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**A comparative analysis of population growth in China and Egypt: people, policies
and prospects**

A thesis submitted in partial fulfilment of the requirements for the degree of Master of
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Abstract:

Despite their geographical locations and historical disassociations, China and Egypt face one essential identical issue in common--the problem of over population. This study compares population growth in China and Egypt in terms of people, policies and prospects for economic development. It argues that China and Egypt faced a population crisis that was undermining economic development since the 19th century and this issue of excessive population growth continues to be on the top of the political agenda in the 21st century. Furthermore China and Egypt both have experienced three stages of population development in terms of family planning policies. For China, the first phase of family planning programs began in the 1950s and this was followed by further waves of development in the 1960s and the one child policy in the 1970s. For Egypt, the first phase of Cairo's family planning program began in 1965 and this was also accompanied by two more stages of development, one in the 1970s and the other in the 1980s. The results of these family planning programs were impressive. China and Egypt both experienced extraordinary fertility decline since the 1980s. Despite these achievements in family planning however, China and Egypt is expected to experience further waves of population increase in the foreseeable future. This would no doubt continue to challenge these countries' prospect for economic development.

Key words: total fertility rate, replacement level fertility, the demographic transition, Malthusian population trap, China, Egypt, population, economic development.

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Chapter 1

Overview of population growth in China and Egypt

Introduction

This thesis explores the dynamics of population growth in two major developing countries: The People's Republic of China and the Arab Republic of Egypt. By way of an introduction to key themes and concepts, this first chapter provides an overview of key issues in population growth and development as experienced on a global and case-specific scale. To this end, chapter one is organised into four sections. The first section places population growth in global historical context. Sections two and three then provide an overview of population growth in China and Egypt. The final section establishes the broad research aims and specific objectives of the overall thesis.

Dynamic of human population growth

In the first decade of the 21st century, the world's population has been estimated to be almost 6.3 billion people. Every year approximately 80 million new lives are being added to the world's population and almost 97% of this net increase is to be found in developing countries.¹ Increases of such magnitude are historically unprecedented. From A.D. 1 to 1750 the rate of population growth was no more than 0.05% per year; from 1750 to 1850 it was 0.5%² annually; and even from 1900-1950 it was only 0.9% per annum, compared with the current rate of growth of 1.5% per year.³ Were this rate of increase to continue, the world's population would double every 35 years. The current projection by the United Nations placed the figure at more than 9.2 billion by the year 2050 before reaching a maximum of 12 billion by 2200.⁴

For at least 2000 years, the pattern of population change, whether up or down was strongly influenced by the combined factors of social change, famine, disease, genocide, slavery and war for territorial expansion. These conditions resulted in high death rates. Ever since the conclusion of the Second World War however, such conditions have come increasingly under nations' 'political, technological and economic control.'⁵ As a result, human mortality rates are now lower than at any other time in human history. This decline in mortality has resulted in an unprecedented expansion in world population, and in particular in developing countries, including the two case studies that form the basis of this study, China and Egypt. Illustrative of wider dynamics, in 2006 the average rate of growth for most low and middle income countries was 2.1% per annum, compared with

¹ Todaro, M and Smith, S. 2006. *Economic development, Ninth edition*. Pearson Education Limited, p.263.

² Thompson, W.S. and Lewis, D.T. 1965. *Population problems, 5th edition*. New York: McGraw-Hill, p.384.

³ World population grew at an annual rate of about 0.002% between the existence of first human to B.C. 8000; and 0.05% from B.C. 8000 to A.D. 1650, 0.43% between 1650-1900, 0.91% between 1900-1950. The current rate of growth is about 1.48 % per year. See United Nations 1997, *Report on the world social situation*, New York: United Nations.

⁴ Todaro and Smith, 2006, p.264.

⁵ Todaro and Smith, 2006, p.265.

