GEOGRAPHY

Assessment Task 2 – Urban Places

"Compare and contrast the relationship between the urban dynamics and the changing social and economic character of two megacities in the developing world."

The world population growth rate was estimated to be 1.188% in 2008. This, along with increasing rural urban migration has led to the formation of megacities, metropolitan areas or urban agglomerations with a population more than 10 million people. Megacities are characterised by their rapidly increasing population, high density lifestyle, a formal and informal economy, the disproportionate spread of income and wealth and overurbanistion. During the 1950's only New York City had a population above 10 million, however in 2005 it is said there are 25 megacities, 19 of these in developing nations. They include Shanghai in China, and Cairo in Egypt.

Cairo is the larger of two megacities found in Africa. With a recorded population of 17.8 million people it is ranked 16th most populous metropolitan city in the world and a population growth rate of 2.6%. It is also Egypt's financial, commercial and economic centre and has a large tourism industry and being the capital city, Cairo also has an administrative purpose.

Besides a high birth rate of 22.12 births per 1000 population, Egypt's climate has been resulted in the great disparity in the spatial distribution of population. It is suggested that almost 100% of the population live within a close distance of the Nile, concentrated mostly in the Cairo (estimated to have 25% of Egypt's population) and Alexandria region. Only small ethnic villages exist elsewhere however statistics indicate internal migration from these rural villages to major cities such as Cairo due to push-pull factors. As Egypt develops to become a middle income nation, many of the jobs created are located in major cities thus pulling rural populations towards urban areas. For example, as Egypt moved away from an agricultural based nation to an industrialised one in the 1950's and 60's, manufacturing and industrial zones were created in West Cairo offering thousands of labour intensive jobs as well as housing. This saw a peak in internal migration and is often referred to Egypt's "golden age of migration". Also, with sparse resources and a growing population, the rural villages are unable to support the inhabitants thus pushing migrants towards the cities. Internal migration is responsible for 50% of the population increase in Cairo's metropolitan area. In a survey conducted by the Egyptian government, employment is the main cause of this internal migration (See figure). Trends since 1987 indicate those living in north Egypt (Souhag, Assiut and Menia regions) in particular are migrating towards Cairo. To add to Cairo's population are also international migrants. Throughout history Egypt has often hosted refugees from other nations in the region due to political instability, war, racial issues, etc. Although many refugees tend to only use Cairo as a gateway to other nations the influx contributes to the city's overcrowding and drain on resources. Today Cairo still hosts 90,000 refugees mostly Palestinians and Sudanese.

As a result of Cairo's huge and growing population, the city has experienced both urban sprawl and consolidation. With vast desert surrounding the city, urban sprawl is a key indicator of the growing population pressure and the need for housing within Cairo. Figure depicts Cairo's gradual urban encroachment onto the desert plain or valuable agricultural land since 1965. A few years prior to 1953, Cairo's growing population became obvious and several Master Plans have been since made in an attempt to order the city to meet its needs both economically and socially. The 1953 Master plan aimed to order development within the city, dividing sections of land by their intended use. The original plan estimated a population of 4 million inhabitants by 2000 however in 1966 it had already surpassed this figure by 2.1 million. This caused spontaneous urbanisation creating confusion and great strain on the limited facilities and services Cairo provided. Ultimately in 1965 Cairo experienced a 'generalised infrastructure breakdown' in the central and oldest parts of the city, with 45.78% of buildings in the area declared unsafe as well as an overflow in the sewerage system, and poor road infrastructure. This further encouraged development around the city, in the form of satellite cities, industrial sites and settlements, rather than in it (process of suburbanisation and

decentralisation). Eventually new housing, business developments and slums on the peripherals merged Cairo with these cities forming one agglomeration and increasing the area of Greater Cairo. The Master Plans of 1970 and 1981 followed a similar solution. Since then the growing economy and population of Cairo has led urban sprawl to the door step of Giza's pyramids which had once been surrounded by desert on all sides. Figure depicts urbanisation in Greater Cairo region today.

