GCC Agriculture

Bridging the food gap

In the face of rapid population growth and economic expansion, food security is presenting itself as an increasingly pressing policy concern in the Gulf. In response, agriculture in the region is being fundamentally reshaped by a policy shift from the food self-sufficiency goal pursued in the 1970s and 1980s to food security more broadly defined. Given the extreme resource constraints at home, GCC governments are seeking to outsource agricultural production by acquiring land abroad. However, this goal in no way obviates the need for greater efficiency and long-term sustainability in domestic agriculture.

- **Limited potential for agriculture.** Arid conditions in the GCC countries act as a natural constraint for expansive agriculture. Only 1.7% of the total land area is arable. As a result, 60–80% of total food demand is currently met from external sources.
- **Demand patterns are shifting.** A growing population and economic prosperity are driving the demand for agricultural produce. As income levels rise, GCC nations are matching a global shift from grains to animal produce. This transition in turn is putting an increasing drain on the land resources.
- **Past initiatives to boost domestic production have proven prohibitively costly.** GCC nations, in their drive for food self-sufficiency, ended up overdrawing on their extremely scarce water resources. In the past decade, farm acreage across the region has fallen as depleted water resources have undermined agricultural production.
- **Reliance on imports set to increase.** In the face of growing demand, the region has tried to boost agricultural output through productivity increases. The room for further progress is constrained by a scarcity of water, however. The GCC regions' reliance on imports is therefore likely to rise further
- **The GCC is highly vulnerable to external food price shocks.** The growing import dependence is coinciding with increasingly tight global food markets and elevated price volatility. Rising food prices since 2003 culminated in the 2007-2008 food price shock which stoked inflation and exposed the quantity risk of GCC nations not being able to procure food due to embargoes by exporting countries.
- **Outsourcing and sustainable agriculture are needed to ensure food security.** The GCC nations are acquiring farmlands abroad, especially in countries that have untapped land/water resources and are geographically and culturally close. This is not a complete solution, however, since it exposes the regional imports to political and weather-related risks. Hence, GCC governments must also encourage adoption of modern irrigation and dry farming, which can sustainably cater at least for some of the local demand.

Chief Economist
Dr Jarmo T. Kotilaine
j.kotilaine@ncbc.com

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Introduction

The GCC countries are shifting their agricultural priorities from self-sufficiency to food security

The GCC nations are shifting their agricultural policies away from the nationalistic goal of food self-sufficiency towards more flexible and broad-based efforts to ensure food security. The previous policies were ultimately undermined by acute constraints posed by the natural environment and resources on domestic agriculture. This shift is translating into greater reliance on imports, outsourced agriculture and a greater focus on dry agriculture.

Agriculture contributes only around 1%-4% of the GCC countries' GDP as compared to 10%-20% for their emerging market counterparts

Agriculture does not represent a significant component of the GCC economies as an exceptionally arid climate and low capital investments have limited its contribution to GDP and employment. Agriculture accounts for 1–4% of the GDP of the GCC nations, significantly lower than its 10–15% contribution in relatively more water-rich Middle East nations such as Egypt and Turkey and 15–20% in India and China. In terms of employment, the sector is most important in Oman and Saudi Arabia but of negligible importance elsewhere in the region. Lower urbanization in Oman and Saudi Arabia, coupled with a more aggressive regulatory push to develop the sector have led to 35% and 9% of the economically active population, respectively, being employed in agriculture.

Exhibit 1: The economic importance of agriculture is low in the GCC

Country	Average (1997–2006) Contribution to GDP (%)	Average (1997–2006) % of economically active population
Bahrain	0.9	1.0
Kuwait	0.5	1.1
Saudi Arabia	4.4	9.1
Oman	2.2	35.4
UAE	2.9	4.6
Turkey	12.3	41.9
China	14.4	63.2
Egypt	15.5	29.4
India	21.6	56.9

Source: FAO, NCBC Research

Growing food consumption and rising prices in the past few years have forced GCC policymakers to focus more attention on agriculture

In spite of the low value added, the agricultural sector's social and political importance remains considerable, not least because of food price pressures. Food consumption, especially of high-value products such as meat and dairy, is growing as the population base expands, urbanization rates increase and disposable incomes grow. On the other hand, domestic agricultural yields are declining, thus resulting in greater reliance on imports. The high and increasing dependency on food imports in the face of a tightening global demand-supply balance exposes the Gulf economies to external inflationary risks. The food price shock of 2008 was a salient case in point, made worse by the broader backdrop of accelerating inflation. The limited monetary policy autonomy of the regional central banks, due to the Dollar pegs, created considerable challenges for policymakers who were forced to resort to a combination of short-term measures with relative modest effects. Faced with simultaneous pressures of rising demand, falling domestic agriculture yields and what looks like a long-term secular trend of global food price inflation the GCC nations require comprehensive food security plans.

Demand outpacing supply

The demand for all food products has seen robust growth in the GCC. Total consumption of food products (crops, vegetables, meat, eggs, fish, fruits, sugar, oil, poultry and dairy) grew from an average of 28.9mn metric tons (tn) in 1999–2003 to 38.0mn tn in 2007. The consumption of cereals and pulses, which accounted for 46% of total GCC food consumption in 2007, grew to 17.4mn tn in 2007 from an average of 12.4mn during 1999–2003. Consumption of animal products (meat, fish, eggs and dairy) reached 8.2mn tn in 2007, up from an average 6.4mn during 1999–2003 and made up 21% of total consumption in 2007.

Beyond the broader trends, however, dietary patterns vary a great deal across the Gulf region:

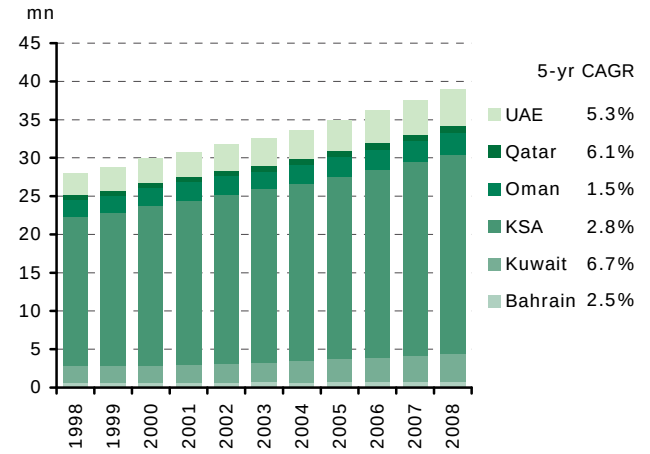
- Cereals account for 52% of total food consumption in Saudi Arabia. The Kingdom is the largest consumer of agricultural produce in the region accounting for 66% of total GCC food consumption and for three-quarters of cereals consumption (2007).
- Within cereals, the Saudis tend to prefer barley which regionally accounts for 46% of total cereals consumption, followed by a 25% share for wheat and flour. However, barley is not popular outside of Saudi Arabia, having a share of only 9% in the rest of the region where wheat and rice dominate with 38% and 28% respectively.
- Vegetables and fruits are the largest component (35%) of food consumption in the UAE.
- Bahrainis are amongst the lowest consumers of cereals in the region. Their share of 15% compared to 41% for animal produce. Kuwait and Qatar are two other nations with a relatively high reliance on animal produce (36% and 39%, respectively).

Rapidly growing populations and rising per capita consumption are the key drivers for growth in food consumption in the GCC nations

Demand for agricultural produce in the GCC is driven by a growing population and rising per capita consumption. Population growth in the GCC, stimulated by oil-led economic growth and improving standards of living, is internationally high. The regional population grew at a CAGR of 3% to 40mn in the decade spanning 1998 to 2008. Saudi Arabia and the UAE accounted for 67% and 12% of the regional population respectively in 2008. Rising regional food consumption levels are the second most important demand driver. The Food and Agriculture Organization of the United Nations (FAO) expects food consumption levels in the Near East and North Africa[1] region to rise to an average 3,170 kcal/capita/day by 2030. Consumption levels in the GCC nations are likely to be well above the regional average. The 2001 average for Saudi Arabia, Kuwait and the UAE was 2,840 3,050 and 3,200 kcal/capita/day, respectively.

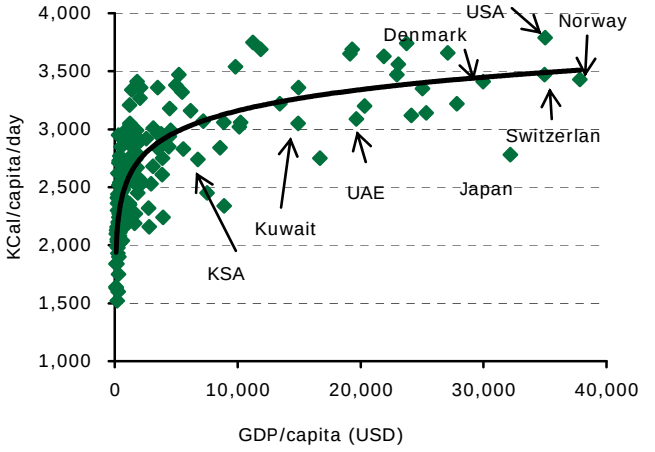
[1] FAO regional structure, the Near East region includes the following 30 countries: Afghanistan, Algeria, Azerbaijan, Bahrain, Cyprus, Djibouti, Egypt, Iran, Iraq, Jordan, Kuwait, KSA, Kyrgyzstan, Lebanon, Libya, Malta, Mauritania, Morocco, Oman, Pakistan, Qatar, Somalia, Sudan, Syria, Tajikistan, Tunisia, Turkey, Turkmenistan, UAE and Yemen.