0.7% in the developed world.⁶ This vital relationship between birth, death and population growth rates among developing nations has been explained as follows:

The rate of growth of population is the variation between the number of live births per thousand of the population and the number of death per thousand. In a country where the birth rate is 40 per 1000 and the death rate is 20 per 1000, the rate of population growth will therefore be 20 per 1000, or 2% per annum....For the developing countries as a whole the average birth rate is about 26 per 1000 and the average death rate is now about 10 per 1000, giving an average rate of population increase of approximately 1.6% annually. This rapid rate of population growth, compared with advanced countries is the result of relatively high birth rates coupled with death rates that are almost as low as in advanced countries.⁷

Illustrative again, Africa is expected to have the most rapid growth between 2000 and 2025, with an expected yearly rate of 2.4%.⁸ This expected rate, similar to its present rate of 2.8%, is the result of a traditionally high birth rate of 40 per 1000 and a death rate of 15 per 1000. Although growth in Latin American and Caribbean countries until 2025 is projected at 1.3%, its present yearly rate of 1.7%, is based on 23 births and only 6 deaths per 1000. Despite that Asia's annual growth of 1.3% is expected to decline to 1.1% by 2025,⁹ the world's most populated region still has a high birth rate of 20 and a low death rate of 7.¹⁰

Figure 1.0¹¹

⁶ By area, African nations experienced the most rapid population increase of 2.8%, followed by Latin American and Asian countries with growth rates of 1.9% and 1.6% respectively. Nafziger, E.W. 2006. *Economic development, Fourth edition*. Cambridge University Press, Printed In the United States of America, p.273-275.

⁷ Thirlwall, A.P. 2004. *Growth and development with special reference to developing economics*. Published by Macmillan Press Ltd, p.197.

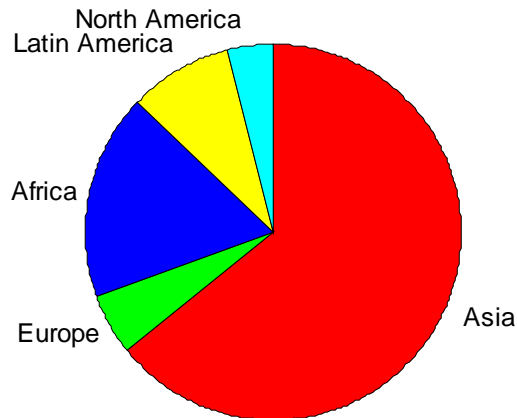
⁸ Nafziger, 2006, p.273.

⁹ Nafziger, 2006, p.274.

¹⁰ Population projection of the world, 2000-2025. Washington , DC. From U.S. Bureau of the census <http://www.census.gov/ipc/www/worldpop.html>

¹¹ Nafziger, 2006, p.274.

World Population by Region 2025



If people were to go back a century or so and examine the natural population growth rates, they would discover a very different picture. Crude birth and death rates were both high and similar, so that most countries had natural rates of population growth of approximately 1% annually.¹² High death rates tended to nearly cancel out relatively high birth rates, so birth and death rates were in a sort of preserved balance and there was no population explosion.¹³ What changed however was the scientific evolution and rapid economic development in Western European countries of the structural transformation towards industrialization. Higher levels of per capita income combined with the process of urbanisation, contributed both to the reduction of birth rates in Western countries and toward improved morality rates in every region worldwide, rich or poor.¹⁴ Thus in these now developed nations, such as Western Europe, North America and Japan, rapid economic growth results in improved living standards, longevity and employment opportunities which led better educated people to choose to have fewer children.¹⁵ In short, affluence significantly reduces birth rates. In the post war years, Japan provides one of the most dramatic examples of a falling birth rate--from 34 per 1000 in 1947 to 7.41 per 1000 in 2010.¹⁶ At the same time, both crude birth rates and crude death rates fell relatively rapidly, so, for example, Tokyo's natural population growth remained slightly under 0%. Consequently it is safe to say that there is no increase in natural population growth in most developed first world countries.¹⁷

In the less developed countries however, where the structural transformation towards

¹² Cypher, J. and Dietz, J. 2009. *The process of economic development, Third Edition*. Routledge Taylor & Francis Group. London and New York, p.396.

¹³ Reynolds, L.G. 1986. *Economic growth in the third world: An introduction*. New Haven, CT: Yale University Press, p.50.

¹⁴ Maddison, A. 1982. *Phases of capitalist development*. Oxford University Press, p.189.

¹⁵ Cypher and Dietz, 2009, p.396.

¹⁶ Japan has a population of 128 million. As of 2010 Japan has a crude birth rate of 7.41 and crude death rate of 9.83, giving the country a rate of growth of *negative* 0.242%. See World Bank Development Indicators (CD-ROM) <http://www.unfpa.org>. Also see CIA Fact Book.