With 95% of Egypt covered in desert, the creation of satellite cities on the fringes of Greater Cairo on the desert plain have become increasingly unpopular for both business and housing and as such, urban consolidation has occurred. Cairo is one of the world's densest mega cities with an estimated density of 9,031 people per square kilometre. The density throughout Greater Cairo varies however with dwellings. In central Cairo there is a mass of informal high density dwellings among various large, old religious buildings. Figure shows the stark juxtaposition in Cairo around the Sultan Hassan Mosque. This represents the morphology of the urban environment due to urban consolidation and the impact it causes on historically and religiously significant spaces. The mass development of informal high density buildings has resulted in overcrowding, great noise pollution, and a deterioration of the city both environmentally and aesthetically. As such, those with higher incomes tend to move away from the city to the newer planned urban extensions some 55km away such as Badar, Sadat City and 6th of October where walled estates exist (process of suburbanisation) instead of gentrifying inner city areas. Figure depicts the detached, low density, affluent housing available in such areas.

Cairo produces approximately two thirds of Egypt's GDP with $9,295 per capita. Economic restructuring of the city took place during the 1950's transforming it into an industrialising nation. Since then however, the government has promoted a shift towards the tertiary sectors by attracting foreign investment through a reduction in personal and enterprise tax, a reduction in energy subsidies and privatisation. In 1991 the government was a key employer in Cairo, owning over 300 companies, however since then such companies have been privatised to reduce public company debt and inefficiencies which restrained economic growth. Downtown Cairo has also been specifically redeveloped with new infrastructure and facilities to become a modern and sufficiently equipped financial and commercial hub which also attracts foreign investors. This is an example of urban renewal. Such business districts include Zamalek and Midan Tarir which contain government buildings, large financial and corporate institutions, hotels, museums, restaurants and transport centres. Also, old manufacturing zones still exist in suburban Cairo with factories producing rubber, chemicals, paper, weapons etc. The Cairo government has also promoted self sufficient industries such as software in satellite cities as a form of decentralisation and economic specialisation. Key industries which generate considerable income and wealth within Cairo include tourism, textiles, food processing, chemicals, petroleum and construction. Major exports include crude oil and petroleum, textiles, chemicals and raw cotton. Also, international aid is a source of income for Cairo. The above statistical information does not include the large informal economy which exists in Cairo however.

Cairo's unemployment rate is estimated to be around 4-12%.The majority of the population are formally employed in the services, financial and commercial sector. Despite this, an average Cairene will have more than one job and still experience under employment. As such, it is estimated children under the age of 12 make up 7% of Cairo's unofficial labour force, working in sweat shops, selling cigarettes on the street, or most common, as a Zabaleen, Arabic for 'people of rubbish' who play a vital role in the running of Cairo. Street stalls are another popular form of employment for the unskilled and uneducated with over 200,000 street vendors in Cairo's commercial district alone. All these forms of employment are in the informal economy and are not officially counted in government statistics. Under unemployment is largely due to Egypt's high inflation rate which was 20.2% in 2008 but since has dropped to 13.4%. Collective activism for wage increases have largely been unsuccessful or unsought after in Cairo so that the inflation rate has decreased purchasing power by more than 40% since 1982.

Urban decay exists within parts of the city with statistics suggesting several thousand's of vacant flats despite the growing population. This is largely due to the fact that those in need of a dwelling

cannot afford one. During the 1990's more than half of Cairenes were classified as 'poor' or 'ultra poor' and the income gap is widening with the top 10 wealthiest households controlling 32.6% in 1991 compared to 26% in 1981 of the disposable income. The average Cairene lives on only $2 a day. Slums and poverty in Greater Cairo are not concentrated only in one area rather, they exist in pockets throughout the city and its metropolitan area. The main forms include: those on the fringes of Cairo, where land was previously used for agricultural purposes, which house new rural-urban migrants; informal housing built on vacant state desert land also on the cities fringes where residents pay nominal rates; dilapidated buildings in the oldest parts of the city which were abandoned due to the lack of maintenance; and finally pockets of slums and squatter settlements found in the inner city. In Greater Cairo there are more than 100 squatter communities housing more than 6 million of the population. These include Matariah and Boulaq El-Dakrour in Giza in Cairo. As mentioned in Mike Davis's 'Planet of Slums', Cairo's 'City of the dead' as well as Jewish graveyards has become a new residential area for some 30,000 to 1 million of the poor. Alternatively there are also roof nomads who have no definite home, who rather, sleep and settle temporarily on roofs of existing dwellings. The government has enforced informal settlement upgrading and relocation schemes to address the poverty in Greater Cairo.

