

**Experiments in Achieving Water and Food Self-Sufficiency in the Middle East: The Consequences of Contrasting Endowments, Ideologies, and Investment Policies in Saudi Arabia and Syria**

**Elie Elhadj**

ISBN: 1-58112- 298-5

**DISSERTATION.COM**



Boca Raton, Florida  
USA • 2006

*Experiments in Achieving Water and Food Self-Sufficiency in the Middle East:  
The Consequences of Contrasting Endowments, Ideologies, and Investment Policies  
in Saudi Arabia and Syria*

Copyright © 2006 Elie Elhadj  
All rights reserved.

Dissertation.com  
Boca Raton, Florida  
USA • 2006

ISBN: 1-58112- 298-5

**To Peggy**



# Table of Contents

Abstract .....	ix
Tables and Figures .....	xi
Abbreviations .....	xv
Acknowledgments.....	xvii
Part One: The background to water politics in Saudi Arabia and Syria and the effect of political Expediencies on misallocating scarce .....	19
Chapter One.....	21
1 Introduction.....	21
2 The contrasts in the natural resources endowment of Saudi Arabia and Syria and in their socio-political backgrounds.....	22
2.A The main differences in natural resources endowment between Saudi Arabia and Syria .....	22
2.B The main differences in ideology and governance institutions between Saudi Arabia and Syria .....	24
3 Government spending in Saudi Arabia and Syria.....	28
3.A Government spending in Saudi Arabia .....	28
3.B Government spending in Syria .....	31
4 The poor economic performance of Saudi Arabia and Syria.....	35
5 The system of governance and national decision-making in Saudi Arabia and Syria..	37
6 Methodology: evaluating the benefits from investing in agricultural and household water schemes in Saudi Arabia and Syria.....	39
6.A The sources and the challenge of Saudi and Syria’s data .....	39
6.B Assessment of the investment performance of Saudi Arabia and Syria in agricultural water during the 1980s and 1990s .....	40
6.C Assessment of the investment performance of Saudi Arabia and Syria in household water and sanitation .....	44
7 Assessing the challenges and the means that Saudi Arabia and Syria might pursue to raise the funds needed to upgrade their water and sanitation facilities .....	46
8 Outline of the study.....	47
Chapter Two.....	49
Introduction .....	49
1 Principles of borrowing and lending to developing countries .....	49
1.A Principles of borrowing.....	50
1.B Sources and principles of domestic lending.....	50
1.C The challenge that developing countries face in raising large amounts of foreign currencies.....	52
2 Is there a natural course for financial markets development?.....	53
2.A Stage one - the early stage.....	53
2.B Stage two - the intermediate stage.....	54
2.C Stage three - the mature stage.....	54

2.D The stage of maturity that the financial markets in Saudi Arabia and Syria might have reached .....	54
3 Exceptions to the rule.....	55
3.A The effect which Sharia prohibition on dealing in interest have on the creation and growth of modern financial markets.....	57
3.B The effect of lack of diversification and/or quantity of natural resources on economic growth in Saudi Arabia and Syria .....	58
3.C The effect of low Human Development Index (HDI) values in Saudi Arabia and Syria on growth and development .....	59
3.D The effects of wide disparities in wealth and income on economic growth and financial markets development in Saudi Arabia and Syria.....	60
3.E The magnitude and effect of capital flight from Saudi Arabia and Syria to foreign markets .....	62
4 An index to associate wealth with financial markets maturity .....	64
Part Two: The Effect of Water Politics in Saudi Arabia on the Misallocation of Economic Resources and Downgrading of Aquifers' Quality and the Funding Required to Upgrade and Operate Saudi Water Utilities in a Sustainable Manner.....	69
Chapter Three.....	71
1 History of Saudi agricultural development since the 1960s.....	71
1.A Saudi export of virtual water .....	74
2 The financial cost of agricultural development in Saudi Arabia.....	76
2.A Direct government price support and other subsidies.....	76
2.B Indirect government subsidies.....	79
2.C An estimate of government's capital investment in agricultural infrastructure projects and their annual economic cost of operations .....	80
2.D An estimate of private sector's capital investment in agriculture and the annual economic cost of production .....	81
2.E The financial cost of the Saudi agricultural venture .....	81
2.F Water depletion premium.....	83
3 The cost of Saudi agriculture in terms of water .....	83
4 The challenge of Saudi data.....	85
5 Saudi water availability .....	86
5.A An alternative estimate of Saudi water availability .....	88
6 Saudi water requirement .....	89
7 Saudi quest for food independence.....	89
8 Possible motives behind Saudi foray into desert agriculture .....	91
9 An observation on Saudi agriculture .....	93
Chapter Four .....	95
Introduction .....	95
1 The inadequate level of household water and sanitation service in Saudi Arabia.....	95
2 Insufficient investments in water and sanitation services in Saudi Arabia as a cause for inadequate WSS infrastructure .....	96
3 Saudi domestic water supply sources .....	97