<http://www.cia.gov/library/publications/the-world-factbook/geos/html>

¹⁷ Cypher and Dietz, 2009, p.396.

industrialization and economic expansion is either absent or very primitive, crude birth rates continue to be significantly higher than those in developed nations. However, today's less developed countries have lowered their mortality rates much more rapidly, "often to levels equal or even below those attained in the developed world."¹⁸ For example, Sri Lanka's and India's mortality rates decreased sharply from 1915 to 2009: Sri Lanka's mortality rate fell from 32 to 6 per 1000 population, India's from 49 to 7.¹⁹ These rapid declines are based on techniques that the developed countries acquired over decades including public health, immunization for childhood disease and pest control.

However, the idea of natural population growth rate refers to the variation between the crude birth and death rates. Thus, if the crude death rate decreases quickly, as happened in most developing countries, including Sri Lanka and India, the result is the increase in population growth rate, no matter what the crude birth rate is. Most of the countries in the developing world have therefore experienced a rapid population increase²⁰, with crude birth rates remaining high while death rates have fallen significantly.²¹ The following important questions present themselves: can the high birth rates experienced by less developed countries be expected to fall naturally with national modernization? If so, what is the crucial level of industrialization, urbanisation and per capital income at which the adjustment will take place? How long will the transformation take before full demography transition can be achieved? Moreover, which policies are appropriate to governments confronting this issue? This analysis engages with such issues in global population growth through a comparison of two contrasting states: China and Egypt.

China's population issues

China's population total reached more than 456 million people²² in 1947.²³ However internal warfare's, natural disasters and Japanese invasions which may have claimed the life of more than 30 million people²⁴ continued to challenge China's population prior to the establishment of the new republic. Following the Communist takeover in 1949, Chairman Mao Zedong took the view that a Communist society could solve any problems and that a larger population would bring about a stronger country. Mao went so far as to send advocates of population planning such as Professor Ma from the Beijing University, to jail.²⁵ Thus when the first census was taken in 1953, it recorded a larger than expected

¹⁸ Cypher and Dietz, 2009, p.396. Also see Nafziger, 2006, p.279. Also UNDP (United Nations Human Development Program) *Human development report 1994*. New York: Oxford University Press.

¹⁹ World Bank Development Indicators (CD-ROM) <http://www.unfpa.org>. Also see CIA Fact Book.

²⁰ The process by which fertility rates eventually decline to replacement levels characterised by the idea that decline in death rates will immediately be accompanied by the decline in birth rates, has been portrayed by a famous concept in economic demography called the demography transition. Source based on: Nafziger, 2006, p.741. Also The growth of world population 1963, from *Washington, DC.: National Academy of Sciences*. p.15.

²¹ Cypher and Dietz, 2009, p.397.

²² National Statistical Bureau 1982. *China statistical yearbook 1981*. Beijing: National Statistical Bureau.

²³ Yuan, T. Zhang, T. Ping, Y. Li, J. and Liang, Z. 1992. China's demographic dilemmas. *Population Bulletin: A publication of the population reference bureau*. Vol.47, no.1, p.4.

²⁴ China: chaos to Communism 1911-1949, In Cunliffe, B. 2001. *Cassell's atlas of world history*. Cassell & Co, part.6.17.

²⁵ For more on Professor Ma, see chapter two under Malthus and China.

population of 583 million.²⁶ However, the progress of economic development and population growth was far from linear in Mao's China. Mismanagement and a series of policy disasters such as the Great Leap Forward prompted famine over a three year period from 1959 to 1961. Many people died owing to food shortages, such that the population experienced *negative* growth of 0.46% in 1960.²⁷ However, reproductive growth regained its momentum shortly after the crisis and China's population increased from 745 million in 1966 to 829 million in 1971.²⁸

In response to this accelerated growth which brought China's population total to 924 million²⁹ by the end of 1975, a series of authoritative family planning programs were introduced from the early 1970s onwards. The most controversial and well-known strategy, the "one child policy", was introduced in 1979. This policy, according to population specialist Qu HaiBo from the Office of Population Theory Research of the Beijing College of Economic, was based on the belief that:

Child bearing is not only an individual and family matter, it also affects the nations total population size, the socialist revolution and socialist development. The dissemination of contraceptive knowledge and technology in China is more than a matter of couple-centred and couple-managed family planning in accordance with the couple's interest and inclination. It is to place child bearing in each and every household on the track of the nation's unified plan.³⁰