Located in a desert dominated environment (with 95% of Egypt desert), water is a precious resource in Cairo. The main source of water for the population is from the Nile and being at the end of the water way, discharge and effluent from cities upstream greatly impact the water 17.8 million people rely upon. Upstream from Cario, 43 towns with populations above 5,000 and 1,500 villages dump their mostly untreated domestic, agricultural (2.3 billion metres cubed) and industrial (125 million metres cubed) wastewater back into the Nile. Fortunately the large water flow within the Nile lessens and disperses a significant amount of water pollution. Water is still treated at one of Cairo's 6 water treatment plants before entering the city's water pipe system however. Also affecting Cairo's water supply are internal factors. Part Cairo's 1960's and 70's infrastructure breakdown included the continual overflow of the metropolis' sewerage system which leaked onto streets and in homes as a result of the rapidly increasing population. During the 80's Cairo's waste system underwent one of the world's largest redevelopments of sewerage which allowed a much greater capacity of sewerage to be processed. Today 85% of the population have access to potable water. Those who do not are the poorest of the population often living in illegal squatter settlements, in informal dwellings which have no direct access to water or sewerage pipes. To address the issue a government plan was drawn up in 2005 to provide for the 5 million people in Cairo and Alexandria, and 15 million outside who did not have access to adequate sanitation and potable water with the aim of achieving complete access to such services throughout the county. This totalled an estimated cost of LE 20 billion and has yet to be completed.

Cairo had a HDI of 0.765 in 2004, only slightly higher than Egypt's average of 0.708, yet also slightly lower than the urban governates combined average of 0.766. The average adult life expectancy at birth is 71.2 years, an improvement of almost 25% from 1976 where it was 57. Infant mortality rates have also significantly improved from 151 in every 1,000 births to only 30.6 in 2004. The national government has also promoted child vaccinations with such initiatives as Nation Immunisation Day. Records from the 2004 polio immunisation day suggests only 2% of children in Cairo missed the free vaccination. Cairo is Egypt's main medical centre however specialist treatment does exist elsewhere.

In the Egypt's 2005 HDI report Cairo had the highest education index compared to other urban cities in Egypt being the national and regional education centre in Egypt and the Middle East. Levels of education throughout Greater Cairo have improved dramatically with an adult literacy rate of 81.2% compared to 48.9% in 1960 and participation in basic and secondary education from 58.9% to 99.4%. This is largely due to the 1953 free compulsory education policy, which was further extended in 1981 for children aged 6-14. Also, to better adult literacy from 1993 the government promoted adult educational classes to be incorporated in employment. Professional and technical staff as a percentage of the labour force was 43% in 2004 illustrating not only the increase in secondary and higher educational pursuits, but also the changing nature of employment in Cairo.

With a population of 17.8 million, Cairo generates a huge amount of pollution. Most concerning is air pollution as Cairo has one of the worst in the world. According to the WHO “the average Cairene ingests more than 20 times the acceptable level of air pollution a day”. This has the equivalent impact on health as smoking 20 cigarettes a day. Air pollution in Cairo is largely caused by the 2 million cars on the road as well as smelting factories within the suburbs and the incineration of garbage. With poor investment in infrastructure, efficient technology is not being used thus worsening the emissions and increasing the health impacts. It is estimated 60% of the cars are more than 10 years old. A haze is also usually seen around the city containing dangerous levels of carbon and sulphur dioxide and lead particles. As a result respiratory diseases contribute to around 10,000 – 25,000 deaths in Cairo each year and cause damage to the central nervous system to the population. Cairo produces an excess of 8,500 tonnes of garbage a day. More than half of this is disposed on the streets, degrading the city’s environment but also creating jobs. Around 70,000 Zabaleen work in Greater Cairo, recycling or ridding the city of rubbish as their form of income however the government has contracted a private company to formally do the job. The metropolis is also the greatest water polluter in the region discharging water waste into the surrounding desert and agricultural land.