Exhibit 2: GCC population is growing rapidly



Source: FAO, NCBC Research

Exhibit 3: Food consumption rises with income

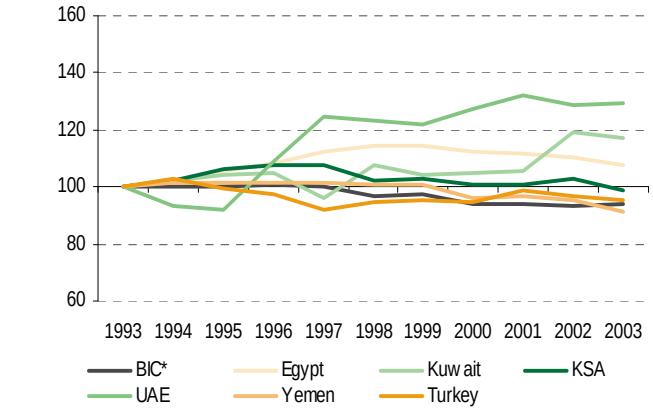


Source: AOAD, IMF, UN, NCBC Research

Increasing income levels and rising prosperity are leading to a shift in food consumption patterns with the demand for meat products rising fast and contributing to more intensive land use

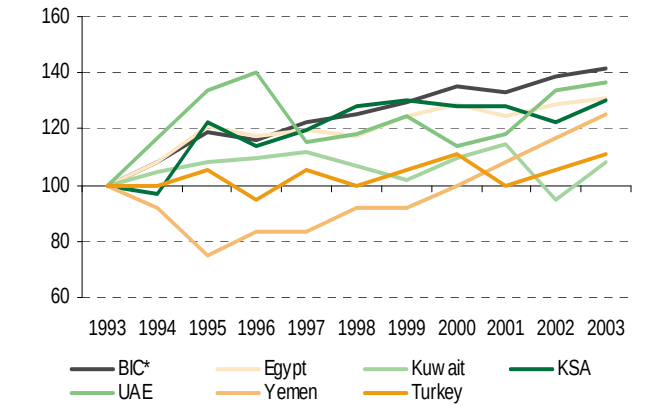
Increasing prosperity is shifting consumption patterns. As in other developing countries, the GCC nations are seeing low or negative growth in cereals consumption coinciding with higher demand for animal produce such as meat, eggs, and dairy. Between 1993 and 2003, per capita consumption of meat in the three largest regional economies — Saudi Arabia, the UAE and Kuwait — grew at an annual 2.2% as compared to a CAGR of 1.3% for cereals. Saudi Arabia saw a 0.1% annual decline of in per capita cereal consumption as compared to a 2.7% annual growth in meat consumption. Similar patterns obtain elsewhere. China's per capita meat consumption grew at a CAGR of 5.0% in 1993-2003 while its cereal consumption declined by 2.5%. Egypt saw a 0.2% decline in cereal consumption per head while meat consumption grew 2.3% during the same period.

Exhibit 4: Cereals consumption index (base: 1990)



Source: FAO, NCBC Research
*Average of Brazil, India and China

Exhibit 5: Meat consumption index (base: 1990)



Source: FAO, NCBC Research
*Average of Brazil, India and China

Natural constraints limit agricultural growth

A scarcity of arable land and water have limited the growth of GCC agriculture

A scarcity of water and arable land pose natural constraints on expansive agriculture in the Gulf region. Large-scale crops are effectively limited to cereals (primarily wheat), vegetables, potatoes, and fruit, most notably dates. There is effectively no production of cash crops such as tea, coffee, and jute. The lack of

renewable water is the main roadblock in this regard. The availability of renewable water per capita in the GCC ranges from 35–550 cubic meters (cu m) per year compared to as much as 89,082 cu m in water-rich nations such as Canada or 43,487 cu m in Brazil. Similarly, arable land forms less than 2% of total land mass in all GCC nations. The cultivated area in KSA and the UAE account for 1.7% and 3.0% of the total area, respectively.

Exhibit 6: Arable land in the GCC and benchmark comparisons

Country	Arable land as % of total land
Bahrain	8.5%
Kuwait	1.0%
Saudi Arabia	1.7%
Oman	0.3%
Qatar	1.9%
UAE	3.1%
US	18.4%
UK	23.7%
Turkey	33.9%
Egypt	3.5%
Brazil	7.8%
China	16.3%
India	51.6%

Source: FAO, NCBC Research

Farmland expansion to be minimal

Limited water resources have curtailed the farmland expansion to a bare minimum in the GCC countries

The expansion in farmland acreage is likely to remain minimal as GCC governments seek to ensure sustainable water use. The regional governments have now all but abandoned their goal of agricultural self-sufficiency, a key focus of policy from the 1980s to mid-1990s. In order to make cereals cultivation economically viable, governments offered generous incentives and subsidies including farmland and financial assistance for inputs such as digging irrigation wells, purchasing seeds and fertilizers. Price support programs were adopted for priority crops such as wheat. The regulatory impetus encouraged an expansion in production. The GCC nations (excl. Bahrain) saw a 15% annual expansion in the area under cereal cultivation between 1980 and 1990 followed by a 31% annual growth in cereal production. The area devoted to cereals in Saudi Arabia, which accounts for 99% of GCC cereals production, expanded at a 15% CAGR with a 32% annual increase in production.

Water tables across the region have dropped significantly in recent years

However, the expansion in agriculture activity proved a major drain on the region's water resources and most of the water utilized for irrigation in the GCC came from non-renewable groundwater, leading to alarming drops in the water table across the region. All GCC governments have subsequently decided to move away from food self-sufficiency to food security policies. After sharply dropping in the 1990s, the area devoted to cereals production has been on a very slow upward trend due to high demand growth. Nonetheless, with limited arable land, there is little room for further expansion in farmland acreage.

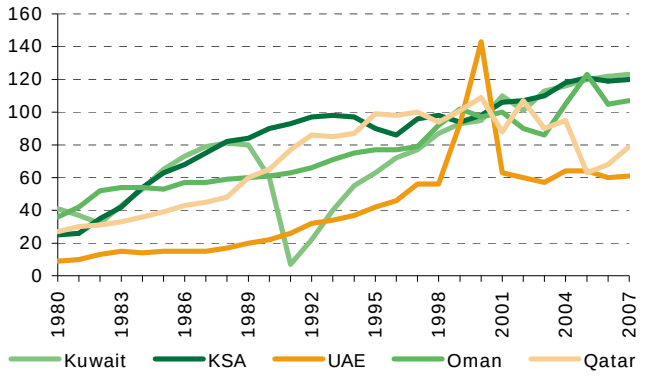
Although rising yields have supported production…

An increase in agricultural yields, especially in Saudi Arabia, in the last decade has helped boost food grain production

Improving yields have pushed up production levels. The gross agriculture production index compiled by the FAO (base: 1999–2001) points to increasing production in Bahrain, Kuwait, Oman and Saudi Arabia. The UAE has seen the sharpest fall in agriculture production since 1998, with the cultivated acreage and yields both declining. The higher production levels in Saudi Arabia over the past decade can be largely attributed to rising yields. For instance cereals production grew by 3% annually in 1997–2007, reaching 3.0mn tn aided by a 4% annual improvement in production yields (5,202 kg/ha in 2007 compared to 3,563 kg/ha in 1997). The higher yields more than offset the 1% decline farmland devoted to wheat cultivation.

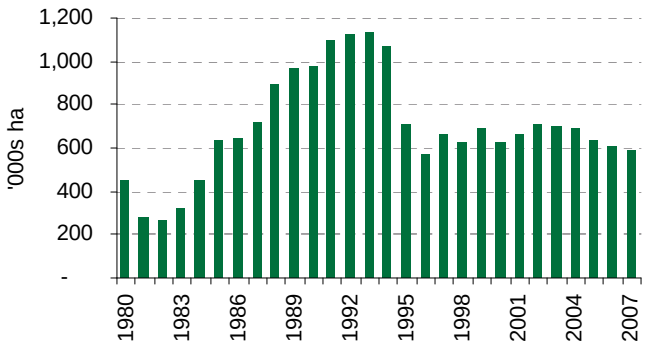
Exhibit 7: Yield improvements have driven production, offsetting the declining acreage

GCC Gross Agricultural Production index (base 1999-2001)



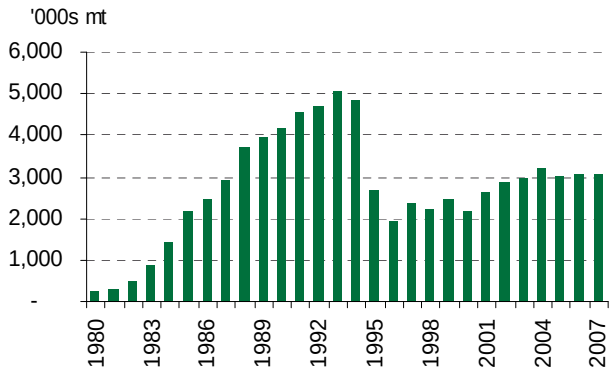
Source: FAO, NCBC Research

Cereals: area harvested in the GCC (ex-Bahrain)



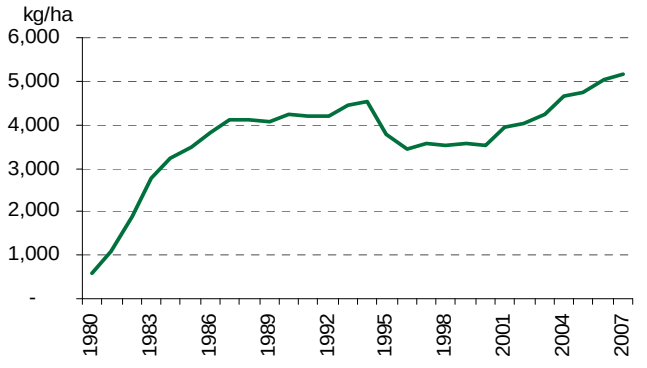
Source: FAO, NCBC Research

Cereals production in the GCC (ex-Bahrain)



Source: FAO, NCBC Research

Cereals yields in the GCC (ex-Bahrain)



Source: FAO, NCBC Research

…improvements in yields likely to stall

Greater fertilizer usage and mechanization were the key drivers of rising productivity and yields in agriculture

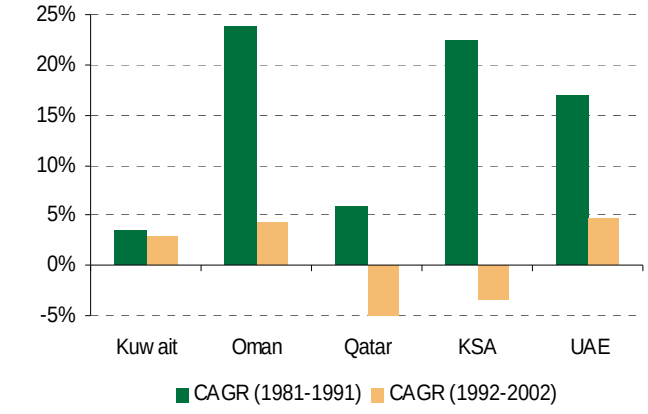
Agricultural yields improved dramatically in the 1980s and 1990s due to mechanization and increased use of fertilizers and pesticides. Mechanization advanced with the implementation of large-scale farming, while fertilizer use was a critical driver of higher production in view of the poor soil quality in the GCC. The number of tractors in use in the region grew by an annual 7% — from 2,248 in 1980 to 10,689 – in 2002. Similarly, fertilizer use rose by a compounded 11% from

73,673 tn in 1981 to 430,410 tn in 2002, the latest year for which this data is available.