4	Cost comparison between desalinated water and groundwater .....	99
4.A	The economic cost of water supplied from the New Riyadh Project .....	99
4.B	The economic cost of water produced in recently built desalination plants .....	100
4.C	The economic cost of desalinated water from the 30 existing Saudi plants .....	100
5	Is there sufficient groundwater near major Saudi urban centers? .....	103
6	Saudi water politics .....	105
	Chapter Five .....	109
	Introduction .....	109
1	The funding magnitude to upgrade Saudi household water .....	109
2	Financing sources that Saudi Arabia might seek .....	112
2.A	Saudi Riyal financing sources .....	112
2.B	US Dollar financing sources.....	115
	Sources .....	116
3	Household water and sanitation pricing issues.....	117
3.A	Affordability and unwillingness to pay the full cost of water utilities in Saudi Arabia.....	119
	Part Three: The Effect of Water Politics in Syria on the Misallocation of Economic Resources and Downgrading of Aquifers Quality and the Funding required to Upgrade and Operate Water Utilities in the Greater Damascus Region in a Sustainable Manner.....	121
	Chapter Six .....	123
	Introduction .....	123
1	Syria's Government investment in agriculture since 1960.....	123
2	The returns from government agricultural investment .....	125
2.A	Financial returns from cash crops .....	125
2.B	Financial returns from new electricity generation .....	135
2.C	Non-financial returns from Syria's investment in agriculture.....	136
3	What was the water cost of Syria's Government irrigation schemes? .....	140
3.A	Syria's large use of water in irrigation.....	140
3.B	The Large volume water evaporation from Syria's man-made lakes, especially Lake Asad .....	142
3.C	The negative water balances in five of Syria's water basins and the damaging impact on the environment.....	142
4	An observation on Syria's water politics.....	143
	Chapter Seven.....	147
	Introduction .....	147
	A The challenge of the data .....	147
	B The extent of the water crisis in the Greater Damascus Region .....	149
1	What caused the household water crisis in the Greater Damascus region? .....	150
1.A	Past under-investment in water and sanitation projects .....	150
1.B	Unsustainably high level of water use in irrigation and imbalance in the sources and uses of water in the Greater Damascus Region .....	151
1.C	The large population increase in the Greater Damascus Region .....	155

2	What are the possible solutions to this household water crisis? .....	159
2.A	The Barada/Awaj Rivers Basin .....	159
2.B	Inter-basin transfers from the Euphrates River .....	169
2.C	Inter-basin transfers from the Coastal Region .....	172
2.D	A comparison of cost estimates .....	174
	Chapter Eight .....	177
	Introduction .....	177
1	Estimating the cost of solving the water crisis in the Greater Damascus Region ....	177
2	The range of available funding sources to Syria .....	179
2.A	Local currency financing.....	179
2.B	US Dollar financing sources.....	181
3	Water tariff issues facing consumers .....	184
3.A	Affordability and unwillingness to pay the full cost of water utilities in Syria ..	186
	Chapter Nine .....	189
	Introduction .....	189
1	Market forces for efficient allocation of scarce resources. The case against Saudi government subsidies to agriculture .....	190
2	Market forces for efficient allocation of scarce resources. The case against Syria's government investment in agriculture.....	191
3	The likelihood that Saudi Arabia and Syria would adopt economic rate of return criterion and reduce hindrances to economic and financial markets growth? .....	192
3.A	Measures in Saudi Arabia to improve HDI value and to repatriate foreign investments.....	192
3.B	Measures to improve HDI value in Syria and to repatriate foreign investments	196
4	A final note .....	198
	Appendix 1 The case for government ownership of water and sanitation utilities.....	199
	Appendix 2 The argument in favour of private sector management of government owned water utilities .....	201
	References .....	203



## Abstract

The book aims to quantify and analyze how two water scarce but ideologically different Middle Eastern political economies, Saudi Arabia and Syria, addressed water sector investment. The study examines how priorities driven by narrowly defined water and food self-sufficiency goals contributed to misallocating investments and impacted society, the environment and the economy. Water policies between 1980 and 2000 are shown to have been unsustainable.

Of Saudi Arabia's US\$1,034 billion in oil revenues (1974-2001), 48% was spent on the military, plus 10% on the ruling family. Saudi per capita income dropped by 42% between 1981 and 2000. Syria's nominal per capita income dropped to US\$1,200, a 17% fall since 1985. Spending on armaments (1970-1990) was about US\$30 billion, around 13% of GDP, plus annual military budgets recently of 12%.

