

Demand and supply of agricultural products



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The agriculture in UAE is reserved to dates, vegetables, fish, eggs and dairy products (Ministry of Foreign trade, 2011). Tunnel farming is the way forward to agriculture in UAE, more and more people are learning the techniques involved in tunnel farming. For a country like UAE which is a desert the land available for farming is limited, and the water resources are also limited, therefore using the latest technologies in farming plays a vital role in controlling the supply and demand of agricultural products in UAE.

Water plays an important role in increasing or decreasing the supply of local agricultural products in UAE. One of the studies revealed that the consumption of water in UAE on individual basis is one of the highest in the world (Gornall & Tordorova, 2009). For a country with already a very low export of agricultural products and local production, high water consumption makes it even more complex to cater for shortages of agricultural products in UAE.

The Government in UAE is involved in discovering new ways to increase the land available for cultivation by using desert reclamation initiatives (Salama, 2008). The government has a history of investing in tree planting schemes and irrigation systems to increase the total agricultural production of UAE.

The planting schemes involve planting trees which help crops to survive wind and also stop soil erosion, the schemes also involve initiatives to plant shrubs and date palms. According to figures released by Ministry of Agriculture and Fisheries, UAE is producing 600, 000 tonnes of crops approximately which include, cucumbers, tomatoes, lettuce, aubergines, cabbages and feed for live stock. The Government of UAE is rapidly increasing the land available for cultivation by converting desert into

cultivated land one of the example is the 40, 500 hectares of land available for cultivation along the Liwa Oasis, which has been converted from desert into cultivatable land, in UAE there are more than 6, 000 greenhouses and 22, 700 farms.

UAE is also committed to invest in agriculture overseas on islands and other parts of the world, because 85 per cent of the agricultural products in UAE are imported which include wheat, rice and corn. This is a major threat faced by a country set to become the business hub of the world with an increasing population, therefore the supply and demand forces play a major role in agriculture in UAE. Another strategy followed by UAE to tackle food shortages is to create food storage facilities where large quantities of agricultural products could be stored for longer time periods.

Agricultural Imports and Exports of UAE

UAE is the largest importer of agricultural products in the region and the imports of agricultural product in UAE will increase this year following the drought in the major exporters of agricultural products in the world which are Russia and Ukraine. Consequently rapidly changing the demand and supply of agricultural products in UAE and presents a major challenge for the Government to deal with supply and demand forces in Agricultural products.

The global food crisis has reached alarming situation posing a major threat to economies with increasing population and consumption of agricultural products. Also the major suppliers of world agricultural products will experience a reduction in their yield of agricultural products this year due to draughts in different parts of the world. The world crop production has

increased due to the use of latest techniques for farming as shown by the following figure-1 (GRIDA, n. d.).

figure07. jpg

Figure – Trends in crop production of the world

The increase in world crop production here is because of the increased cropland and rangeland area, increased of yield and greater cropping intensity. Therefore to cater the current demand of agricultural products it is necessary to use the latest technologies to increase the yield. As the graph clearly shows the most production increase is seen in Soybeans showing more than 4 per cent increase in the production. Cotton wheat and rice take a lot of water hence are impossible to be planted in a desert with limited water resources, therefore wheat and rice also adds up to the demand in agricultural products in UAE. Abu Dhabi is spending in agricultural research and development to come up with new ways of farming using minimal water resources. One of the most important techniques to save water in agriculture is to use piping systems, this system enables the farmer to save water in agriculture up to 40 per cent then the classical techniques of farming.

Following the credit crunch the world has moved into era of scarcity of resources and an increase in the population, more and more people are moving into urban areas in search of a better future and business opportunities. The phenomenon of the move to urban areas is creating humungous pressure on the demand created by urban areas for agricultural products. Most of the agricultural products are used as part of food therefore an increase in population is directly related to the demand created for

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agricultural products. Another factor affecting the supply of the agricultural products is the limited life of the product due to which suppliers have to pay heavy cost in storing the products eventually affecting the supply of agricultural products.

Therefore supplying agricultural products from all over the world becomes a challenge for even the developed economies of the world with limited local production of agricultural products. In the global village the consumer in UAE is ready to pay higher prices for quality agricultural products following which the suppliers in agricultural based countries are targeting UAE to earn better profits. Attracting suppliers from India, Pakistan, Russia, Ukraine, US, Australia and other parts of the world have started shipping their agricultural products to the consumers in UAE. Due to complexities and investments involved in shipping agricultural products overseas and selling it to buyers overseas, the farmers in agriculture enriched countries restrain from getting involved in international trade. Inviting speculators in the market who buy the products from farmers and then sell it in international markets, these speculators hold the power of affecting the price of agricultural products because of the ability to store and hold large quantities of a particular product. Enabling speculators to store the product until they find the right price to reap higher profits, this creates a shortage in supply and increasing the demand for the product which eventually increases the price of the product to the level at which the speculators are ready to sell their products to the consumers in UAE.

