries that produce oil and gas (Haldén 2009: 5).⁵¹ With this in mind, it is not productive for the Saudi oil minister, Ali Al-Naimi, to be continually quoted out of context. While certainly never labelling renewable energies as ‘catastrophic’⁵², he has made it very clear in several public statements that Saudi Arabia is currently undertaking feasibility studies to find the most sustainable approach to position itself in a cleaner field of energy by investing in research and in solar power. This approach concurs with a warning from former director of the London School of Economics, Anthony Giddens, who calls attention to the need for detailed risk assessment procedures, because the far-reaching transition to renewable sources will embody extensively complex social and economic effects (Giddens 2009: 13). The research focus on making renewable energies more efficient and economical dates back several decades in the Kingdom, and a number of solar-power projects, including desalination plants and greenhouse air-conditioning systems using solar energy, were commissioned. As far back as 1974 an association called “Arab Circle Renewable Energy” was established in Jeddah with the objective of increasing awareness among the local and international community of the need for the use of renewable energy and to enhance Saudi Arabia’s image as a responsible user of energy and a promoter of future clean energies. Certainly they did not achieve those objectives, but the fact that Saudi scien-

tists and engineers completed the design of a solar-powered car in 1999 and developed it locally is largely unknown (Al-Shibani/Elani 2001: 233).⁵³ Furthermore, the country invests in carbon capture and storage programmes to develop technology that allows carbon dioxide to be extracted from the atmosphere and stored in subterranean geological formations such as depleted oil wells.⁵⁴ Moreover, an overview on renewable energy initiatives and potential in the GCC was recently published by two Bahraini scientists (Al-Naser/Al-Naser 2009). For the UAE and the alleged ecocity ‘Masdar’, there is little to say in view of the fact that even in the unlikely case that the initiative achieves all its objectives, any decreases in GHG emissions will be offset by the continued unsustainable growth in the rest of the country (Stilwell/Lindabury 2008: 7). In this context Droege asks: “When the oil is ‘gone’, what will Masdar produce that can justify the bloated population in the desert metropolis?”⁵⁵

Undeniably this will be another extremely commercialized project populated by imported foreigners and totally disconnected from its local surroundings, while the same government is currently building a 3.5 km (2.17 miles) long artificial ski slope on Jebel Ha-feet in Al Ain and the developer hopes that the ski

50 Propaganda disinformation has really worked, because even highly educated Gulf colleagues tend to claim that “climate change is something the West made up in order to impose on their sovereignty” (or similar challenging statements).

51 While far-reaching global mitigation programmes are needed, it must be realized that the Gulf economies are already struggling with their internal situations. Thus far all they have to support their economies is unfortunately ‘oil and gas’ or in the case of one exception something that is much worse: ‘millions of tourists’.

52 Here is what he actually said: “In years to come, if traditional energy supplies should prove inadequate because capital expenditure was curtailed due to unsustainable prices, unreliable indications of future demand, or hopes for a substitute for oil cannot deliver, such a supply crunch would be catastrophic.” There is certainly nothing wrong with this sentence.

53 The paper by Al-Shibani and Elani examines the long-term performance of a silicon solar car. Being sceptical following all the rhetoric in the Gulf, the author was surprised to find several research papers online that confirmed that some research really has taken place over the years and that a local solar energy research group does exist. Moreover, in May 2010 the consortium of Hamburg-based solar experts and Saudi Arabia’s leading solar system integrator, *National Solar Systems* (NSS), completed a US\$15 million two-megawatt solar power plant on the rooftop of the *King Abdullah University of Science and Technology* (KAUST) that generates enough power for about 500 homes.

54 At a summit in Riyadh in November 2007, Gulf OPEC members pledged US\$750 million to a new fund to tackle global warming through financing research for clean technologies, with the emphasis on carbon capture and storage.

55 Peter Droege is a professor for urban sustainability, climate, and planning education at the Institute of Architecture and Planning - Hochschule Liechtenstein. The quote was part of a round table discussion on MASDAR, organized by TreeHugger; at: <<http://www.treehugger.com/files/2008/03/masdar-roundtable.php>> (27 June 2010); see also Tafline Laylin: “What’s Sustainable about Masdar’s Foster+Partners?”, in: *Green Prophet*, 17 March 2010; at: <<http://www.greenprophet.com/2010/03/27/19020/foster-partners-sustainable-architecture/>> (27 June 2010).

slope will meet the criteria for Olympic events, creating a year-round training facility for top-class skiing.⁵⁶

The integrity of the glittering GCC climate rhetoric can be easily traced when looking at the conference “Climate Change: Global Risks, Challenges and Decisions” that was held in March 2009 to recapitulate existing and emerging scientific knowledge necessary in order to make intelligent societal decisions concerning the application of mitigation and adaptation strategies in response to climate change.⁵⁷ Approximately 2,500 participants from nearly 80 different countries attended the conference and contributed more than 1,400 scientific presentations to the climate change discourse (Richardson/Steffen/Schellnhuber et al. 2009: 5), but according to the participant list not a single delegate came from any of the GCC countries.