Agriculture absorbed high proportions of national investments. The economic and environmental outcomes were seriously negative. In Saudi Arabia, over US\$84 billions were spent on desert irrigation (1984-2000). Saudis produced wheat at cost five times the international price. The policy also depleted 300 billion m<sup>3</sup> of mainly non-renewable groundwater and degraded water quality of the aquifers.

In Syria, US\$20 billions of government agricultural spending, mainly between 1988 and 2000, returned a US\$150 million loss in 2000. The non-financial returns were poor and most water basins were over-pumped, degrading water quality.

Investment misallocation affected the economy generally and domestic water services in particular. 53% of Saudis have no municipal water connections. In Syria, most urban households endure acute water shortages. Huge investments are needed for upgrades.

Investment policy in the Middle East generally is based on misguided food self-sufficiency goals rather than on developing strong internationally integrated economies. Saudi and Syrian water policies were made by narrow-coalitions of decision-makers, lacking environmental consideration and safe political processes to combine the natural, human and financial capitals to achieve economic security.



# Tables and Figures

## Chapter 1

### Tables

- Table 1.1 Syria's GDP breakdown in 2000 and 1990 at 1995 prices
- Table 1.2 Saudi oil revenues between 1974 and 2000 and government spending during certain durations
- Table 1.3 Summary of average annual government spending on the military, on agricultural development, and on the ruling elites in Saudi Arabia and Syria

## Chapter 2

### Tables

- Table 2.1 The scores that eight countries achieved in 2000/2001 on six risk areas related to governance matters.
- Table 2.2 Effect of the Growth Point-Index adjustments on per capita GDP of fifteen countries ranked according to the size of their per capita GDP.

## Chapter 3

### Figures

- Figure 3.1 Comparison between the cost to the Saudi government of domestically grown wheat and the market's year-average price of Louisiana wheat, USA (US\$ per tonne, 1984-2000).
- Figure 3.2 Saudi government price support for cereals and the quantity of cereals produced between 1985 and 2000
- Figure 3.3 The marginal decline in Saudi Arabia's irrigation water use between 1994 and 1999 as compared with the substantial decline in the size of the irrigated surface during the same period

### Tables

- Table 3.1 Saudi population, land and water use and production of agricultural products for 1961, 1973, 1980 and 1985-2000.
- Table 3.2 Saudi irrigated surface (1973-2000), the proportion dedicated to cereal growing, wheat and barley production, GSFMO wheat purchases and the difference between what GSFMO had paid to wheat farmers and the cost of comparable imports of wheat and barley

Table 3.3	Saudi capital investments in agriculture, annual operating expenses and government subsidies (1984-2000) (US\$ billions).
Table 3.4	Saudi foodstuffs production (1984-2000) and their estimated value
Table 3.5	Saudi irrigation's water use (1980-1999).
Table 3.6	Saudi renewable and non-renewable water estimates, according to Ministry of Agriculture and Water and Ministry of Planning for 1990, 1996 and 1997 (billion m <sup>3</sup> ).
Table 3.7	Agriculture use of water according to Ministry of Agriculture and Water and Ministry of Planning (1980–2000) in billion m <sup>3</sup> .
Table 3.8	Groundwater reserves estimates in the 5 major aquifers (billion m <sup>3</sup> ).
Table 3.9	Estimate of the expected remaining useful life of Saudi non-renewable aquifers.
Table 3.10	Estimates of 1999 Saudi water uses and sources (billion m <sup>3</sup> ).
Table 3.11	Summary of estimates of Saudi domestic production of foodstuffs as a proportion of the country's total requirements.

## Chapter 4

### Figures

Figure 4.1	Comparison among the ratios of household water needs to irrigation water use in Saudi Arabia's main population centers in 2000
------------	--

### Tables

Table 4.1	Channels of delivering household water to the population of the Riyadh region and Saudi Arabia as of March 2001.
Table 4.2	Riyadh city's potable water and sewage networks in March 2002.
Table 4.3	Desalinated water production cost in 1998.
Table 4.4	Estimate of the volume of desalinated water transmitted through the Saudi water pipeline network to inland urban centres.
Table 4.5	A summary of costs comparison among three water alternative sources.
Table 4.6	Comparison between estimates of household water needs and agricultural water use in Saudi Arabia in 2000, assuming uniform per capita water needs and per hectare water use.

## Chapter 5

### Tables

Table 5.1	Cost estimate of upgrading Saudi household water and sanitation infrastructure to supply all residents with 100 m <sup>3</sup> annually to 2020.
Table 5.2	Summary of available financing sources to the Saudi Government.
Table 5.3	Economic cost estimates for comprehensive water and sanitation service to all residents.