Imports

UAE is the largest importer of agricultural products in the Gulf, the consumers of UAE have the highest consumption when it comes to consuming water and other agricultural products. Due to limited resources for agricultural activities the country has to heavily rely on agricultural imports from all over the world. UAE is also used as a re-export hub of the world many suppliers buy their products from underdeveloped or developing countries of the world with trade restrictions and then bring the products to UAE enabling them to ship the products anywhere in world, the geographic location of UAE makes it attractive for suppliers from all over the world for re-exports.

The agricultural products imported in UAE are:

Wheat

Rice

Corn

Tobacco

Consumer Ready Goods

Meat

Fruit

Vegetable Products

Live Animals and their products

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Animal and vegetable fats, oils and waxes

Wheat, rice and cotton are completely exported from other parts of the world due to high water consumption involved in the production of these products. Tobacco, Meat, Fruit, and vegetable products are also being planted in UAE using the latest tunnel techniques enabling year round production and helping UAE to cope with the extraordinary demand created for agricultural by a multiplying society. This year the imports are believed to surge again following the international food crisis, but the world's production of agricultural products has also increased. Farmers all over the world are involved in using latest techniques of farming increasing the total production per area and reducing the water consumption by 40 per cent, enabling farmers to produce at lower cost.

UAE imported AED 3.71 billion worth of agricultural products from US alone in 2011, which was up from AED 440 million in 2010 (Duncan, 2012). This shows the rapid increase in the consumption consequently increasing the demand for agricultural products in UAE. This rapid increase in the consumption of UAE in just one year is directly related to the increase in the population of UAE and also the country is set to become the business hub of the world attracting more tourists and business men from all over the world increasing the consumption of agricultural products. UAE also imports agricultural products from other parts of the world. Some of the top agricultural imports of UAE are shown with the help of following figure-2 (Gulfood 2010 Briefing, 2010).

Figure - UAE Top agricultural Imports

The graph clearly shows the major imports which are hides & skins, fats & oils, wood products, Meat & Animals, prepared Foods and vegetable products. The major chunk of the UAE agricultural demand is the vegetable products as shown by the graph above, the vegetable products have limited life hence require storage capabilities to extend the life of the product, due to which the supply of vegetables becomes a complex procedure starting from the farmer in the developing countries and making it available in the local store of UAE. Abu Dhabi has taken many initiatives to grow vegetables using tunnel farming enabling the farmers to produce round the year and also doubling the yield at the same time reducing the water consumption of the crop as well.

The government in UAE is involved in initiatives to promote urban farming by offering agricultural studies in colleges and schools and also providing awareness on how to start urban farming, in effort to fight the huge imports of agricultural products in UAE. One of the ideas recently introduced is to use rooftops of buildings in urban areas for farming purposes, tunnels could be used to create the atmosphere required for the production of any crop year round. At the moment UAE is importing agricultural products from all over the world to tackle its sharply rising imports of agricultural products. Another step taken by the government is to invest in agriculture overseas to tackle the world food crisis.

UAE has become the major importer of Agricultural products in the region, the major countries which import to UAE are 18 percent imports are from India, 13 percent from Brazil, 12 percent China, 10 percent United States, 8

percent Australia and the rest 39 percent of the agricultural products are imported from other parts of the world as shown by the pie chart in figure-3.

Figure – 2007 Data for Dubai and Sharjah – Percent Market Share

India being the largest supplier of agricultural products to UAE in 2007, the pie chart clearly shows the importance of UAE in the agriculture of the world. Therefore the supply of agricultural products to UAE is a matter affecting the whole world and the food prices in the world, in this time of recession it is vital for an economy like UAE to reach equilibrium in the supply and demand of agricultural products to provide sufficient food for the country.

In the trade of agricultural products Imports play a major role in case of UAE as shown by the figures above. Therefore in reaching equilibrium in supply and demand forces of agricultural products in UAE managing imports is very important. The government of UAE is actively involved in investing overseas to meet the increasing demand of agricultural products in UAE, following the world food crisis it is predicted that the UAE food consumption will increase exerting more pressure on the consumption driving the demand even more higher than the current levels and eventually increasing imports of agricultural products to the country.

Exports

The exports of agricultural products from UAE have been limited to dates and other few vegetable products, agriculture in desert requires desert reclamation. UAE government is involved in initiatives for desert reclamation to increase the local production of agricultural products.