What is even more worrying is that the development of nuclear power in the Gulf, potentially under the umbrella of climate change adaptation, could trigger a series of nuclear energy programmes, significantly increasing the threat of proliferation. This certainly should have been considered before the new *International Renewable Energy Agency* (IRENA) became once again the redundant outcome of economic and strategic interests, in particular with selfish, short-term benefits for France and Britain through dubious

backroom deals, something that will only play into the hands of the oil and nuclear lobbies. The fact that the interim Director-General of IRENA, H el ene Pelosse, resigned in October 2010 as a result of severe intimidation by the UAE government, may simply confirm negative expectations in this context.⁵⁸

Mainstreaming climate change into conventional policy should be a top priority, while both mitigation and in particular proactive adaptation strategies need to be audaciously pursued and emphasized in all policy sectors (Al-Zubari 2009: 17). To conclude, it can be said that gradual environmental governance in some of the GCC states is taking place, but the consensus has stressed that the extent of these changes is somewhat limited and often subject to suspension or reversal as a result of potential changes in domestic, regional, or international circumstances.

1.8 Climate Threats and National Security: The Critical Role of Stakeholder Engagement

While the discourse concerned with the Arab Gulf economies remains highly politicized and polarized, the approach of the Gulf elites will have to change radically to be able to cope with their exploding populations and climate change while avoiding social breakdown and environmental collapse. Neither the current quick fixes nor the piecemeal policy approaches will suffice. Long-term subsidies are inefficient and also provide fiscal distortions and governance imbalances. Subsidies in the food, water, and power sector in particular, once in place, are difficult to remove, as disposable incomes adjust to different spending patterns and consumer perceptions. Cer-

56 See Rob Jones: “Ski slope to be built on Jebel Hafeet”, in: *AMEInfo*, 24 July 2008; at: <<http://www.ameinfo.com/164526.html>> (27 June 2010). This is in addition to three other planned ski slopes, notably the snow dome at Dubailand.

57 The congress was hosted by the University of Copenhagen and organized in cooperation with nine other universities in the *International Alliance of Research Universities* (IARU), namely Australian National University, ETH Z urich, National University of Singapore, Peking University, University of California - Berkeley, University of Cambridge, University of Copenhagen, University of Oxford, University of Tokyo and Yale University. Considered as a supplement to the work of the *Intergovernmental Panel on Climate Change* (IPCC) two years after the fourth IPCC report, the findings were published as a book on climate change, and a synthesis report was presented to policy-makers before the United Nations Climate Change Conference talks (COP15) with the stated intention of scientifically informing the political negotiations. For further information, see at: <www.climatecongress.ku.dk>. The Synthesis Report has been available since June 2009 in English; at: <<http://climatecongress.ku.dk/pdf/synthesisreport>> or in Arabic; at: <http://climatecongress.ku.dk/pdf/Synthesis_Report_-_Arabic.pdf> (13 February 2011).

58 French national H el ene Pelosse did not back the UAE nuclear plans and publicly accused the UAE of delaying payments and jeopardizing the financial future of the agency. See e.g. AFP: “Fearful’ Frenchwoman replaced as renewables agency chief”, in: AFP, 25 October 2010; at: <http://www.google.com/hostednews/afp/article/ALeqM5i-7MN8SSgCVP4bcAPKr682_exj5w?docId=CNG.135bb89cab5c7dfce021f53c3286a72b.471> (26 October 2010); Eva Fernandes: “Masdar, IRENA ... why can’t going green go right?”, in: *Kippreport*, 26 October 2010; at: <<http://www.kippreport.com/2010/10/masdarirena%e2%80%a6-why-can%e2%80%99t-going-green-go-right/>> (27 October 2010); Joyce Njeri: “H el ene Pelosse: Irena will not back UAE nuclear plans”, in: *Alrroya*, 24 January 2010; at: <<http://english.alrroya.com/content/h%C3%A9l%C3%A8ne-pelosse-irena-will-not-back-uae-nuclear-plans>> (27 October 2010).

tainly it cannot be a policy option to steer the foreign agricultural sectors of impoverished and already deeply troubled nations towards their own domestic markets.