## Chapter 6

### Tables

Table 6.1	Syria's government investment in agriculture (1960-2000).
Table 6.2	The expansion in Syria's arable and permanent crops area and the country's irrigated surface (1961-2000).
Table 6.3	Division of Syria's irrigated area between surface and groundwater irrigation (1988-2000).
Table 6.4	Syria's irrigated land division among wheat, cotton and other crops such as fruit trees, vegetables, maize, tobacco, sugarbeet etc...
Table 6.5	Fluctuations in the per-hectare yield of irrigated and rain fed lands for wheat (1990-1998).
Table 6.6	World prices for wheat and Syria's support price (1996-1998).
Table 6.7	Wheat's estimated economic cost of production in 2000 (hectare).
Table 6.8	Cotton's estimated economic cost of production in 2000 (hectare).
Table 6.9	Other crops' estimated economic cost of production in 2000 (hectare).
Table 6.10	Summary of the net proceeds and water usage in 2000 resulting from crops grown on the 138,000 hectares irrigated by Syria's government between 1988 and 2000
Table 6.11	Syria's cereal production dependency on rainfall (1972-2001).
Table 6.12	Syria's rural and urban population (1961-2000).
Table 6.13	Civilian and military employment in Syria (1965-1991).
Table 6.14	By-crop consumption of irrigation water in Syria (1998).
Table 6.15	Estimates of the 1997 water balance in Syria's 7 water basins.

## Chapter 7

### Figures

Figure 7.1 The declining trend in the size of the irrigated surface in the Barada/Awaj Basin over five decades 1950-2000)

### Tables

Table 7.1	Water sources and uses in the Barada/Awaj Basin (million/m <sup>3</sup> ).
Table 7.2	Household water basic data in Damascus city, its villages and Syria (1998)
Table 7.3	Volume of household water utilized in the greater Damascus Region (million/m <sup>3</sup> ) as reported in 4 sources.
Table 7.4	Irrigation water volumes from wells and other sources and the size of the irrigated surface in the Greater Damascus Region and in Syria
Table 7.5	Population growth in Syria and the greater Damascus region (1950-2000).
Table 7.6	Civilian and military employment in Syria (1965–1991).
Table 7.7	A comparison between the estimated statements of sources and uses of water in the Barada/Awaj basin under the present and proposed allocation regimes (million m <sup>3</sup> ).
Table 7.8	The effect on irrigation surface size resulting from giving priority to non-irrigation water use within the basin's renewable water of 900 million m <sup>3</sup> per annum.
Table 7.9	Land gained (abandoned) as a result of an additional 5% and 10% improvement in irrigation water requirements as applied the 11,870 m <sup>3</sup> per hectare already achieved in phase-I.
Table 7.10	An estimate of the capital investment and economic cost of the water needed to meet the Damascus region household water deficit at present and by 2027.
Table 7.11	Syria's water position from the Euphrates River.
Table 7.12	Statement of water sources and uses in the Coastal Basin.

## Chapter 8

### Tables

Table 8.1	The cost and benefit resulting from part-I of the local Damascus Region solution
Table 8.2	An estimate of the capital investment required to improving WSS facilities in the Greater Damascus Region to serve the present population of 4-million
Table 8.3	Summary of available funding sources at present to Syria's government.
Table 8.4	DWS&SA pricing of water and sanitation services.

## Abbreviations

AHDR	Arab Human Development Report of UNDP
CBS	Central Bank of Syria
DWS&SA	Damascus Water Supply and Sanitation Authority
ERM	Environmental Research Management
FAO	Food and Agricultural Organization of the United Nations
GDP	Gross Domestic Product
GSFMO	Grain Silos and Flour Mills Organization in Saudi Arabia
HDI	Human Development Index
IFS	International Financial Statistics of the IMF
IMF	International Monetary Fund
JICA	Japan International Cooperation Agency
MEED	Middle East Economic Digest
MAAR	Ministry of Agriculture and Agrarian Reform of Syria
MAW	Ministry of Agriculture and Water of Saudi Arabia
MHU	Ministry of Housing and Utilities of Syria
MOI	Ministry of Irrigation of Syria
MOP	Ministry of Planning of Saudi Arabia
O & M	Operation and Maintenance
RRWSA	Riyadh Region Water and Sewage Authority
SAMA	Saudi Arabian Monetary Agency
SAMBA	Saudi American Bank
S & P	Standard and Poor's Rating Agency
SSAb	Statistical Abstract of Syria
SSY	Statistical Yearbook of Saudi Arabia
SWCC	Saline Water Conversion Corporation of Saudi Arabia
WB	The World Bank
UNDP	United Nations Development Program
WSS	Water and Sanitation Services





## Acknowledgments

After a thirty-year career in the financial and banking field in New York, London and Riyadh I decided to return to academia as a student to seek answers to questions on the cultures, politics and development prospects of Arab countries. I was fortunate to join the History Department at SOAS in 1998 where it was possible to access very focused and relevant regional scholarship and inspiration.