The exports of agricultural products in UAE include:

Dates

Animal or Vegetable Fats, oils and waxes

Live animals and their products

Vegetable Products

Dates have been historically imported from UAE which is a competitive edge of the country in the industry to be able to produce high quality dates, alongside which the government is also starting initiatives to commercialize camel milk in surge to reduce the import of milk and start exporting milk from UAE. Tunnel farming has enabled farmers in UAE to produce year round and supply vegetables globally in offseason.

The government has started different initiatives to increase local production of agricultural goods by introducing following concepts.

Island Farming

Tunnel Farming

Desert Reclamation

Investing overseas in agriculture

UAE is involved in farming on islands in the Gulf by using latest techniques of production using tunnel farming the government is trying to help reduce the imports of agricultural products by being self-sufficient. In today's world of

credit crunch self sufficiency play a vital role in the success of an economy, the global village has enabled countries with limited resources to be self sufficient by investing overseas.

Therefore investing overseas to increase re-exports of UAE plays an important role in the current strategy of being self sufficient in agricultural products. Imports and exports of agricultural products play an important role in the supply and demand of agricultural products to the country. The imports and exports of agricultural products in UAE is shown by following figure-4, which clearly shows how rapidly the demand for agricultural products is increasing over the passage of time.

Figure – Imports and Exports of Agricultural products in UAE

The graph above clearly shows the increasing trend in the agricultural products of UAE and shows almost no change in the behaviour of exports and they are stagnant at USD 1 billion approximately from 2005 to 2006, whereas imports have increased from approximately USD 6 billion in 2005 to above USD 9 billion in 2007.

Further the statistics reveal that total Imports of Animal or vegetable fats, oils and waxes for first six months of 2012 were AED 1. 268 billion and exports were AED 485 million approximately (National Bureau of Statistics, 2012). Live Animals and their products were also imported and the total imports were AED 5. 806 billion and exports were AED 646 million, also AED 11. 483 billion worth of vegetable products were imported and AED 304 million were exported. The figures show a substantial increase in imports of

vegetable products for country with shortages of water and land available for cultivation.

UAE government is taking concrete steps to invest in agricultural products overseas, which include, Egypt, Pakistan, Japan and other fertile parts of the world (Farm Land Grab, 2010). The statistics reveal that the investment in agricultural products by UAE in other countries will increase with the passage of time, as the rising demand of agricultural products invites more and more investors into the industry.

Supply and Demand of Agricultural Products in UAE

In the era of global food crisis one of the major challenges faced by UAE is to make sure the uninterrupted supply of agricultural products whether through imports or local production (Malek, 2013). The fresh statistics of 2013 reveal that 90 per cent of the Agricultural products are imported globally, which shows UAE's reliance on the international food market. In 2013 the food crisis is expected to become a major problem for UAE.

After a detailed analysis conducted above the following figure-5 shows the supply and demand curves for agricultural products of UAE.

Figure – Supply and Demand Curves for UAE Agricultural products

As we can see in figure-5 as the demand increases the supply remains stagnant which clearly shows, UAE needs to invest to increase the local production of agricultural products and also the country must explore investing overseas for food shortages alongside using latest techniques for farming in UAE. The gap between the curves clearly shows the shortage of

food faced by UAE and adding the world food crisis the situation will worsen in 2013.

To tackle the food shortages in UAE the farmers have turned to tunnel farming, tunnels allows farmers to control the temperature and the sunlight required for the growth of the plant (UAE Interact, 2012). It also acts as an incubator enabling the farmer to adjust the atmosphere as required by the plants, also pipe irrigation system is used which helps in saving water. Sustainable farming is the concept launched by the UAE government from Abu Dhabi to fight the food shortage.

In our case the demand for agricultural products in UAE is increasing as shown by the figure-4, creating a shortage, also the local production of UAE is limited due to water shortages and limited land available for cultivation. Therefore the government is focusing on tunnel farming and other techniques of water efficient farming in UAE.

Demand refers to the relationship between how much of anything people are willing to purchase available at different prices (Grant & Vidler, 2000, p. 10). Therefore the increasing exports show that there is a shortage of agricultural products in the market, eventually increasing the demand for agricultural products.

Demand and Supply Curve

Economic theory reveals that a shortage in supply eventually increases prices, and surplus in supply reduces demand and decreases the prices eventually (Mceacher, 2012, p. 86). Such a state in economics is known as the state of disequilibrium, when there is a shortage or a surplus. In UAE the <https://assignbuster.com/demand-and-supply-of-agricultural-products/>

demand for agricultural products is increasing on a fast rate, eventually requiring more supply of goods and creating a shortage of agricultural products in the market. The world is already going through a worldwide food crisis followed by the draughts in major exporters of agricultural products like Ukraine and Russia.