However, the improvement in agricultural yield has begun to decline due to the lack of support from the regional governments

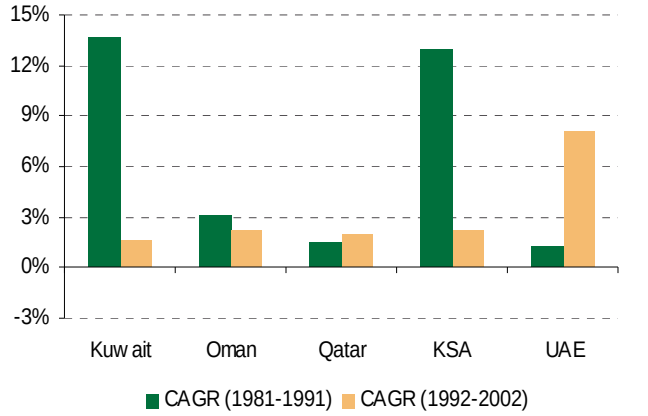
However, the rate of improvement in yields is now declining as governments have de-prioritized agriculture. As compared to a 12% (CAGR) annual increase in cereals yields between 1981 and 1994, the rate of increase slowed to a CAGR of only 1% during 1995–2007. A key cause appears to have been a far slower pace of modernization, albeit in many cases against the backdrop of sharply diminishing returns. The number of tractors grew by 2% annually in 1992–2002, far short of the annual growth of 12% in 1981–1991. The UAE was the only GCC country to experience faster growth in the number of tractors in the 1990s. Fertilizer use, which increased at a CAGR of 22% between 1981 and 1991, declined to an annual 3% between 1992 and 2002. This trend was above all due to reduced government subsidies on inputs such as fertilizers and seeds as well as declining availability of water.

Exhibit 8: Declining growth rate of fertilizer use



Source: FAO, NCBC Research

Exhibit 9: Declining growth rate of tractors in use



Source: FAO, NCBC Research

The GCC's dependence on agricultural imports set to increase

The GCC region, already among the largest food importers, is set to witness a significant growth in import of food products in the coming years

Together with shrinking farmland, the slowing yield improvements herald growing deficits between domestic demand and production in the GCC, thereby increasing the region's reliance on agriculture imports. In 2007, the GCC nations' import bill for agricultural commodities was USD10bn, 1.3% of that year's regional GDP and nearly 1.7 times the average value of net imports of USD5.9bn during 2000–2004. At USD4.9bn, Saudi Arabia's net imports accounted for half of the total regional imports by value in 2007 and were 68% higher than the average import bill during 2000–2004. The UAE contributed 28% to the GCC's aggregate food import bill in 2007. UAE imports of USD2.8bn were 89% above the 2000–2004 average. Apart from wheat, potatoes, vegetables, fruits, fish and dairy, more than half of all regional consumption needs of other food products is met through imports (see table below). In Saudi Arabia, the near self-sufficiency in wheat will give way to total import-dependency by 2016.

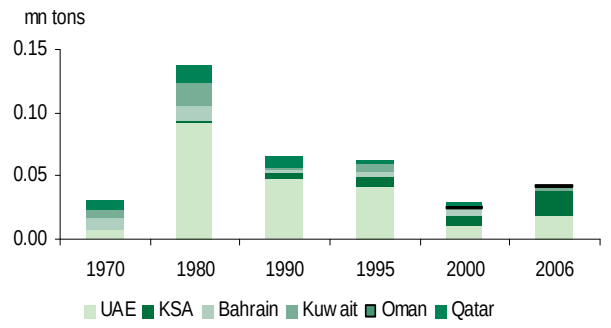
Exhibit 10: Imports as a proportion of consumption (2007)

Country	Bahrain	Kuwait	KSA	Oman	Qatar	UAE	GCC
Wheat and flour	100%	99%	2%	99%	100%	100%	39%
Maize	100%	92%	91%	100%	93%	100%	92%
Rice	100%	100%	100%	100%	100%	100%	100%
Barley	100%	96%	100%	92%	98%	100%	100%
Potatoes	100%	17%	-2%	76%	100%	91%	19%
Pulses (total)	100%	100%	100%	100%	100%	89%	98%
Vegetables (total)	78%	41%	22%	36%	86%	62%	37%
Fruits (total)	77%	73%	35%	23%	77%	47%	40%
Meat (total)	62%	62%	44%	73%	89%	80%	56%
Fish	-51%	64%	40%	-74%	36%	29%	16%
Eggs	43%	37%	-4%	53%	63%	62%	19%
Milk & Dairy products	91%	92%	72%	64%	93%	83%	77%

Source: AOAD Food Balance Sheet

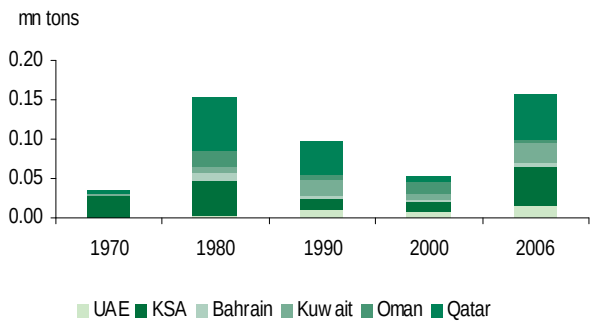
Exhibit 11: GCC food imports have increased significantly

Fruit imports



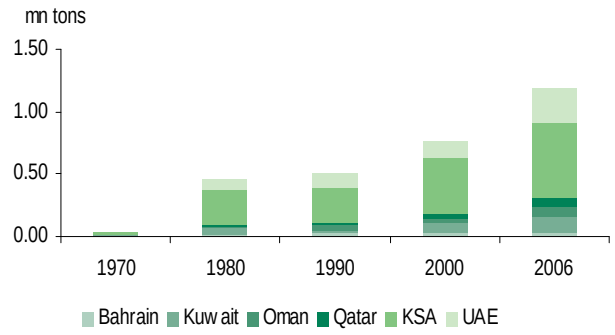
Source: FAO, NCBC Research

Vegetables



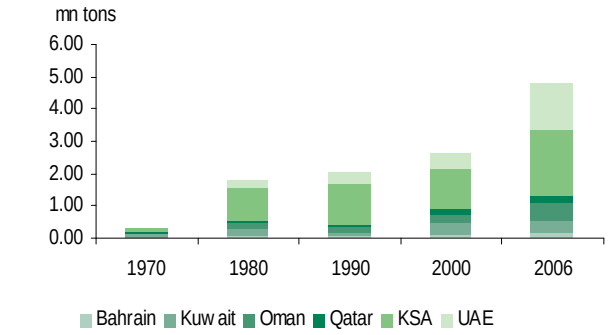
Source: FAO, NCBC Research

Meat



Source: FAO, NCBC Research

Milk



Source: FAO, NCBC Research

Global food price inflation and its impact on the GCC

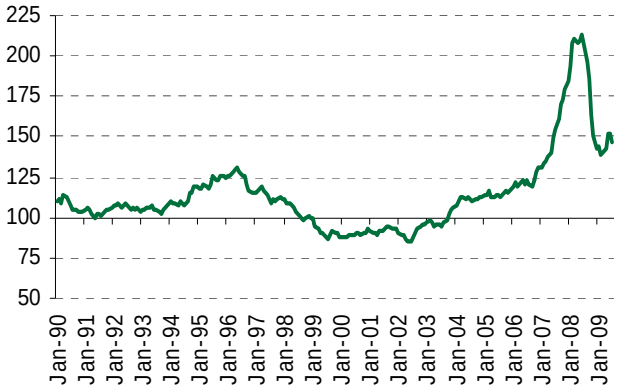
Rising consumption globally and the diversion of food grain toward biofuels has led to sharp volatility in prices of agricultural commodities

Global food price shocks look likely to increase in frequency as relatively small shifts in supply can now lead to large price swings. Demand growth is set to remain robust because of the traditional drivers of population growth and rising incomes (especially in developing countries), while the more recent impetus for biofuels has resulted in competing claims for agricultural land. At the same time, slowing productivity growth, falling acreage and low food grain inventories are limiting supply growth. The overall effect is an increasingly tight demand-supply balance.

The food price inflation of 2007-2008 was largely driven by a structural demand-supply mismatch

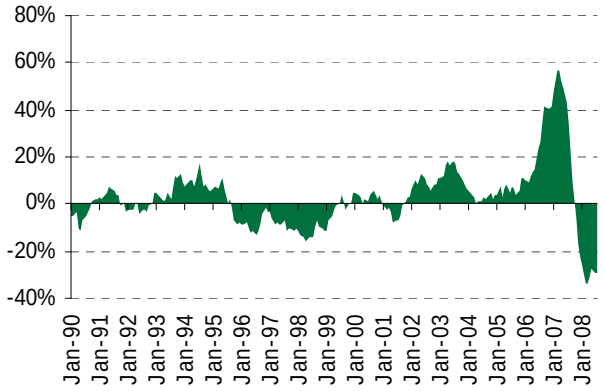
The food price shock of 2007–2008 was amongst the most pronounced in recent history and differed markedly from past price hikes. The FAO food price index (base 2002-2004=100) grew by 7% in 2006 followed by another 26% in 2007 and 11% in the first half of 2008. However, the onset of the financial crisis finally triggered a 33% correction in the second half of 2008. Nonetheless, food prices have not eased below 2007 levels and in fact the index gained 2% between December 2008 and July 2009. In a departure from previous cyclical price variations, this bout of inflation seems to signal a secular trend. Coming after a long stretch of falling food prices between 1995 and 2003, the price rise has been unusually protracted. Another sign of a longer-term structural shift was the broad-based nature of the trend — almost all major food commodities saw a surge in prices. 2006 is widely recognized as the year which ended the 'era of cheap food.' In the 30 years leading up to 2006, the average cost of the global food basket declined by nearly 50%[2]. Moreover, a number of demand and supply factors are likely to intensify in forthcoming years.