Shanghai is China’s largest megacity with a recorded population of roughly 18.88 million permanent residents in 2008. The China Daily suggests the population may have already surpassed 20 million however. The city also serves as a major economic, financial and trading hub between the East and West, with its port being the busiest cargo port in 2005 and is of referred to as the ‘economic powerhouse of China’. Unlike Cairo, it is not the administrative capital.

The population growth rate of Shanghai is 2.2%. Unlike Cairo the influx of migrants throughout the years is the sole cause of population growth in Shanghai as figures suggest the natural population growth rate had been in decline for more than 15 years due to the one child per family policy, and a low birth rate of 0.6% by permanent and long term residents. Over a quarter of the residents in Shanghai in 2007 were originally internal migrants, who generally have higher birth rates than original urban dwellers. In 2006 123,900 babies were born in Shanghai, a third of them from women who had migrated from other areas in China. Also, statistics suggest of the migrants who move to Shanghai, few stay for less a year, if not permanently. Of the these figures do not reflect the other thousands of unaccounted migrants however.

The urbanisation of Shanghai has been one the fastest and most massive the world has ever seen, fuelled by the building boom in China. Twenty five years ago Pudong, located on the east side of the Huangpu River, was farming land. In 1990 however, the area became a New Open Economic Development Zone which saw rapid urbanisation in the area so that today it is the economic and financial sector of Shanghai, creating a GDP of around US$38.5 billion alone, and housing a significant number of the 5,000 sky scrapers in the Shanghai metropolitan area (see figure). Within 25 years Shanghai has built more sky scrapers than there are in New York City. Urban consolidation within Shanghai has led to the description ‘a city growing in the sky’. The rapid growth of high density buildings has changed the urban environment significantly as well as population density. Average population density within Shanghai is around 2,683 people per square kilometre however this varies from district to district. In 2006 the Jing’an district had the highest density of 40, 630 people per square kilometre compared to 590 in Chongming. Decentralisation of business in Shanghai did not surface as a trend as it did in Cairo. Source…depicts the disproportionate nature of urbanisation in Grater Shanghai.

Shanghai’s metropolitan area has also multiplied significantly within the last century as a result of growing population and economic wealth. Figure illustrates the extent of Shanghai in 1919. Today, Greater Shanghai has grown many times the area of Figure so that the Yangtze river can barely be seen in Figure . The Shanghai metropolis has grown to cover 7,037 kilometres squared, encroaching and finally encompassing the islands of Chongming, and previously separate neighbouring districts of Baoshan, Minhang, Songjiang, Nanhui, Qingpu, Jinshan, Jiading, and Fengxian and their cities from 1988 till 2001. In an attempt to greater equalise population density throughout the Shanghai metropolitan area, similar to Cairo the government has turned to the

creation of satellite cities in the outer districts, in other words, suburbanisation to address the overcrowding. Senior city planner Tang Zhiping said “We feel that the development and construction of these small towns is pretty urgent.” Within the last 5 years, 9 new satellite towns how been built, each made to house a population equal to all of those living in Atlanta. Besides the low density housing available in these new cities, they had also been styled similar to European cities to attract resettlers.

The fast pace at which Shanghai has physically developed, may it be satellite cities or sky scrapers, has greatly transformed the character of the metropolis. Gentrification and urban renewal projects have attracted further foreign investment into Shanghai, however, like in Cairo with the pyramids and old mosques, some fear the impact of futuristic architecture on old, protected buildings and the aesthetic appeal of the city. Figure depicts the clash between the preserved old town Shanghai and new high density housing nearby. Alternatively areas such as Xintiandi in Pudong have undergone urban renewal. The area which previously was experiencing urban decay is now one of the city’s main attractions as the ‘hippest’ entertainment district in China, whilst maintaining the old architecture and is viewed as a positive and welcomed change. However on the negative, Shanghai’s redevelopment has forcibly evicted many people, especially those who were living near the city centre whose residences are now undergoing redevelopment into luxury apartments, shopping districts and business centres. For example, the Bung area on the waterfront of the Huangpu River in Huangpu district, opposite Pudong has seen many evictions of residents who have lived there for 70 odd years. One evictee says “If you need our home, you have to resettle us properly first. It's not right to force us out. Every day, I see my apartment and I want to cry. I lived there for decades. I feel so sad, my heart hurts.” Many receive undervalued compensation if any at all.