During my degree studies Professor Tony Allan stimulated me to deploy my professional and regional expertise to examine the contrasting water management approaches of Saudi Arabia and Syria and particularly their political economies of water. With gratitude and a sense of enormous debt, I shall forever remember the many hours of engaging discussion I had the privilege to enjoy with Professor Allan. I am also grateful to have had the chance to work with the staff and graduate students of the Department of Financial and Management Studies and for the guidance of Professor Laurence Harris and his colleagues.

A community of gifted researchers distinguishes SOAS as a uniquely eminent center for scholarship. I benefited greatly from discussions with members of the SOAS/KCL Water Research Group. Particularly, I would like to mention Geraldine Dalton.

A special recognition must be accorded to my wife Peggy. Her understanding and encouragement throughout the project were critical. To Peggy, I dedicate this work.



**Part One: The Background to Water Politics in Saudi Arabia and Syria and the Effect of Political Expediencies on Misallocating Scarce National Resources and on Hindering Economic Growth and Development of Financial Markets**



# Chapter One

## The Material and Political Contexts of Water Policy-Making in Saudi Arabia and Syria

### 1 Introduction

This study aims to show the extent to which political coalitions may seriously compromise the economic use of a scarce national resource such as water, thus causing misallocations and waste of valuable assets. Water politics in the agricultural sector and for household uses in two contrasting countries, Saudi Arabia and Syria (alphabetically) will be examined. The contrast between the quantity and diversity of their natural resources endowment, their systems of governance and their ideological agendas and their consequences will be discussed. It will be demonstrated that despite the differences that will be shown to exist between the two economies the poor economic and social outcomes in both cases are remarkably similar.

The study will deal with two main issues. The first issue will be the high government spending in Saudi Arabia and Syria on financially non-productive sectors (Chapter One, Section 3) and the resulting outcomes; namely: 1) the creation of rentier economies<sup>1</sup> benefiting powerful minorities 2) The flight of domestic savings to foreign markets and the resulting absence of this critical ingredient for GDP diversification and growth (Chapter Two, Section 3.E). 3) The declining per capita income over the past two decades until the early 2000s (Chapter One, Section 4). 4) The negative returns during the 1980s and 1990s on agricultural investment (Chapters Three and Six) and the depletion and deterioration of water quality. 5) The poor coverage and quality of drinking and household (domestic) water and sanitation services (Chapters Four and Seven). 6) The formidable challenges to raise the funds needed to upgrade household water and other infrastructure (Chapters Two, Five and Eight).

The second main question to be investigated is the causes that have led the two governments to make decisions that misallocated their national resources. The study argues that it was the absolute authority of the monarchist and the presidential systems that produced in Saudi Arabia and Syria narrow decision-making coalitions, plus the absence of sound economic evaluation and of an environmental voice. The underlying fundamentals of the economy and the environment had no place in policy-making.

Foodstuffs are an encapsulation of water, virtual water. This study argues in favor of virtual water trade, or in the cases of Saudi Arabia and Syria, the importation of wheat and other foodstuffs instead of growing crops locally. Such a strategy, the study contends, would benefit the two countries financially, and preserve their scarce and insufficient water resources.

Chapter One is composed of six sections, in addition to this introductory section. Section 2 of Chapter One will outline the differences between Saudi Arabia and Syria in two areas; namely,

---

<sup>1</sup> Rentier economy is an economy rife with rent. "Rent" represents "incomes which are above normal in some sense... Rents include not just monopoly profits, but also subsidies and transfers organized through the political mechanism, illegal transfers organized by private mafias, short-term super profits made by innovators before competitors imitate their innovations, and so on (Mustaq H. Khan and Jomo K.S. (2000: p.5). For an economist, "a person gets a rent if he or she earns an income higher than the minimum that person would have accepted, the minimum being usually defined as the income in his or her next-best opportunity (Mushtaq H. Khan, 2000: p.21).