Exhibit 12: A structural break in food prices…



Source: FAO, NCBC Research

Exhibit 13: …with the largest increase in 2007-08



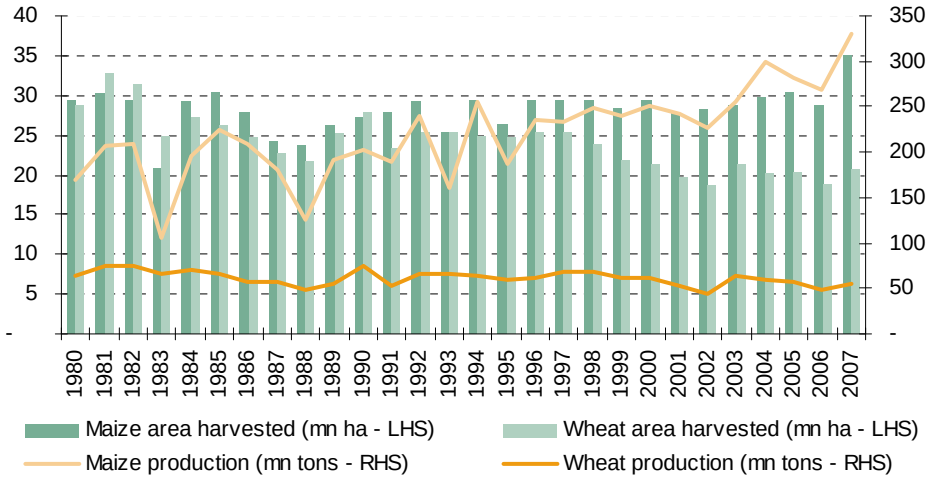
Source: FAO, NCBC Research

[2] "State of the Agricultural Commodities Market 2009", FAO

The use of maize and rapeseed for producing ethanol and biodiesel was one of the key contributing factors in food price inflation in 2007-08

The growing popularity of biofuels has added another structural driver of food price inflation. FAO studies suggest that the demand for maize (used in the production of ethanol) and rapeseed (used in biodiesel production) have contributed most to higher food prices due to the replacement effect. Given the commercial attractiveness of these commodities, farmers are shifting their production from primary crops such as rice and wheat to biofuel feedstocks. The FAO estimates that 75% of the additional 40mn tn of maize cultivated globally in 2007 was absorbed by ethanol plants. The shift was mainly confined to the USA, the largest maize producer and exporter, where ethanol production accounted for 30% of maize use. Similarly nearly 60% of domestic rapeseed production in the EU was used in biodiesel production. The rapeseed used for biodiesel in the EU that year represented 25% of the global output and 70% of global rapeseed trade in 2007.

Exhibit 14: Trends in US grain production

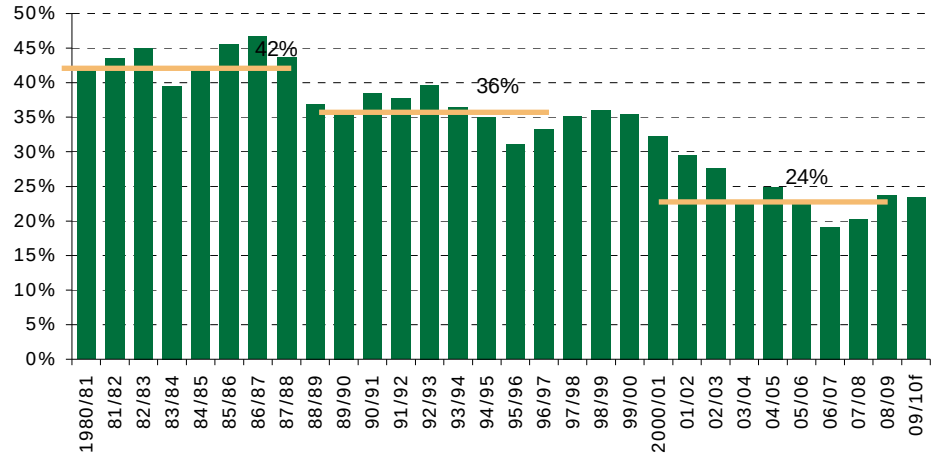


Source: FAO, NCBC Research

Agricultural stock levels have been falling consistently since the last three decades in major consuming nations such as the US

Slower growth in agricultural productivity and low stock levels contribute to the probability of higher prices and price volatility. An easing of the demand-supply balance is conditional on productivity growth at least outpacing population growth. Under the tight supply scenario, stock levels are an important buffer for ensuring that price movements do not turn into shocks. However, the ratio of stocks to ongoing consumption has been falling over the past three decades and has been especially low relative to historical levels in the 2000s. The cereals stock to consumption ratio was 42% in 1980–1990, 36% in 1990–2000 and an FAO-estimated average of 24% in 2000–2010. Stocks were depleted particularly rapidly after 2002-2003. Low stock levels in the major exporter nations are a particular concern as supply disruptions in their domestic markets risk spilling over to global markets. For example, the wheat stock-to-use ratio in the US stood at 13.2 at the end of May 2008.

Exhibit 15: Global cereals stock to consumption ratio is falling



Source: FAO, NCBC Research

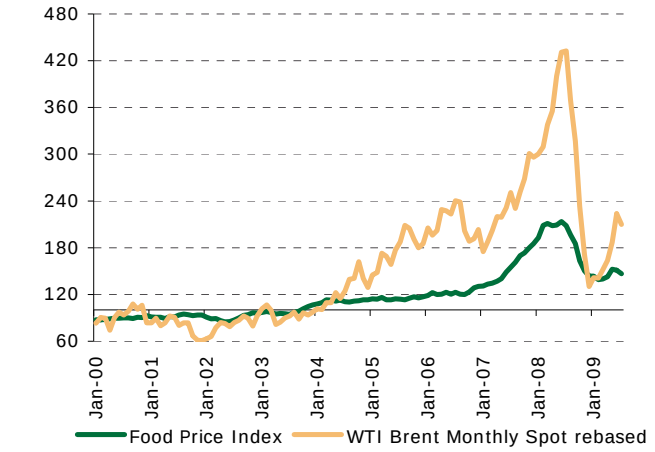
Given their reliance on imports, the GCC nations are significantly exposed to inflation and quantity risks

For the GCC nations, the global trends are emerging as potentially major hurdles for ensuring food security. In particular, the GCC nations are exposed to inflationary and quantity risk. The historical correlation between food and oil prices – driven by the cost of key inputs such as diesel, fertilizers and transportation costs – offers a measure of protection for the GCC given the increased ease of covering rising import bills. For instance in 2006–2008, higher oil prices also contributed to high food prices by stimulating the demand for biofuels. However, the oil-related healthy fiscal balances of the GCC nations made the shock easier to accommodate.

Almost all the GCC nations saw food prices increasing at an unprecedented rate and inflation reaching double digits in 2007-2008

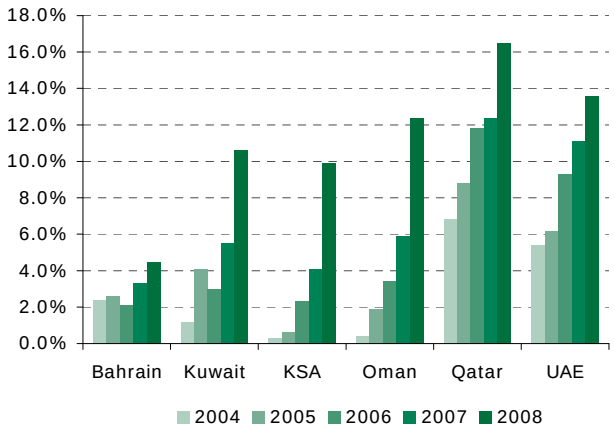
The GCC nations' vulnerability to external price shocks is particularly pronounced. Food forms a large component of the consumer price index in the region. In 2007, it accounted for 36% of Kuwait's Consumer Price Index. The corresponding figure was 30% in Oman, 25% in Saudi Arabia, 19% in Qatar and 14% in the UAE. Coming against the backdrop of a wave of petrodollar liquidity, rising food costs in 2007–2008 contributed to a dramatic departure from a long history of price stability. The authorities found the inflationary pressures difficult to counteract because of their limited autonomy in monetary policy due to the exchange rate pegs. Food inflation thus presents a potentially considerable socio-economic risk which the authorities are poorly equipped to deal with.

Exhibit 16: Food prices have closely followed the trend in other commodities prices



Source: FAO, EIA, NCBC Research

Exhibit 17: GCC inflation spiked and reached to double-digits in 2008



Source: MEED, NCBC Research

Quantity risk could become an even greater challenge in years to come. Given their high import dependency, a failure to source sufficient quantities of food represents a major security concern for the GCC nations. The recent bout of inflation among other things provided an indication of risks of export bans and other restrictions.

The growing demand for food, especially in other emerging economies such as China and India, exposes the GCC nations to significant quantity risk

Problematically, domestic consumption constituted the vast majority of farm output globally. According to FAO estimates, 82% of global wheat production is consumed directly by the producer nations. In the event of shocks and shortages, exports tend to suffer more than domestic consumption. Indeed, export bans were among the most common actions taken by wheat and rice-surplus countries during the price peak of 2007 and 2008. This included major grain exporters such as Argentina, China, India, Pakistan, Cambodia, Russia, and Egypt. Quantity risk in agricultural commodities is a major threat to food security due to the inelasticity of demand (food basket mix might change in response to prices but can rarely be replaced) and supply (time lag between two crops does not allow immediate response to prices).

The GCC nations import the vast majority of their rice from India and Pakistan, which are witnessing an increasing domestic demand for food

The situation is made even more complicated by the heavy dependency on a limited number of producers for some key commodities, most notably rice. India alone currently provides more than 50% of the rice imported by the GCC. The neighboring Pakistan makes up another one-third. In effect, GCC rice exports are almost entirely made up of basmati rice produced in the Punjab region which was split between the two countries in 1947. The shares of the next most important exporters – Thailand and the US – are in the single digits. This lopsided pattern created major risks given the fact that India's population growth already exceeds productivity growth, while Pakistan is a net importer of food. Both countries, especially Pakistan, are affected by severe water shortages. Given the growth in domestic demand in the Indian sub-continent, GCC rice exports are critically at the mercy of weather patterns in the Punjab.