The results were impressive; China's Total Fertility Rate (TFR)³¹ was dramatically reduced from 5.75 in 1970 to 2.25 in 1990, and again to its current rate of 1.51 in 2010.³² However, China's national effort to slow population growth has added new concerns such as the preference for boys over girls, female infanticide, urban-rural income inequalities, aging population and the implications of exempting the country's 55 minority groups such as the Chinese Muslims and the Tibetans from Beijing's one child policy.³³ Likewise, the global significance of Beijing's population problem is equally

²⁶ China, population census office and national statistical bureau, the 1953 census of the People's Republic of China. From *Beijing: China statistical publishing house*.

²⁷ Shen, J. 1998. China's future population and development challenges. *The Geographical Journal*. Vol.164, no.1, p.32.

²⁸ The Statistical Yearbook of China 1986. *China statistical information and consultancy service centre*.

²⁹ The Statistical Yearbook of China 1986.

³⁰ Qu, H. 1987. 'A review of population theory research in China,' *Renkou Yanjiu (Population Research)*, no.2, p.39.

³¹ The idea of Total Fertility Rate (TFR) refers to average number of lifetime birth per woman. For example, if the TFR figure is said to be 3. Then that means a certain woman give birth to 3 children in her lifetime. See the U.S. bureau of the census, centre for international research: *Decline in Chinese Fertility*, figure 4.

³² The CIA Fact Book believe that the TFR figure for 2010 is 1.51. However other sources claimed that the figure is TFR1.6. See Population Reference Bureau, <http://www.prb.org>. Also Population Projection from State Family Planning Commission of China, <http://www.chinapop-gov.cn> believe that the figure was only 1.39, although this is rather unlikely.

³³ Yuan, Zhang, Ping, Liang, 1992, p.4.

enormous. With China's population total of 1.33 billion³⁴ people accounting for close to 20% of the world's population of 6.3 billion, the country's level of industrialization, urbanization, education, modernization, expanding use of natural resources and rising consumption could potentially influence the economic political structure of the 21st century world.³⁵

Egypt's population issues

As an essentially agricultural country with very limited arable land, Egypt was one of the earliest countries in North Africa to perceive population growth as a dangerous obstacle to healthy economic development.³⁶ One of the Egyptian national concerns, which dates from the first quarter of the 20th century, is summarized in Yusuf Idris's 1954 story collection, *The cheapest nights*. In this story, Idris revealed the hard life of Abdel Karim, a working class peasant struggling to make ends meet in his small village in the Egyptian delta.³⁷ The collection revolved around Abdel Karim's attempt to find recreational activities to fill the hours of evening after a long hard day's work. However, with six children of school age which he could barely afford to feed, even the simplest after work amusements such as drinking tea, beer or sitting in a coffee shop were beyond his budget. The impoverished peasant, living with no active social life to fill his leisure time, turned to his wife for comfort in "the winter night of darkness" with the "inevitable result of the pregnancy of another child he could not support."³⁸ This vicious, unending cycle of poverty, hunger and reproduction identified in Abdel Karim's story was produced and reproduced in policy statements, the popular press and public debates throughout the middle decades of the 20th century and it has continued to reflect a central political concern for Egyptians in the early 21st century, that of overpopulation.³⁹

Significantly different from China's approach however, arguments developed by Egyptian intellectuals in favour of reducing population growth rates have centred around social development, employment and female empowerment. Thus at his conference held for re-election in 1993, President Hosni Mubarak declared that:

Illiteracy, fertility, mortality...are considered to be too high, thus undermining the socio-economic development of the nation. In response, the government stresses the need for greater investments in health, economic, and social programs,

³⁴ The precise figure for China's population total is 1.330141295 billion people in 2010. Figure based on China Population Information and Research Centre, <http://www.cpirc.org.cn/eindex.htm>

³⁵ England, R. 2005, *Aging China. The demographic challenge to China's economic prospects*. Published by the centre for strategic and international studies, Washington, DC, p.36.