natural endowments and the socio-political structures. Section 3 will describe the magnitude of economically non-productive spending emphasized by the governments of Saudi Arabia and Syria during the 1980s and 1990s. Section 4 will show that there has been a persistent decline in per capita income in both economies over the last two decades of the twentieth century despite their different endowments and their different political systems. Section 5 will discuss the undemocratic system of governance in Saudi Arabia and Syria that made it possible for the decision-making practices to downplay and ignore underlying fundamentals. Section 6 will outline the approach adopted in evaluating the benefits resulting from investing in irrigation and household water projects in Saudi Arabia and Syria. It will argue in favor of virtual water import strategy. Section 6 will also address the challenges faced by those who have to use Saudi and Syrian data. Additionally, Sections 6 will outline the approach to assessing the investment performance of Saudi Arabia and Syria in agricultural and household water projects. Section 7 will analyze the prospects of the two countries' being able to raise the funds necessary to: a) upgrade the coverage of water utilities and, b) operate future water assets on a sustainable basis.

## **2 The contrasts in the natural resources endowment of Saudi Arabia and Syria and in their socio-political backgrounds**

This section will examine the contrast between Saudi Arabia and Syria in two areas: 2.A. Natural resources endowment. 2.B. Ideology and governance. The purpose of this examination is to show that despite the wide differences that exist between the two countries in these two areas, both countries managed to share a similar outcome; namely, a decline in their per capita GDP over the past two decades and deterioration in the provision of vital human welfare services such as clean drinking and household water and sanitation services.

### **2.A The main differences in natural resources endowment between Saudi Arabia and Syria**

#### **Saudi Arabia's natural resources endowment**

Saudi Arabia is very well endowed with a major natural resource, crude oil, which is in high global demand.<sup>2</sup> There are few other natural resources to sustain the economy. There are oil related industries and the assembling of light import-substituting consumer goods. Oil prices are volatile and unreliable. Saudi oil revenues were on a declining trend, in nominal terms during the 1980s and the 1990s. Data from the 2002 annual report of the Saudi Arabian Monetary Agency (SAMA, 2002: p.388) show that in 1981, oil revenues stood at SR329 billions (US\$96 billions at the then prevailing exchange rate of SR3.42 per US\$1). One year later, they dropped to SR186 billions (US\$54 billions at the SR3.44 official exchange rate). By 1986, they dropped to a low of SR42 billions (US\$11 billions at the SR3.75 official exchange rate). In 1998, they recovered to SR80 billions (21.3 billions at the SR3.75 official exchange rate) and in 2000 they reached SR214 billion (US\$57 billions at SR3.75/US\$1).<sup>3</sup> With over US\$35 per barrel price during the first half of 2004, Saudi oil revenues promise to be strong for a significant period. On August 13, 2004 New York benchmark light sweet crude for delivery the following month topped US\$46 per barrel, an all time high.

---

<sup>2</sup> Both Saudi Arabia and Syria are well endowed with solar energy. This aspect is not taken into account in the study because it does not constitute a difference and also because technologies have not been developed to make use of solar energy resources.

<sup>3</sup> Unless indicated otherwise, the exchange rate between the Saudi Riyal and the US dollar will be quoted throughout this study at the official rate of SR3.75. The exchange rate has been at this level since 1986.

In real terms, oil prices have been declining persistently for the past 25 or so years. From 1974 to 1985, the real price of Arabian Light crude (nominal price adjusted by consumer price index in industrial countries at 1974 prices) ranged between a low of US\$6.73 per barrel and a high of US\$13.44 per barrel. From 1986 to 2000 the real price dropped to range between a low of US\$2.61 per barrel and a high of US\$5.54 per barrel (SAMA, 2001: p.197). Using Saudi 1994 constant prices, between 1985 and 2000 the average compounded annual growth rate of the oil sector was 6.6% [Saudi Ministry of Planning (MOP), 2003: p.200].<sup>4</sup>

Crude oil has been the engine of recent prosperity in Saudi Arabia. Between 1974 and 2001, oil revenues totalled SR3,710 billions, or US\$1,034 billions at the prevailing official exchange rates (SAMA, 2002: p.388), or an annual average of US\$38 billions. Oil revenues represented an average of 78.5% of total Saudi government spending during the 26-year period involved. In 2000, oil contributed 91% of government spending (SAMA, 2002: p.388).<sup>5</sup>

The long-term future for Middle Eastern oil exports is difficult to predict. Energy conservation, new supplies from Central Asia and elsewhere, alternative energy sources could all reduce world's demand for oil. On the other hand, economic growth, especially in China and India will increase demand for oil. Such uncertainties make the fortunes of Saudi revenues from crude oil difficult to predict. A long lasting drop in oil prices, even if small, would cause all sectors of the Saudi economy to contract.