The GCC nations have begun to stock food grains as a buffer against unforeseen external shock

Strategic reserves are increasingly talked about as a mechanism for managing price and quantity fluctuations. A growing number of proposals have been put forward in recent years, but the Gulf countries are also increasingly beginning to take unilateral action in this area. Oman has an already functioning buffer for 3-4 months and both Saudi Arabia and the UAE are in the process of setting up similar systems. The system has its own risks, however, given the much longer cycle of many harvests. Moreover, the absence of international coordination for a system with limited margins may merely serve to increase price volatility instead of mitigating it. However, broader international solutions, however attractive conceptually, may pose coordination problems and political as well as cost challenges.

Challenges abound

A number of significant challenges confront the GCC authorities in the area of food security, not least because of the unsustainability of previous policy choices. For instance Saudi Arabia in the 1970s launched a program to attain self-sufficiency in wheat production. To this end, the Kingdom leveraged on its oil wealth and at one point even guaranteed SAR3,500 (USD933.5) per ton of wheat to farmers, far ahead of the prevailing international prices. For instance 1979, the Saudi import price was only SAR967.35.

Saudi Arabia, after achieving self sufficiency in the mid-1980s, started exporting wheat to around 30 countries

The goal of self-sufficiency was ultimately successfully reached by the mid-1980s. By the early 1990s Saudi Arabia was an internationally important surplus producer that exported wheat to almost 30 countries including China and the former Soviet Union. However, after a period of modifications, the program was ultimately abandoned in January 2008 given its detrimental effect on fragile fossil water resources. With almost 1,000 tn of water required to produce a ton of wheat, Saudi Arabia's wheat exports resulted in 'virtual exports' of water. The Saudi government decided to reduce its direct wheat purchases from farmers by 12.5% every year with the ultimate goal of full reliance on wheat imports by 2016. In connection with this policy reversal, authorities in the GCC started to focus on outsourcing agriculture, along with pursuing initiatives that promote sustainable development of the local agriculture sector.

Outsourcing agricultural production

The strong fiscal position of the GCC governments has allowed them to pursue agriculture production abroad

In recent years, fiscally strong governments and agricultural corporations have increasingly begun to invest in land abroad for the purposes of food security or biofuel resource procurement (or sometimes both). The GCC governments have become important participants in this process. However, this ambition is putting them in competition with countries such as China, which was one of the pioneers in this area because of its large populations and falling agriculture yields.

Investments in foreign farmland are now increasingly being shaped by governments rather than corporate players, which in the past sought to benefit from lower production costs in developing nations. The role of the public sector is growing through direct investments and state-sponsored entities or public-private partnerships such as the King Abdullah Initiative for Saudi Agricultural Investment Abroad. With the nature of investors changing, the motive of land acquisition is also evolving from profit to food/energy security. In line with this, the mix of target crops has begun to shift away from cash crops such as bananas, coffee, and tea toward staples and biofuels such as wheat, maize, rice, and jatropha.

Developing nations have seen foreign agricultural investments of some USD20-30bn over the past few years

Strategic farmland acquisitions are primarily taking place in resource-rich developing countries. The target countries are typically likely to have under-invested in their agricultural sectors, which are further characterized by low production costs in combination with abundant land and water resources. Investments also depend on type of crop required to be procured (which may require specific weather conditions) and geographic proximity to the acquiring nation. The International Food Policy Research Institute (IFPRI) last year estimated that some 15–20mn ha of farmland in poor countries has been acquired or been

subject to talks with potential foreign buyers since 2006 in deals worth USD20bn–30bn. Africa has been a particular area of interest.

The GCC countries have been investing primarily in North-East Africa and South Asia. Instead of looking at investments in major exporter nations such as the US, the EU, and Australia, the GCC nations have tended to focus on countries that are geographically close and have established ties to the GCC. Sudan and Pakistan in particular have figured prominently in connection with these efforts. The underdeveloped agricultural sectors of these countries leave room for yield improvement, while their geographic proximity helps keep transportation costs in check. The established political and cultural ties are seen as a safeguard against the risk of embargoes. Saudi Arabia and the UAE have now emerged as leaders in acquiring land in third countries with media reports suggesting the two taken together hold 2.8m ha primarily in Sudan, Pakistan, Turkey, and Indonesia. Saudi officials have also reportedly had talks for investments in Australia, Brazil, Egypt, Ethiopia, Kazakhstan, South Africa, and Vietnam.

The GCC nations are also promoting the private sector to acquire overseas land for agricultural activities

The GCC nations are not only investing directly but also supporting the private sector in acquiring land overseas. A private Saudi firm Planet Food World (PFWC) is reportedly planning to invest around USD3bn in Turkey's agriculture sector with the goal of exporting farm products back to the GCC. PFWC is planning to build around 20,000 farms with an average area of 10,000 square meters each to cultivate vegetables, fruits and raise cattle, poultry and sheep. PFWC has also invested in Ethiopia. Hail Agricultural Development Company (Hadco), formerly a listed company, but acquired by Almarai (2280.SE) in 2009, recently acquired around 8,900 hectares of land in Sudan on a 48-year lease. Hadco is planning to invest in Turkey and Kazakhstan as well.

Increasing investments have promoted economies such as Sudan to further attract investors

Recipient countries have generally welcomed these investments as the deals are seen as a means of fast-tracking the development of their agriculture sectors. Some countries, such as Sudan, have even held road shows for potential investors as a way of accelerating the process. In return for the land, the inherent water rights and guaranteed access to the food produced on that land, the emerging agricultural producers receive foreign direct investment and indirect development benefits linked to the modernization and growth of their agricultural sectors. Supporters of such deals tend to focus on benefits such as job creation, the development of transportation and logistics, and broader rural development. For the global economy, this type of geographic specialization promises benefits in terms of overall productivity and economic growth. It is primarily for this reason that such deals are being encouraged by global organizations such as the FAO, especially when the investments are taking place in countries that cannot finance the necessary capital investments in their agriculture sector themselves

Many land acquisition deals are accompanied by promises of bringing in superior technology and know-how. During the China-Africa summit held in November 2006, for example, China agreed to set up ten agricultural research centers in Africa in an effort to boost farm productivity. Three GCC financial institutions are planning to invest some USD9bn in Turkey under an alliance named Vision3. The output of the farmland would be exported to Bahrain and in exchange, the alliance would develop dams, irrigation networks and power stations in Turkey. The UAE is offering to

develop infrastructure in Pakistan in return for ownership rights to the land in Pakistan and control over all production on that land. Pakistan has also offered Saudi Arabia farmland in exchange for oil supplies.

The acquisition of foreign farmland risks exposing the GCC nations to significant geopolitical and weather risks

In spite of the numerous benefits, there are many arguments against land acquisition in other countries. By investing in farmland abroad, the GCC nations are taking on the inherent geopolitical and weather risk of other countries. By contrast, global markets offer more flexibility allowing for imports from diverse set of countries, should there be crop failures in primary exporters to the GCC. Furthermore, many African countries are themselves net borrowers of food with for instance Sudan depending heavily on food aid to feed a large proportion of its population. In the past, farmland investment deals have had severe political ramifications when the local population is opposed to foreign acquisition of land assets. The most prominent case in point was the 2009 debacle of Madagascar's government when South Korea's Daewoo Logistics negotiated a deal for a 99-year lease of 1.3m ha or more than half of Madagascar's agricultural land. The long-term sustainability of the GCC countries' foreign farmland investments is dependent on tangible benefits to agriculture productivity and rural development in the host country without any serious ramifications on local employment and land holding rights.

Pursuing sustainable agriculture

Apart from outsourcing agriculture production, the GCC nations have made pursuing sustainable agriculture a policy priority

In spite of the progress of the outsourcing strategy, it is unlikely to ever become the sole focus of the GCC's agricultural strategy. Sustainable agriculture at home is another priority area. Efforts to maintain a balance between scarce water and land resources and pursue domestic agriculture have prompted the introduction of modern irrigation techniques that optimize water use in the GCC. Nonetheless, traditional irrigation (eg flood irrigation) remains common in the region. Moreover, productivity is often undermined by a lack of drainage and attention toward ecological considerations, although significant positive progress has been made especially in Bahrain.

The World Bank further classifies domestic agricultural support into three categories in ascending order of the severity of their impact on international trade

- **Amber box support**: Includes direct payments and administration of prices for product-specific subsidies and general support for factor inputs and capital
- **Blue box support**; Payments to farmers (usually linked to past production volume) for keeping part of their land idle or in return for the imposition of production quotas
- **Green box support**: The provision of services through government departments and institutions for research, pest control, infrastructure, public warehousing (only for food security), natural disaster relief, insurance and income-safety net

Exhibit 18: An overview of GCC agriculture

	Bahrain	Kuwait	Saudi Arabia	Oman	Qatar	UAE
Land						
Cultivated area (000 ha)	4	7	1,214	59	6	255
Cultivated area (% of total)	6%	0.4%	1%	0%	1%	3%
Area under permanent crops (000 ha)	3	1	201	46	3	190
Area under permanent crops (% of cultivated)	76%	20%	17%	78%	54%	75%
Greenhouse cultivation (Ha)	NA	NA	3,214	NA	67	25
Agriculture water use						
Agric. water use (m cu m/yr)	159	492	20,826	1,168	262	3,312
Agric. water use (% of total used)	45%	54%	88%	88%	59%	83%
Agric. water use (% of renewable resources)	137%	2460%	868%	83%	452%	2208%
Irrigation and drainage						
Area equipped for irrigation (000 ha)	4	7	1,730	59	13	227
Area actually irrigated (% of equipped)	100%	100%	69%	NA	47%	NA
Traditional irrigation (%)	84%	63%	34%	79%	75%	12%
Modern irrigation (%)	16%	37%	66%	21%	25%	88%
Drip, bubbler and other localized (%)	74%	66%	3%	45%	44%	98%
Sprinkler (%)	26%	34%	97%	55%	56%	2%
Drained area as a % of cultivated area	41%	0.04%	0.89%	Nil	NA	NA
Regulator (1)	MMAA	MAAFR	MOA	MMAA	MAF	MOEW
Financing						
Specialized credit institutions	NA	Industrial Bank of Kuwait	Agricultural Development Fund	Oman Agriculture and Fisheries Bank	Agricultural Development Department	NA
Credit (USD mn) (as of 2008)	NA	86,596	198,564	24,196	NA	251,802
Agriculture loans as % of total loans	NA	0.1%	1.5%	0.5%	NA	0.3%

Source: AO, ICARDA, NCBC Research

(1) MMAA - Ministry of Municipalities, Affairs and Agriculture (Bahrain); Ministry of Municipal Affairs and Agriculture (Qatar)
MAAFR - Ministry of Agriculture Affairs and Fish Resources
MOA - Ministry of Agriculture
MAF - Ministry of Agriculture and Fisheries
MOEW - Ministry of Environment and Water

Agricultural subsidies in the GCC regions fall primarily under the 'domestic support' category, specifically the amber box and green box types. Globally, governments usually provide support using a mix of the three. The USA for example, provides both export subsidies (cotton) and price support (cereals) for some crops and blue box subsidies. India provides a wide range of subsidies primarily falling under the green box category but also price support for certain crops (sugarcane, some cereals, cotton). It has further resorted to import restrictions on crops (Pakistani onions). The EU (dairy, sugar) and Brazil (coffee and other cash crops) provide export subsidies and domestic support. Export subsidies and market access support have become rare in the GCC due to the high reliance on imports.