Rapid population growth, wealth disparities, food insecurity, inadequate education, and increasing indigenous unemployment are major threats to long-term security in the GCC. The dependence on and existence of large numbers of foreign nationals is not only a serious stress factor for the carrying capacity of the already highly sensitive Gulf environments, but in itself presents a serious traditional security risk that could lead to further instability in an already volatile environment. Reports state that crime is on the increase in all of the GCC states, especially among youth, where drug addiction is a grave cause for concern. Both Bahrain and Saudi Arabia have, however, been more insightful and have initiated various reforms that genuinely address the labour issue; the continual reduction of the foreign workforce in Saudi Arabia and groundbreaking initiatives in Bahrain show evidence of sincerity.⁵⁹ Hence, it does not need any further finance, new technologies, or a global climate change deal to succeed, but will depend on local complex and context-specific social, economic, and political factors, in other words the formal and informal rules affecting policy design, implementation, and outcomes.

Findings were put forward by Bahraini and Saudi colleagues who indicated that technology transfer had an important role and could provide alternative means for excessive growth and sustaining development by substituting capital for labour. However, they did mention that political will along with vigorous policy measures were prerequisites (Al-Roubaie/Al-Zayer 2006: 187).⁶⁰

Whereas the emergence of some form of more or less institutionalized social cohesion is critical for human security to emerge as an integral part of sustainable human and economic development, the establishment of functioning civil society by GCC nationals remains underdeveloped, with only limited prospects that the pace for change will increase substantially in the coming years (Samad 2007: 23; Jill 2005: 7). While both Bahrain and Saudi Arabia saw a very small emergence of local civil society, the creation of independent non-artificial organizations has

been totally stifled by the ruling families in the UAE (Davidson 2008: 210). Any assessment of the social cohesion of a society in order to develop adaptive capacity must take into account political contexts, including the relationships between associations, their leaders, and political institutions (Spiess 2008: 249). Developing adaptive capacity is thus primarily a function of promoting the creation and dissemination of knowledge and the existence of power structures with a key moral imperative that “inaction is inexcusable” and that are responsive and bear in mind the needs of all the involved stakeholders, as well as engendering a creative flexibility in decision-making and conflict-solving (Burton/Diringer/Smith 2006: 9; McGray/Hammill/Bradley 2007: 27).

It should further be emphasized that human security does not seek to supplant national security, but rather to complement it. The objective should be to articulate possible security threats and consider risk preparedness, proactive adaptation measures, and mitigation steps, and integrate them into an all-encompassing national security plan. Unless mitigated and adapted to by insightful and forceful policies, environmental degradation and climate change are likely to be calamitous in terms of human security on an unprecedented scale.

When Saudi Arabia marked its 79th National Day, Prince Sultan bin Salman bin Abdulaziz Al-Saud made a thought-provoking remark: “By celebrating this day we are not just remembering the history but we take it as an opportunity to think about what we should do to have a brighter future.”⁶¹

From someone with an exceptional environmental stewardship record, these are encouraging words.

60 With this in mind, it was encouraging news that most GCC firms are starting to outsource their IT process (Saudi Gazette, 2009) and hopefully in the future more of the work that is still done by foreign experts should, as a matter of urgency, be carried out by virtual teaming from overseas, to avoid further stress on these fragile environments. With e-learning in place and the necessary infrastructure available, the Gulf economies should reconsider their approach to investing in massive showcase universities that will import even more people and add further environmental stress. See “Most GCC firms outsource IT process”, in: *Saudi Gazette*, 7 November, 2009, at: <<http://www.saudigazette.com.sa/index.cfm?method=home.regcon&contentID=2009110753786>> (27 June 2010).

61 See Abdul Ghafour: “National Day of achievements”, in: *Arab News*, 23 September 2009; at: <<http://www.arabnews.com/?page=1§ion=0&article=126666&cd=23&m=9&cy=2009>> (27 June 2010).

59 Bahrain's labour minister, Majeed al-Alawi, recently received praise from *Human Rights Watch* (HRW) for the abolition of the restrictive sponsorship system (HRW 2009).

There should be some optimism that at least Saudi Arabia as a “pivotal state” is on the right track, in their habitual carefully manoeuvring manner, to tackling this immense challenge that will eventually determine the survival and success of the surrounding region with the social sensitivity it requires.

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