### Syria's natural resources endowment

Syria, on the other hand, has a diversified natural resources endowment, though no single endowment is in great abundance or in high demand. It also has tracts of land, mainly along the Mediterranean Coast that receives reasonable amounts of rain to support settled farming. Of Syria's 185,000 km<sup>2</sup>, 15% receives on average of 600 mm per annum in rainfall and 55% receives less than 200 mm.

In 2000, Syria's gross domestic product (GDP) at 1995 constant prices, was divided into agriculture- 30%, mining and manufacturing- 17%, construction- 4%, trading- 20%, transport- 13%, finance- 5%, social services- 3% and government services- 8%. These allocations had been stable over the previous ten years. In 1990, they were, 30%, 13%, 4%, 25%, 10%, 4%, 2% and 12%; respectively. Table 1.1 shows the degree of Syria's GDP diversification at 1995 constant prices for 2000 and for 1990.

Table 1.1 Syria's GDP breakdown in 2000 and 1990 at 1995 prices

Year	Agriculture	Mining & manufacturing	Construction	Trading	Transport	Finance	Social services	Government services
2000	30	17	4	20	13	5	3	8
1990	30	13	4	25	10	4	2	12

Source: Syria's Statistical Abstract (SSAb), 2001: pp.522 & 523.

Crude oil, phosphate, wheat, cotton and textiles are among Syria's exports. Tourism, given the country's rich historical heritage and attractive climate along the Mediterranean Coast could develop into a rich source of foreign exchange earnings.

The country's balance of payment on current account has been positive since 1995 [International Financial statistics (IFS), November 2001: p.809].

<sup>4</sup> SR59 billions in 1985 compared with SR156 billions in 2000.

<sup>5</sup> SR214 billions in oil revenues out of SR235 billions in government spending = 91%.

## 2.B The main differences in ideology and governance institutions between Saudi Arabia and Syria

### State ideology and governance in Saudi Arabia

Saudi Arabia is an absolute monarchy.<sup>6</sup> The country is named after the family name of the founder of the Saud dynasty, Abdul Aziz Al-Saud. To legitimate his rule, King Abdul Aziz adopted a century ago an orthodox Islamic doctrine, Wahhabism, which later became central to the state ideology. Since his death in 1953, his four sons who succeeded him enforced the teachings of Wahhabism as the only system of religious belief and way of life allowed for Saudis. The country's heritage as the homeland of the Prophet Muhammad and the location of the holy cities of Mecca and Medina help cement this enterprise.<sup>7</sup>

The origins of Al-Saud family's attempts to rule Arabia go back to the time of the Ottoman occupation of Arab lands (1517-1918). In 1805, Mohammad bin Saud rebelled against the Ottoman Empire seeking the restoration of what he and his Wahhabi partners, led by Muhammad bin Abdulwahhab, considered to be the true Islam. This rebellion was unsuccessful. It was defeated in 1817 by Mohammad Ali, Egypt's ruler, acting on behalf of the Ottoman Sultan. The movement remained quiet until the campaigns of Abdul Aziz Al-Saud, which led to the foundation of modern Saudi Arabia in 1932.

Wahhabism is influenced mainly by the teachings of a ninth-century scholar, Ibn Hanbal (d. 855), founder of the most austere school of Islamic thought among the four surviving Sunni schools of jurisprudence.<sup>8</sup> Such an ideology in the cradle of Islam helps legitimate Saudi rule as a divine sovereignty. Religious orthodoxy has been an effective tool in forcing the unification of the tribes into the Saudi Kingdom in 1932. The orthodoxy has prevailed since that time. M. Al-Rasheed (2003: p.19) wrote: "Wahhabism impregnated the Saudi leadership with a new force, which proved to be crucial

---

<sup>6</sup> The Saudi king is selected from among the male children of King Abdulaziz. The selection is determined by a small group of senior princes and religious scholars known as Ahl Al'aqd walhall (the people with the power to bind and unbind). Once selected, the citizens publicly pledge their allegiance (bay'a) to the new monarch. While, some Islamic jurists consider Ahl Al'aqd walhall as the natural representative of the Islamic nation, they do not provide rules on who might be a member. To Hanbali scholar Ibn Taymiyyah (1263-1328), who influenced Wahhabi thinking, in the absence of a consensus of all people the agreement of two classes, the emirs and the Ulama would be sufficient. Ibn Taymiyya's choice of the emirs and the Ulama, however, might be described as pragmatic and self-serving. Modern technology with its capability to poll all the people with ease has rendered such a caucus obsolete.