The main forms of agricultural support in the GCC include:

- Free mining of groundwater, though Oman regulates new well digging.
- Farms, seeds, fertilizers and other inputs are provided free of cost or at subsidized rates. For example, Saudi Arabia provides farmland free of cost while Qatar subsidizes between 25–75% of the cost of land leveling, seeds, fertilizers, and cultivation. The UAE provides half the cost for crop protection, veterinary services, and other inputs such as fertilizers.
- Individual government conduct research, provide technical support to farmers for cultivation and irrigation, among others, and undertake public warehousing with an aim for food security.
- Price support has also long been used in the GCC to make agriculture attractive to farmers despite the high cost of production in the region. Saudi Arabia for example, provided guaranteed prices for wheat and other cereals (which it is now phasing out), while the UAE purchases dates and fodder in some emirates.
- Indirect support has been used in some instances such as lower taxation in Qatar for corporates engaged in agriculture.

Steps for sustainable agriculture

Improving productivity of existing irrigation networks

A key element of agricultural modernization in the GCC has to do with efforts to obtain more out of the available resources. A number of untapped opportunities still exist in this regard:

- A mix of regulation and subsidies can be used to emphasize the need to shift from flood irrigation, which is still widely practiced, to modern techniques such as drip-irrigation. Localized irrigation allows water to reach directly to the roots of the plants through pipes and valves thus saving water and minimizes soil erosion and use of fertilizers due to localized application
- Regulation can be used to allow recovery of water costs from farmers by pulling back subsidies on well-drilling and effective metering and billing at point-of-use. Once farmers start paying for the water they draw, they are likely to use it more effectively (through the use of modern irrigation) and shift farm production to high-value crops (such as vegetables) that allow them in turn to recover their water input costs.
- Subsidies can be partially reallocated to allow cheaper imports and the use of water conservation technology such as equipment for drip- and sprinkler-irrigation systems, moisture sensing, water use metering, etc. Subsidies can also be provided in the form of cheaper and more accessible credit for the purchase of such equipment and the provision of technical consultancy for installing these modern systems.
- Attention needs to be paid to building agriculture drainage systems which have been largely ignored outside of Bahrain. A lack of drainage leads to water logging and salinity of soil thus reducing farm productivity for future cropping seasons.

Enhancing the supply of irrigation water

Water scarcity is a key constrain facing the GCC agricultural sector. Successful efforts to address this concern promise considerable benefits in terms of yield. Possible avenues for progress present themselves in this are:

- Treated wastewater for irrigation should be encouraged by creating adequate infrastructure for the treatment of wastewater and its transportation to farms. However, the cost involved would need to be carefully assessed before large-scale adoption. The treatment and use of grey water (waste water generated from domestic activities except toilet and food waste) would likely prove more cost-effective as treatment cost would be lower due to the absence of chemical wastes. Governments might initially need to provide the water free of cost in order to encourage the use of wastewater by farmers.
- Similarly, brackish water represents another fairly ample underutilized resource in farming. Several countries have successfully used brackish water for irrigation. Jordan has tended to use it for the production of barley and onions on arid land, while Tunisia has focused on fruit trees. However, this would also involve setting up of treatment plants for reducing salinity of brackish water and transportation infrastructure. Desalinated seawater in the GCC is currently primarily used for municipal consumption.

Encouraging private capital

Direct government support in the form of financial incentives has promoted private sector participation in the GCC agriculture sector

Government support and financial incentives in the GCC have encouraged private participation in the agriculture sector. The Saudi government has simplified the bureaucratic process of investment by private domestic and foreign players and is offering financial incentives. The government is also building infrastructure to boost the attractiveness of the sector. In its 2010 budget, KSA allocated USD12.3bn, up 30.9% from the 2009 allocation, to the agriculture and water sectors with an aim to develop the required infrastructure for agriculture in the form electricity, irrigation, transportation systems, and mills. The Kingdom also plans to establish new desalination plants and upgrade the existing ones. Similarly, Qatar has allowed 100% foreign ownership in agriculture and reduced the corporate tax from 35% to a flat 10% with effect from January 2010.

There is an opportunity for private players to introduce modern technology in the form of water management products and advanced irrigation equipment. Private players can also help introduce new types of seeds for plants that consume less water but produce higher yields. For instance in Saudi Arabia, total private sector investments are estimated to have reached USD48.2bn in 2009, of which approximately USD10.4bn (23%) was on agricultural projects.

Exhibit 19: Private participation in agriculture sector

	Bahrain	Kuwait	KSA	Oman	Qatar	UAE
Small-scale farm holdings by area[1]	68%	NA	37%	40%	27%	NA
Number of companies in agriculture sector	NA	11	48	8	2	14
By activity,						
Crop and animal production	NA	8	34	2	2	5
Agriculture services[2]	NA	3	14	6	0	9
By ownership,						
Publicly listed	NA	4	10	1	0	1
Privately held	NA	6	36	7	1	11
Government entities	NA	1	2	0	1	2

Source: FAO, NCBC Research

Bahrain's push for modern irrigation in 1980s

Bahrain by the last quarter of the 20th century faced a severe decline in its cultivable land because of deterioration in soil quality due to excessive flood irrigation during the 1960s and 1970s. Cultivable land shrunk to 4,100 ha (of which 1,750 ha was actually cultivated) in 1977 from 6,460 ha (3,230 cultivated) in 1956. In response, the government in the 1980s launched a major agricultural development scheme to halt the rising salinity and concomitant deterioration in soil quality. A major thrust of this program was on improving the irrigation and drainage systems in order to minimize water-logging and improve productivity. Major changes brought about during the 1980s included:

- The adoption of localized irrigation by subsidizing half the cost of implementation, thereby encouraging the replacement of surface irrigation.
- The simultaneous implementation of drainage systems to reduce water-logging and salinity.
- Reclamation of agricultural land.
- The provision of training and advisory services to farmers for the purpose of adopting crops suitable for the Kingdom's weather conditions.

The Bahrain government's thrust led to an improvement in the Kingdom's irrigation and drainage systems. Further, the initiatives resulted in a gradual increase and restoration of agricultural land to 4,230 ha of which 3,165 is irrigated currently.

Adoption of dry farming

Greenhouse farming improves productivity, requires comparatively less water for irrigation than traditional farming and facilitates cultivation in adverse climatic conditions. Greenhouses account for some 8% of the total vegetable production in the country and the UAE has more than 6300 greenhouses. The UAE has also been working on vertical farms, a concept farming technique in which crops are sowed vertically on different levels compared to horizontally in traditional farming, to produce vegetables, fruits and grains indoors by using limited quantities of seawater. Oman is planning to introduce soil-less hydroponic system, a technique of growing plants without soil, for growing vegetables. (See Box 2)

Egypt's success in dry farming

Egypt offers the GCC an important regional precedent for improving agricultural productivity in desert conditions. Egypt transformed its agricultural sector in the 1980s through a range of reforms. It implemented irrigation-efficient techniques such as irrigation scheduling, land leveling, use of drip and sprinkler irrigation systems and plastic greenhouses, thereby preventing unnecessary surface drainage. Along with this, efforts were made to focus on crop rotation along with research into low water consuming varieties of plants with a shorter growing cycle. The end result was a 10–15% saving in irrigation water and a 30% improvement in yields. Many technological changes such as increased mechanization, the use of pesticides and fertilizers, as well as a shift from basin to perennial irrigation boosted agricultural production in Egypt. The use of high yield seeds for cereals improved the yield of wheat, rice and corn by 80%, 25% and 36% respectively during 1980-1990.

Investment opportunities

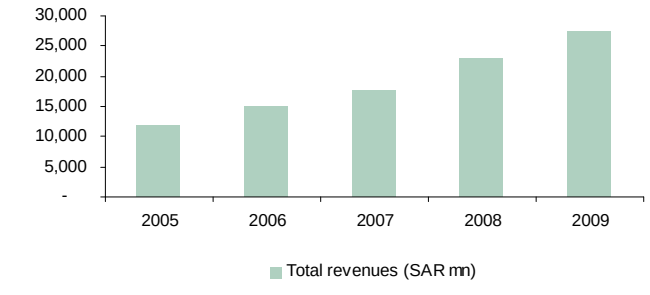
While the future prospects of the agricultural sector will likely depend a great deal on government initiatives and support, the presence of a number of publicly listed companies in the region already provides a fairly wide range of opportunities for investors interested in the food security theme. The investments of many of these companies have mirrored the broader regional trends and in some instances contributed to them. Some of the leading companies involved in the agriculture/food retailing business include:

Exhibit 20: Agriculture/food companies listed in GCC equity markets

Company	Country
Savola Group	Saudi Arabia
Almarai Co	Saudi Arabia
National Agriculture Development Co.	Saudi Arabia
Saudi Dairy & Foodstuff Co	Saudi Arabia
Al Jouf Agriculture Development Co.	Saudi Arabia
Anaam International Holding Group Co	Saudi Arabia
Jazan Development Co	Saudi Arabia
Qassim Agriculture Co.	Saudi Arabia
Herfy Food Services Co	Saudi Arabia
Saudi Fisheries Co.	Saudi Arabia
Halwani Brothers Co Ltd	Saudi Arabia
Tabuk Agriculture Development Co.	Saudi Arabia
Danah Al Safat Foodstuff Company	Kuwait
Kuwait United Poultry Company	Kuwait
Livestock Transport and Trading Company	Kuwait
Palms Agro Production Company	Kuwait
A'Saffa Poultry Farms	Oman
Gulf Livestock Company	UAE
International Fish Farming Holding Company	UAE

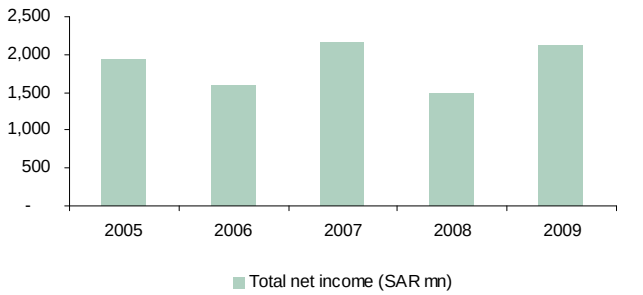
Source: Reuters, Zawya, NCBC Research

Exhibit 21: Revenues of Saudi agricultural companies (SAR mn)



Source: Reuters, Zawya, NCBC Research

Exhibit 22: Profitability of Saudi agricultural companies (SAR mn)



Source: Reuters, Zawya, NCBC Research

The Saudi agriculture and food business is dominated by two big players – Savola and Almarai which together account for around 80% of the total sector market capitalization in the Tadawul All-Share Index's Agriculture & Food sub-segment. The overall performance of the sector was strong with top-line of the companies

growing at 21% in 2009. The top four firms contributed 93% of total turnover with Savola accounting for 64% and Almarai for 21%.