Shanghai is the fastest economically developing city the world has ever seen. In total, Greater Shanghai had a GDP of US$200 billion in 2008 having increased by $41 billion since 2005. The economic growth rate was a huge 11.53% in 2008 however due to the financial crisis it has slowed to 3.1%. During the 90’s and early 2000’s it averaged 15%. The growth of the services and industrial sectors were largely the cause of economic growth within Shanghai contributing 60.1% and 45.5% last year respectively. This in turn was responsible for the city’s spatial growth and rate of urbanisation. Since 1886 Shanghai has always been a major part of the Chinese economy in handling finance and trade. Its emergence into the global economy was withheld however from the 1930’s till late 1980’s due to war, civil unrest and the central government’s policy of the distribution of wealth across the nation equally, whereby from 1949- 1985 Shanghai generated US$44 billion yet only received US$40 million in return. Similarly to Cairo, foreign investment played a major role in restructuring the Shanghai economy along with favourable policy from the central government (due to former Shanghai City mayors Jiang Zemin and Zhu Rongji rising to national politics). By leasing state owned land to foreign investors the Shanghai municipal government raised US$13 billion for infrastructure and urban redevelopment in 2000 while also gaining the interest of large international corporations in the Shanghai economy. It was known as the New Open Economic Development Zone. Since then the economic nature of the city has also transformed from an industrial one with the manufacturing sector contributing to 63.8% of GDP in 1990 to a service based economy which increased 36.8% in GDP in the last 15 years. Despite this, when compared to Hong Kong, Shanghai’s strong points are its manufacturing base and close ties with the central government. The ‘6 pillar industries’ now being encouraged by the government are cars, electronic and information technology, large scale electromechanical equipment, high grade steel, petrol chemicals and biopharmaceutical products.

Rapid growth in the Chinese economy has led to greater employment opportunities in large cities such as Shanghai. In 2006 15.7% of the workforce were employed by the state (decreasing), 24.3% worked in family or collectively owned businesses, 10.4% worked for overseas institutions and 29.6% in private business while the unaccounted for 15% presumably work in the informal sector (increasing). Despite this, it had the 3rd highest rate of unemployment in China in 2006 of 4.4%. This is largely due to privatisation of large companies where almost 1 million people lost jobs from 1996 to 2000. In 1993 the Shanghai Municipal government introduced a minimum living allowance

system for urban residents as social security for the unemployed. Government agencies also offer employment services though statistics suggest these are little utilised by the population. Alternatively people seek work in the informal economy in jobs such as garbage picking, street stalls, uncertifified tradesmen, etc. New migrants tend to work in the informal sector as household registration and employment permits are required to find formal employment. As a response to the growing number of workers in the informal economy the government has offered government assistance and supplemented public work such as formal street cleaning and maintenance unlike in Cairo where the government aims to erase the zabaleen. Shanghai does experience unequal income distribution however between urban and rural dwellers. The average disposable income for an urban dweller is more than twice than of a person living in a rural district.

Slums and squatter settlements can be found side by side new high rise luxury apartments or skyscrapers in Shanghai (see figure…). To be considered poor and eligible for government assistance in Shanghai a family should have a living area less than 5 metres squared and earn no more than US$34 a month per person. Shanghai is estimated to have 7,100 ultra poor families according to this definition who are now eligible to participate in Shanghai's new housing the urban poor policy whereby they can rent money from the government and live in cheap housing provided for by the government, or find their own housing. As such the less dense, or districts further away from Shanghai's business centre such as Jiading, Nanhui, Chongming, Songjiang, Jing'an and Jinshan are expected to build cheap but improved housing to eventually house the urban poor whilst also dispersing the population (suburbanisation). Other initiatives to assist struggling families include opening a completely free primary school aimed at children of poor families and the availability of microcredit.