<sup>7</sup> Given that the Al-Saud clan: 1) seized power through force and, 2) they do not belong to: a) the family of the Prophet Muhammad or, b) His Quraish Tribe, their claim on legitimacy to rule emanates from the opinion of certain jurists and scholars. For example, the famous Al-Ghazali (1058-1111) considered that the Islamic ruler/imam "can appoint himself, if he possesses the necessary qualifications; and even if he does not possess them, but is willing to consult the Ulama (religious scholars) in the exercise of his functions (A. Hourani, 1997: p.14)." To Al-Ghazali "any ruler is better than chaos, no matter what the origin of his power (Ibid.)." Similarly, the well-known Ibn Jama'a (1241-1333) believed that "the Imam can either be chosen or can impose himself by his own power (Ibid. p.15)."

<sup>8</sup> To the four schools belongs the more than one billion world Sunni Muslims today. They are named after their founders, Abu Hanifa (d. 767) with followings in West and Central Asia as well as the Indian subcontinent, Malik (d. 795) in North and West Africa, and Shafei (d. 820) in East Africa, South Arabia and the Malay Archipelago. Hanbalism, presumably due to its extremism, has had minor following over the centuries. At present, it is practiced by about 2% of Sunnis, mainly in Saudi Arabia and the former rule of the Taliban in Afghanistan. The other three Sunni schools share the remaining 98% of Sunnis. The Muslim followers of Shiism are about 150 millions. They live mainly in Iran and in Iraq and Turkey.



for the consolidation and expansion of Saudi rule. Wahhabism promised this leadership with clear associated benefits in the form of political and religious authority and material rewards, without which the conquest of Arabia would not have been possible.”

Saudi rule should be hereditary among the children (and children’s children) of the dynasty’s founder, King Abdul Aziz Al-Saud. However, his son King Saud was removed from office on March 30, 1964 and replaced by another son Faisal.<sup>9</sup> The election of a legislative assembly is resisted on religious grounds. Invoking Islam, the King asserted on the occasion of appointing his consultative council in August 1993 that, “elections do not fall within the sphere of the Muslim religion.” The King further declared: “ the prevailing democratic system in the world is not suitable for us in this region” [N. Ayubi, 1999: p.427, quoting R. Hardy (1992: p.12- 13)]. Thus, the king is the lawmaker. He enacts the administrative laws. He is the prime minister. He chooses and can dismiss the Crown Prince. He appoints and can dismiss the country’s highest religious authority, the Grand Mufti, along with the judges. The formation of political parties, labour unions, civil society organizations, student and women associations, social clubs and the like are barred. In the absence of such groupings dissent is fragmented.

### **The groups that make up the Saudi power pyramid**

Saudi Arabia’s ruling polity is composed of the Al-Saud ruling family presiding over a narrow power pyramid composed of four client-groups primarily from the Najd Region; namely, Wahhabi sect religious leaders, tribal sheikhs, major business families and the military. A brief description of these groups would contribute to an understanding of the motives behind the ruling family’s allocation, or misallocation, of Saudi Arabia’s scarce resources. The four groups play a central role in the interlocking Saudi power relations, which support the system and the Al-Saud family’s prime position.

The Wahhabi Najdi religious scholars render advice on religious issues, typically in support of their ruler/ benefactor. They have little choice. They disobey at their peril. The King controls the nation’s wealth and the armed forces. His authority is absolute. However, the Najdi scholars provide him essential legitimacy in this authoritarian structure.

The tribal leaders represent pockets of power throughout desert communities. They help control political opposition to the Al-Saud ruling family within their tight tribal social structures and allegiances.

The country’s major merchant families act to watch, control and rally behind the regime their employees, associates and followers. They benefit from an economic system that encourages private property with subsidies and laws helpful to accumulating considerable wealth. 200 dominant merchant families are thought to have an estimated SR250 billions (US\$67 billions) in domestic assets, or US\$333 millions per family (Saudi Arab News newspaper and Saudi Iktisadia newspaper Report, April 2, 2004). This amount is exclusive of foreign holdings by 85,000 private sector Saudis estimated at US\$ 750 billions<sup>10</sup> [Saudi American Bank (SAMBA), April 18, 2001].<sup>11</sup>

---

<sup>9</sup> The removal of King Saud from power in favor of his brother Faisal was decided by 72 princes and by 12 Ulama from the Najd area, four of who were from Al-Sheikh family; descendants of Mohammad bin Abdulwahhab. It may be argued that Saud’s removal from authority was a coup d’etat and un-Islamic.

<sup>10</sup> This amount represents more than four times the country’s GDP in 2000 and, more than the aggregate GDP of all countries in the Arab Middle East in 2000 [computed using data from Middle East Economic Digest (MEED) Databank].

<sup>11</sup> SAMBA estimate as extrapolated from 1995 Merrill Lynch/Gemini Consulting Study. Presented by Samba’s chief economist at a conference in Yanbu, Saudi Arabia entitled “Investing in the Medina Region.”