SAVOLA – SUSTAINABILITY THROUGH INTERNATIONAL EXPANSION

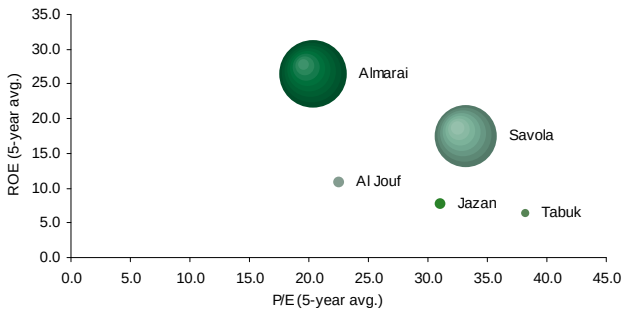
Savola, currently rated Neutral with a PT of SR30.3, has developed a broad-based geographic growth strategy. With activities now spanning form Morocco to Pakistan, Savola has acknowledged the limitated growth potential of GCC agriculture and is exploring opportunities in nearby countries where financing, not natural environmental conditions, is the key concern. Due to its significant imports of raw food items for its processing plants, it is remains highly exposed to swings in global food prices. This was shown in the SR242mn provision it took in 4Q09 due to the sharp fall in inventory items at that point in time. Through hedges, forward selling and passing on some of the price inflation onto end consumers, Savola has been able to limit its own vulnerability to rising prices. This has most recently been an issue of particular importance with sugar where global prices are up 65% in the past 12 months.

ALMARAI – MANAGING EXPOSURE TO GLOBAL PRICES

Almarai, currently rated Overweight on a PT of SR195, is exposed to the global food market through its imports of fruit pulp, dairy products and feed for its cattle. As in the case of Savola, this has led to concerns about input price inflation and pressure on margins. Due to its use of domestic feed and agricultural resources and the fact that exports account for 30% of sales, there is also concern about possible export restrictions imposed by the government. Although categorically denied by the Minister of Agriculture, there were reports in February 2010 that the government was considering a ban of dairy exports from KSA.

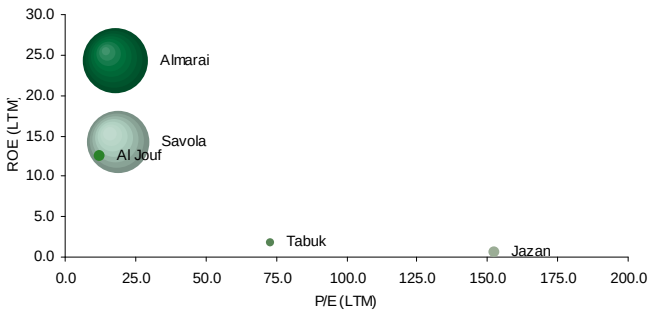
Almarai is also attempting to diversify away from the GCC and its agricultural constraints by investing in Egypt and Jordan as well as looking for opportunities in Africa and Asia through its joint venture with PepsiCo. Through its acquisition of Hadco, it is also now involved in poultry with it also currently investing in an infant milk plant.

Exhibit 23: Valuation of Saudi agricultural companies (5-year average)



Source: Reuters, Zawya, NCBC Research

Exhibit 24: Valuation of Saudi agricultural companies (LTM)



Source: Reuters, Zawya, NCBC Research

Appendix

Exhibit 25: Details of land acquisition by GCC

Country / Region	Investor	Investee country	Produce	Details
Bahrain	Government	Egypt Iraq Sudan	Not specified (NS)	Long-term plans to invest in farmland in investee countries and contract out food production
	Market Access Promotion Services Group (MAP)	Georgia Egypt Pakistan	NS	MAP, an international investment firm, has joined other Gulf partners to form a Middle East Food Fund that will collectively invest in food production in nearby countries for the Gulf market
	MAP	Pakistan	Dairy	MAP will develop 10 model dairy and livestock farms in Pakistan through private equity, small enterprise development and donor facilitation in 2008–2010. When completed, shares in the farms will be listed for public offer on the Karachi Stock Exchange and the Dubai International Financial Exchange.
	Public-private partnerships (PPP)	Philippines	Rice Livestock	In May 2008, Bahrain's Trade Minister, Hassan Fakhro, went to the Philippines to try to secure access to large plots of land to grow basmati rice for Bahrain's consumption.
	Government	Philippines	Fish production	In March 2009, the Philippines government completed a USD300mn investment package with the Bahraini government to establish agro-fishery businesses in the country. Apart from fisheries, the Bahraini government also committed investments into vegetable and fruit preservation, biotechnology, post-harvest technology and livestock.
	PPP	Thailand	Rice	In May 2008, Bahrain's Trade Minister went to Thailand to negotiate a deal under which Bahrain could set up a plantation in Thailand to grow jasmine rice for direct export to Bahrain. A joint public or private company is being contemplated to run the operations. A memorandum of understanding was also signed with a Thai exporter to secure jasmine rice supplies, as an alternative to basmati, over the next two years.
Gulf countries	Government	Arab states, Brazil, South-east Asia	Basic food items	In March 2008, the ministries of trade, economy and finance of the Gulf Cooperation Council issued a joint recommendation that the GCC members consider setting up a joint corporation or a common fund to produce food in South-East Asia, Brazil and other Arab nations to supply the GCC market. They also proposed setting up a work team to monitor the projects, a common food procurement strategy and policy as well as common food purchasing mechanisms.
	AgriCapital	North Africa, sub-Saharan Africa	NS	In August 2008, three Gulf firms -- Abu Dhabi Investment House, Ithmaar Bank and Gulf Finance House – announced the creation of AgriCapital, a new Islamic investment fund. The USD1bn investment vehicle will engage in land purchases overseas to produce food for the region, through a separate investment bank specially created for this purpose, and to fund biotechnology research.
		Somalia	NS	There are reports that some Gulf states have talked with the government of Somalia about allocating land for Gulf food production.
Kuwait	Government	Burma	Rice Palm oil	In September 2008, Kuwaiti government representatives were in Burma to finalize terms and conditions on an agreement drawn up earlier in the year to produce food in Burma for export to Kuwait on a contract farming basis. Kuwait will provide fertilizers and financial support while Burmese companies, employing local farmers, will provide land, labor and other inputs. Kuwait will buy the output at international market prices and the Burmese firms will pay back the fertilizer costs at 4–5% interest per month. The main targeted crops are rice and palm oil.
	Government	Cambodia	Rice	In August 2008, Kuwait's Agriculture Minister, on a visit to Phnom Penh, inked a bilateral deal with the Cambodian government for outsourced food production. Kuwait will have access, under lease arrangements, to Khmer rice lands to produce rice for export back to Kuwait, with any surplus going to the international market. Cambodia, in return, will get agricultural technologies and a USD546mn loan (of which some USD486mn is to develop irrigation and USD60m to build roads in Battambang, Cambodia's North-Western rice-growing province – hence suspicions that the rice for Kuwait will be grown in Battambang).
	Government	Egypt, Morocco, Yemen	Poultry	In 2008, it was reported that the Kuwait Investment Authority, the country's USD265bn sovereign wealth fund, may invest in food production, particularly poultry, in Morocco, Yemen and Egypt for export to Kuwait. The country's trade ministry was also seeking to change the statutes of the Union of Cooperative Societies, the government-run group which dominates food retail in Kuwait, in order to enable the union to invest in overseas farmland, possibly in cooperation with other Arab cooperative unions. The move is apparently on hold for now.

