

## Chapter 4

# Linking Education to Creating a Knowledge Society: Qatar's Investment in the Education Sector

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### ABSTRACT

*Due to the continued high price of oil and gas, the oil-rich State of Qatar has used its large budget surpluses in the last decade to finance human capacity development, including research, higher education, and the reshaping of its K-12 educational system. This chapter argues that the recent substantial educational reforms in the State of Qatar are closely intertwined with planned future economic transformation (diversification). Although Qatar possesses the world's third largest reserves of natural gas, this resource is ultimately finite and over-reliance on one major economic driver (hydrocarbons) for the bulk of GDP creates boom and bust cycles that have shaped Gulf politics and social development since the 1970s. This chapter examines Qatar's educational efforts to build a knowledge economy to transition away from a resource-rich export-based hydrocarbon economy towards economic activities linked to patents, research, trademarked technologies, skills, and knowledge products.*

### INTRODUCTION

Due to the continued high price of oil and natural gas, the State of Qatar has experienced large budget surpluses in the last decade that have been utilized in building infrastructure, financing human capacity development, establishing research capabilities, and funding an innovative educational experiment called Education City (now transitioning to a consolidated institution called Hamad bin Khalifa University). In 2013, 437 students

received bachelor degrees from Education City universities in the science, engineering, medical, and political science fields. The national university Qatar University also offers a full range of Science, Technology, Engineering, and Mathematics (STEM) field bachelor's degrees, but only a small handful of advanced degrees (Masters and PhD) in science and technology; for example, a doctorate in pharmaceutical science. Thus education is viewed as a key sector in creating a knowledge producing regime in Qatar, but further provision for advanced

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education and science and ICT infrastructure is required to achieve this goal.

Production in Qatar's North Field unassociated gas field lying in Gulf waters (one of the world's largest gas deposits and jointly owned by Iran) has reached maturity with 14 Liquid Natural Gas (LNG) trains online; much of this gas is shipped to Europe, Japan, and Korea, and Qatar ranks as the largest exporter of natural gas internationally. Thus Qatar's sovereign wealth funds generated by export revenues which are available for investment and development rose to 112 billion Qatari Riyals in 2010 (QIA, 2012). Sovereign wealth funds are financial instruments frequently employed by oil rich nations to provide investment capital and sequester revenue to prevent rapid inflation and overheating of the economy during boom cycles. Qatar's economy grew extremely rapidly in the last decade and the official 2012 unemployment rate was only .5% (QSA, 2012, p. 2). Although the government has officially signaled its desire to diversify the economy into education and knowledge economy activities, oil and gas are still the primary generators of state income. An important factor to consider is that the majority of Qatari citizens work for the police, military or in government offices as clerks and managers. In 2011, Qataris made up only .5% of the private sector workforce (QSA, 2011, p. 11). The revenue to pay government employees derives almost exclusively from oil and gas revenues generated by State Owned Enterprises, such as Qatar Petroleum, as well as subsidiary industries based on inexpensive hydrocarbon fuel and feedstock – aluminum smelting, plastics, cement, fertilizer and petrochemicals. Thus price shocks in oil and gas markets directly affect government revenues and the state's ability to pay out salaries and benefits to citizens. Current benefits to those holding Qatari passports include free water, electricity, and health care both in public hospitals and abroad, free education from K-12 and higher education (including study abroad) and loans and subsidies for marriage, land and housing. These benefits form part of what political

scientists call the "rentier state bargain" in which citizens obtain financial benefits from the state in return for political support of the status quo.

Thus, creating more industries and small businesses in areas not subject to the price fluctuations of finite natural resources (gas and oil) makes economic sense both in the short and long term. Often overlooked, however, in the discussions of knowledge economy development in the Gulf is the additional factor of national pride and Islamic identity: Arabic-speaking countries are well aware of the golden age of Islamic science in which mathematics, astronomy, and medicine were highly cultivated in Damascus, Cairo, Baghdad and later in Al Andalus at centers of learning such as Toledo and Cordoba. With the resurgence of wealth in the oil-rich Gulf, initiatives in Saudi Arabia, Qatar and UAE are partly aimed at recapturing the scientific culture and learning of a past age. A special issue of the science journal *Nature* in 2006 looked at this movement in depth, and emphasized several important points; for example, "injunctions in the Koran that it is the bounden duty of every Muslim, man or woman, to acquire knowledge" (p. 36). Conservative religious authorities have sometimes been hostile to modern scientific endeavor, believing that it promotes a secular and western view of the world. However, history provides abundant evidence that advanced scientific knowledge and Islam have always been compatible.

The previous Emir of Qatar HH Sheikh Hamad bin Khalifa Al Thani, who voluntarily abdicated in 2013 in favor of his son the Heir Apparent Tamim, along with the former Emir's wife HH Sheikha Moza bint Nasser, engineered a revolutionary change in Qatar's educational system in parallel with Qatar's rapid economic growth. The leadership of Qatar realized that a modern wealthy state whose income depends to a large extent on advanced LNG technology (primarily developed in the U.S.) requires a highly-trained technical workforce. Also, Qatar's oil wells may have already peaked in production, and similar to

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