Managing the demand for agricultural products in UAE is a challenge faced by the government. The shortage in the supply of agricultural products will eventually lead to a food inflation in UAE by the year 2013, to control inflation in agricultural products the government has come up with strategies to increase agriculture by using latest techniques to produce more by using less water.

According to law of demand if the price of the good increases the quantity demanded falls, provided other things stay equal (Mankiw, 2012, p. 73). Therefore the demand and price of a agricultural products have an inverse relationship. The above figure clearly shows the demand and supply curves for the agricultural products in UAE, both the demand and supply curve show that there is an increasing shortage in the supply of agricultural products in UAE. Attracting more and more investors from all over the world to invest in agricultural products in UAE, the most attractive region for investors in UAE have become overseas investment in agricultural products. As the world becomes a global village to deal with the increasing volatility and fluctuations in the supply and demand of agricultural products in UAE the government must come up with initiatives to maintain storage for agricultural products, as well as promoting urban farming, tunnel farming and other farming technologies.

Factors affecting Demand & Supply

Some of the most important factors on which the demand of agricultural products in UAE depends are price of the product, prices of the related products, consumer income, expectation of future price changes, tastes and number of consumers (Carbaugh, 2010, p. 30). Demand for agricultural products plays the main part in the trade of agricultural products in UAE, consequently increasing the imports of agricultural products in UAE to record levels, making UAE the hub of agricultural products imports and exports. The explanation of these factors with respect to agricultural products of UAE is as follows.

Price of the product

Price of a product plays a very important role in the demand of that product. If the demand goes up it exerts upward pressure on the price of the product, when the product supplied are equal to the product demand the equilibrium price is reached (Hill, 2006, p. 32). Therefore the price of a product has a direct relationship with the demand of the product, in the case of UAE the agricultural products are experiencing an increase in demand.

The prices for agricultural products in UAE are vulnerable because of low local production, desert land and water shortages (Kawach, 2010). According to the figures released by the government of Abu Dhabi, in 2009 the food imports increased by 31.5 per cent which was the record high surge in the imports of agricultural products. The main reason is the rapid increase in the population of UAE and also the food prices paid by the consumers in UAE attracts suppliers from all over the world.

Prices of the related products

Prices of other related products with agricultural products also matter some of them are pesticides and other sprays required for farming, the materials required for desert reclamation and animal feed etc. Overall all affecting the prices and eventually increasing or decreasing the demand for agricultural products.

Consumer Income

The income elasticity of demand represents the change in demand of a product with respect to the change of consumer income (Whittington & Delaney, 2008, p. 126). The economic theory suggests that if the consumer income increases it also increases the demand for agricultural products or other normal goods.

A study revealed that the monthly household income in UAE has reached up to AED 18, 248 while the average household expenditure is AED 11, 241 in 2009 (Bundhun, 2009). This increase in the consumer income in UAE will definitely affect the demand for agricultural products in UAE and eventually increasing the imports of agricultural products in UAE. Therefore we can say that consumer income is directly proportional to demand of agricultural products in UAE.

Expectations of future price changes

The agricultural market has become very volatile due to the world food crisis, and following the draughts in the major economies of the world which certainly affects the future prices of the agricultural products to increase at a fast rate.

Tastes

The consumer preferences and tastes play a vital role in creating a demand for any product, the health conscious consumer of UAE has definitely increased the demand for vegetables and other healthy food products. The taste preferences of the consumer in UAE have dramatically increased the demand for agricultural products in UAE.

Number of Consumers

UAE is experiencing a rapid increase in population as shown by the following figure (World Bank, 2013).

population. png

Figure – Population of UAE

The above figure-6 clearly shows how rapidly the population of UAE has increased from 1995 to 2011, which increases the demand for agricultural products by the consumers of UAE.

Conclusions

The government of UAE must boost up the initiatives started for development of agriculture in the country. The following must be paid full attention to survive the credit crunch prevailing in the global world.

Investment in Agriculture abroad

The government of UAE has started investing in agricultural based countries like the following:

Pakistan

Kazakhstan

Egypt

Investing overseas is the answer to the problem of shortages in supply of the agricultural products in UAE, these investments will also increase the re-exports of UAE and will help to attain equilibrium by filling the supply shortage in the agricultural market of UAE.

Tunnel Farming

Tunnel farming is also another way forward to provide for the huge demand of agricultural products in UAE. The government has taken steps in Abu Dubai for desert reclamation and tunnel farming. These tunnels enable farmers to produce year round and at a faster pace which helps to increase the yield of the crop as well as reduces the water usage by 40 per cent.

Agriculture on Islands

Keeping up with the high demand another way forward is the farming on islands in the Gulf, UAE must pursue its permanent mission in the UN to reclaim the Iranian occupied islands, as the country is face huge demand for agricultural product which must be taken care of before the food crisis gears up in the international food markets.