	Government	Laos	Rice Palm oil	In August 2008, Kuwaiti officials were in Vientiane to discuss access to land for food production.
	Government	Sudan	Crops Cattle	On 7 September 2008, Kuwait's Minister of Finance signed what his Sudanese counterpart called a "giant" strategic partnership deal with the government in Khartoum. Under the agreement, the two will invest jointly in food production, including cattle. The deal was to enter into force the following week, with the food security projects to be developed rapidly.
	Government	Thailand	Rice	Details of Kuwait's investments in rice production in Thailand are still unavailable or under discussion. But when an official delegation visited the country in mid-2008, one Kuwaiti minister openly suggested that Thailand offer to rent farmland to foreigners for up to 90 years as an investment opportunity.
	Government	Uganda, others	NS	In April 2008, during the World Islamic Economic Forum, the government of Kuwait launched a new USD100m fund called "Dignity Living". The funds will be invested in food production and agribusiness development in Uganda, among other (unreported) countries, to supply the Middle East market. The focus of the fund is on building food export infrastructure and capacities.
Qatar	Government	Cambodia	Rice	Qatar's Prime Minister visited Cambodia in March 2008, reportedly to seal a deal on access to Khmer farmlands for production and export of rice to Doha. In exchange, Cambodia would receive technical assistance as well as an invitation for Hun Sen to visit Qatar in January 2009 to boost Cambodia's standing in the Gulf's rice market. The Cambodian government is hoping to become one of the world's top rice exporters by 2015, at 10m tones per year.
	Government	Indonesia	NS	In August 2008, Qatar Investment Authority, the country's sovereign wealth fund, set up a USD1bn fund to invest in energy, infrastructure and possibly agriculture in Indonesia. QIA is putting up 85% of the capital and Indonesia the rest.
	Private Sector	Pakistan	NS	One Qatari firm is reportedly eyeing the acquisition of Pakistan government's Kollurkar farm in Punjab to produce food for export to Qatar.
	Qatar Livestock Mawashi	Australia, Pakistan, Tajikistan, Sudan	Livestock	The Qatar Company for Meat and Livestock Trading (Mawashi) is in advanced high-level talks with Australian officials to establish livestock farms in Australia. It has established a sheep farm in western Sudan and has signed a memorandum of understanding with the country for further expansion of livestock farming. It also has bilateral agreements with two Tajik livestock companies. Qatar Livestock Mawashi has committed USD1bn to develop industrial livestock farms in Pakistan.
	PPP	Sudan	Wheat Maize Oilseeds	In July 2008, Qatar and Sudan announced the formation of a joint holding company which will invest in food production for export to the Arab markets. Zad Holding Company (previously Qatar Flour Mills), a state-owned firm, and QIA, the emirate's sovereign wealth fund, are both involved.
	Government	Turkey	NS	Qatar is reportedly considering land acquisitions in Turkey.
	Government	Vietnam	Cereals Fruits Vegetables Cattle Lamb	In September 2008 the governments of Qatar and Vietnam announced that they had signed an agreement to jointly set up a USD1bn investment fund, with USD900m of the equity coming from the QIA, Qatar's sovereign wealth fund. The counterpart is Vietnam's State Capital Investment Corp. Part of the fund will be invested in food production in Vietnam for export to Qatar.
Saudi Arabia	PPP	Brazil	NS	In August 2008, it was reported that the new Saudi ambassador to Brazil is actively trying to develop opportunities in Brazil's agribusiness sector for Saudi investors. This may involve the launch of a joint food production venture, presumably to supply the Saudi market, in which Brazil provides the land and know-how, Saudi Arabia the capital and Singapore the logistics.
	Private Sector	Egypt, Philippines, Senegal, Turkey, Uganda, Ukraine	Wheat Barley Rice Soybean Fodder	Saudi investors are understood to be exploring possibilities for land acquisition for food production purposes in Egypt, the Philippines, Senegal, Turkey, Uganda and Ukraine. There are also reports that Saudi firms are looking for Thai partners to jointly undertake rice production in Uganda and Sudan.
	Private Sector	Ethiopia	NS	In August 2008, Ethiopia's Prime Minister told the *Financial Times* that he is eager to give Saudi investors access to "hundreds of thousands" of hectares of farmland for investment and development.

	BinLaden Group	Indonesia	Rice	In August 2008, the BinLaden Group signed an agreement to invest at least USD4.3bn, on behalf of a group of 15 Saudi investors known as the Middle East Foodstuff Consortium, to develop 500,000 ha of rice farmland in Indonesia. The aim is to produce basmati for export to Saudi Arabia, reportedly using Saudi seeds. On 14 August 2008 the BinLaden Group signed a memorandum of understanding with the Sultra provincial government, under which the BinLaden Group will be "provided" with 80,000 ha of land. The *Jakarta Post* reports that the BinLaden Group will also "acquire" land in the Merauke Regency of Papua Province. The investment plan runs to USD43mn per 5,000 ha and implementation was to start after Ramadan in 2008. Local partners include Medco (oil and mining), Sumber Alam Sutera (hybrid rice seeds) and Bangun Cipta Sarana (construction). The Saudi rice venture is part of a larger agricultural development project involving a total of 1.6m ha for not only rice but also maize, sorghum, soya beans and sugar cane, much of which will be converted to biofuels. The BinLaden Group owns a 15% stake in the Indonesian oil palm plantation and mining conglomerate Bakrie & Brothers.
	Government	Kazakhstan	Cereals Cattle	In September 2008, Saudi government representatives went to Kazakhstan to explore grain production and cattle-raising investment opportunities.
	Al Rabie	Pakistan	Dairy	The Al Rabie Group, a Saudi food company and the largest juice manufacturer in the Middle East, is interested in buying land in Pakistan to develop the dairy industry there. Al Rabie is also hoping to develop Pakistan's exports of tomato paste, citrus pulp and packed beans for the Saudi market.
	PPP	Pakistan, Sudan, Turkey	Rice Wheat	In August 2008, the Saudi Fund for Development announced that it will set up a USD566m special investment vehicle for buying land abroad for domestic food production. Both the government and the private sector will invest in the fund. The priority crops are rice and wheat, and the first investment will be made in Sudan. Turkey and Pakistan are also under consideration. According to *Asia Times*, Pakistan has requested USD6mn worth of oil and financial aid in return for access to its farmlands.
	Government	Sudan	Crops Livestock	In June 2008, the Saudi ministers of trade and agriculture both visited Sudan to survey possible food project investment sites and push for further agriculture investment.
	HADCO	Sudan	Wheat Vegetables Animal feed	Hail Agricultural Development Company (HADCO), a Saudi agribusiness firm, has leased 25,000 acres (10,117 ha) for USD95mn north of Khartoum to produce food and feed for export to Saudi Arabia.
	Private Sector	Thailand	Rice	In May 2008, a delegation of Saudi businessmen visited Suphanburi Province to explore possibilities of leasing land for their own rice production, as well as establishing joint rice export ventures with local counterparts, to supply the Saudi market. Any surplus, reports say, would be sold to other Gulf nations.
	Government	South Africa	Grains Cereals	In March 2009, Saudi Arabia announced its intention to invest in South African agriculture.
	Private Sector	Philippines	Fruits	In May 2009. a group of Saudi investors committed USD238.6mn in fresh investments, which are expected to be allotted for banana, mango and pineapple plantations in the Philippines.
UAE	Al Qudra	Australia, Croatia, Egypt, Eritrea, India, Morocco, Pakistan, Philippines, Sudan, Syria, Thailand, Ukraine, Vietnam	Rice Livestock Dairy	Al-Qudra Holding, an investment firm, plans to acquire 400,000 ha of land by early 2009 to produce wheat, maize, rice, vegetables and livestock in Australia, Croatia, Egypt, Eritrea, India, Morocco, Pakistan, the Philippines, Sudan, Syria, Thailand, Ukraine and Vietnam. The land is supposed to be acquired through a mixture of 20–30 year leases, concessions and outright purchases. Al Qudra has reportedly already acquired 1,500 ha in Algeria (cattle and dairy) and Morocco, while discussions are allegedly under way with the Philippines, Thailand and Vietnam for rice. According to CEO Mehmood Ebrahim Al Mehmood, 40% of the total investment will go to maize, although no decision has been taken yet about whether to convert it to ethanol, with the first harvests expected in 2011 or 2012. The investment plan may expand to port operations, breeding and the manufacture of irrigation equipment.
	Government	Africa, Cambodia, Kazakhstan, South America, Vietnam	NS	The UAE's Minister of the Economy stated in July 2008 that UAE intends to purchase farmland in Africa, Cambodia, Kazakhstan, South America and Vietnam. Agreements have already been negotiated with Kazakhstan.
	PPP	Pakistan	NS	In June 2008 it was reported that the UAE government was in bilateral talks with Islamabad to purchase USD400–500m worth of farmland in Pakistan to produce food for export back home. The deal would involve 100,000–200,000 acres (40,470–80,940 ha) in large holdings in Pakistan's Punjab and Sindh provinces. The UAE negotiators include Ministry of Economy representatives, two State-supported investment firms, cooperatives and private investors such as Abraaj. The Pakistani side of the talks involved both government officials and private landowners.

	Abraaj	Pakistan	Rice Wheat Dairy	Abraaj Capital has, together with the UAE government, reportedly acquired some 800,000 acres (about 324,000 ha) of "barren" farmland in Pakistan over the last year to produce rice and wheat for export to the UAE. Abraaj will also start investing in dairy farming and dairy food processing from its USD250m Pakistan Fund. Emirates Investment Group and the Abu Dhabi Group are allegedly not far behind in seeking out similar deals. Other players include the Al Ghurair Group, Effco and the Majid Al Futtaim Group. Overall investments from Abu Dhabi in Pakistani agriculture are said to be worth USD3bn already.
	Abu Dhabi Group	Pakistan	Sugar Dairy Crops	The Abu Dhabi Group is planning to build sugar mills in Pakistan and look further into agricultural and dairy investments.
	Emirate Investment Group	Pakistan	Dairy	The Emirate Investment Group is interested in developing Pakistan's dairy sector.
	Private Sector	Philippines	Fruit Fish Cereals Seafood	New foreign investments from UAE corporations in Philippine agriculture are growing. These include a USD50m project to develop a 3,000-ha banana plantation in Mindanao, fish and cereal farms in Luzon and a pineapple cannery in Camarines Norte. Other firms are looking into the possibility of producing organic fruits and vegetables, coconuts and seafood. A memorandum of understanding between the two governments was signed in July 2008.
	Abu Dhabi Fund for Development	Senegal, Uzbekistan	NS	The Abu Dhabi Fund for Development is seeking land in countries such as Senegal and Uzbekistan to produce food and feed for the UAE market.
	Government	Sudan	Wheat Maize Fodder Potatoes	The UAE government is investing in food production in Sudan to meet its own market needs. As of August 2008, it was reported that the UAE had invested in a total of 378,000 ha of farmland in various Sudanese states, including a 16,000-ha plantation for maize and wheat production.
	Janan	Egypt	Wheat Corn Feed	In May 2009, the UAE agricultural investment firm Janan reportedly signed a deal with Egypt's Agriculture Ministry to cultivate 42,000 ha of land with wheat, corn and animal feed. The project is expected to generate around 350,000 tons of wheat a year. Janan has already invested USD320mn to grow 6,227 acres with green feed in Egypt.
	Government	Cambodia	Rice	In October 2009, the UAE Minister for Economy Sultan Bin Saeed Al Mansoori met with Cambodia Prime Minister Hun Sen to discuss the UAE government's plans to invest in Cambodia's agriculture sector

Source: Various media sources, NCBC Research

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In the issue of timeliness, the stock prices throughout the report are based on last traded prices (and thus may differ from the adjusted prices provided by the exchange post closing).

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