According to UNDP, Shanghai has the highest HDI of all cities in China with 0.911 which is equal that of a developed country, as with Beijing, another megacity second on 0.897. As such, according to the UNDP Shanghai has greater human development than Cairo. In terms of education and health Shanghai is at the leading end of the scale as China suffers from stark regional disparities between rural and urban, east and west provinces. Also, being in under a socialist government certain safety nets, resources, social security and opportunities are provided for by the Shanghai municipal government. As a result compared to Cairo, Shanghai has an improved social character. Although primary and junior middle school are compulsorily in China, Shanghai is the most well funded area (27 times the lowest) with the highest per student education expenditure of around 2614.74 Yuan per student. The enforcement of compulsorily public education greatly increased the participation rate to 99.99 in 2006. 99% of these graduates also went on to enrol for high school and 81.75 of high school graduates enrolled into colleges. Shanghai is also one of the 24 provinces which has reached the national goal of eradicating adult illiteracy to less than 5%.

The average life expectancy for Shanghais 80.97 years, which is equivalent to a person living in a developed country. The death rate is currently 5.89%. It also has the 3rd highest rates of inoculations of 98%. Although it is on the lower end for prenatal inspections with a rate of 83%, it had a 99% hospitalized delivery rate indicating the availability of facilities. Shanghai is also suffering from an aging population with 2.12 million residents over 65 in 2006, a .5% increase from 2000. A decrease in the 0-14 age group was also observed with a change of 3.4% thus changing the demographics of the city. Figure shows Shanghai's population pyramid.

Due to its geographical location at the mouth of a major river and low topography, unlike Cairo, Shanghai has relatively good access to water with an average annual availability of 59.35 billion cubic metres. The water that runs through Shanghai's water pipes is treated and essentially potable with no biological contamination however due speculation on its metal content from old piping, many of the population choose to boil their water before drinking it. Almost all households have access to the Shanghai Municipal water system or near it. In 2007, Shanghai's domestic sector produced 1.8 billion cubic metres of sewerage which was processed through one of the city's 50 sewerage treatment plants. 85% of the population has adequate access to the sewerage system and sanitation which is an improvement compared to 65% in 2001. The city's many phase Shanghai Sewerage Project established in the 1980's have been improving access to sewerage throughout

Great shanghai since whilst also reducing the impact it has on the environment and costing the government more than 10 billion Yuan.

As with Cairo, Shanghai faces a problem of pollution and waste disposal that the massive population generates. Likewise with Cairo the amount of air pollution within the metropolis has led to respiratory disease and as such a decline in the quality of life. It is suggested that a 10 minute walk in the city is equivalent to smoking a packet of 'Silk Cut' cigarettes. Its main causes are also due to factories and car use throughout the metropolis however recent trends suggest an improvement in emissions with a drop of 15% in sulphur oxide and nitrogen oxide, but an increase in particular matter in the air such as soot, dust, etc. from the 1990's. For 85% of the year in 2007, Shanghai experienced 'fine air days'.

Surface water pollution is another environmental impact from the mega city with its wastewater degrading the quality of 24 waterways surrounding or in the municipal. An estimated 4 million cubic metres of untreated sewerage flows into the Hunagpu River each year. In 2006 the government invested more than 1 billion Yuan to improve water waste disposal and reduce the impact it has on the environment with a third of the 24 waterways to be flushed of pollutants by 2010. The project also included the construction of waste water treatment plants of in 90% of the rural areas in Greater Shanghai by 2008. Other policies include the introduction of discharge permits to industrial factories and the promotion of the 'Clean up our rivers' campaign. These strategies have been relatively effective with noticeable signs of improving water quality.

Domestic solid waste is estimated to increase by 8% each year. Shanghai's waste disposal methods are considered to be the top in China with the aid of modern technology in landfill sites and 2 incineration plants. Laogang landfill is located in the Nanhui district some 60km from the city centre and is one of Asia's largest sites with an estimated capacity of 34 million tonnes over 20 years. Alternatively the Jiangqiao incineration plant combusts 1,000 metric tons of garbage each day. Many believe incineration is more effective way or solid waste disposal as it reduces the toxicity of the waste, requires less land and has a smaller impact on the surrounding land. Also in Shanghai recycling takes place both in the informal sector by garbage pickers as found in Cairo and formally though private companies.