³⁶ Alan Mountjoy, explains that the fundamental reality of Egypt's territory is that its habitable area consists of no more than the narrow valley of the Nile and the Delta regions (upper and lower Egypt). With the minor exception for the Mediterranean seaboard, 97% of the country is rainless desert. See Mountjoy, A. 1952. 'Egypt's population problem,' *Transactions and Papers (Institute of British Geographers)*, no. 18, p.121.

³⁷ Idris, Y and Wadida, W. 1954. *The cheapest nights*. Boulder, Co:Lynne Reiner Publisher.

³⁸ Bier, L. 2008. *Family in the Middle-East. Ideational change in Egypt, Iran and Tunisia*. Chapter three: From birth control to family planning in population, gender, and the politics of reproduction in Egypt. Routledge. Taylor & Francis Group. Yount and Rashad (ed), p.55.

³⁹ Bier, 2008, p.55.

with special attention upon increasing family-planning....In particular, women's participation in the labour force and increasing their levels of education have a demonstrated influence upon reducing population growth rates.⁴⁰

More recently, population policy was on the national agenda of the two day National Population Conference called "Towards Life without Suffering" held on 9th of June 2008 at the Al-Azhar Conference Centre. President Hosni Mubarak was joined by Prime Minister Ahmed Nazif, plus Minister of Health and population expert Hatem El-Gabali. Addressing the opening ceremony, Mubarak urged that:

High fertility can impose costly burdens on Egypt, hindering economic development, increasing health risks for women and children, and eroding the quality of life by reducing access to education, nutrition, employment and scarce resources such as potable water....An overpopulation crisis plan will limit each Egyptian family to two children. Improving the status of women and reducing illiteracy can also be key factors in reducing population growth rate.⁴¹

With a population of 80.471 million in June 2010, Egypt has the 16th largest population in the world and the largest population in the Arab region.⁴² The rate of population growth increased from 1.3% per year in first half of the 20th century to nearly 2.5% in the 1980s. The current rate of growth has dropped somewhat from the previous high, but is still about 1.997% in 2010.⁴³ This rate of growth resulted in a massive gain of some ten million people in less than a decade from 70.3 million in 2002 to 80.47 million in 2010, and has intensified old difficulties in the country's effort to raise living standards. It has also ignited new social, economic and political concerns within the nation's borders. As El-Guindi, head of the Central Authority of Public Mobilisation and Statistics points out:

If the current population growth rate continues--a baby every 23 seconds, or 1.2 million every year--Egypt will be home to at least 160 million people by 2050....This inevitably leads to a decreasing per capita share of public utilities, including potable water, electricity, health, education and transportation, placing an enormous burden on the public purse.⁴⁴

Research aims and objective

Mindful of global trends, this thesis explores further the issue of population growth in China and Egypt. The research aim in particular is to establish an understanding of the

⁴⁰ National Population Council. 1993. Submitted to the ICPD. *Egypt-national report on population*, Cairo.

⁴¹ 'Bigger but not better,' *Al-Ahram weekly*. 12-18 June 2008. Issue no.901. By Reem Leila.

⁴² The precise figure for Egypt's population is 80,471,869. Source based on CIA Fact book, <http://www.cia.gov/library/publications/the-world-factbook/geos/eg.html>

⁴³ Population growth rate of Egypt, 1950-2050, See <http://www.esa.un.org/unpp/>

⁴⁴ Abu Baker El-Guindi's speech quoted by 'Population boom,' *Al-Ahram weekly*. 14-20 January 2010. Issue no.981.

relationship between population growth and economic development. The thesis will also examine national population policy in this regard. For instance, rather than waiting for economic development to produce low fertility rates, the Egyptian government used family planning policies as a mean to accelerate modernization. By comparison, a Chinese example⁴⁵ showed that rural China has a lower level of development than urban China, despite having less concentrated population. Because of its lack of development, the need for large families remained a constant reality for rural areas, where the requirement for child labour and old age security makes the one child policy difficult to enforce. Does this mean that a higher rate of growth in per capita income and a further development of social welfare system could lead to lowered desire for large families in China's rural context?

The following chapters seeks to explain the differences in Chinese and Egyptian population patterns and strategies and to evaluate the respective merits of Chinese and Egyptian population policies. In particular it examines the relationship between the level of economic developments, national family planning policies and its provincial implementations.

Research question

The study, and in particular the data gathering process and the research objectives were guided by the following sub-questions:

- What are the particular details of population growth in China and Egypt?
- What is driving population growth in China and Egypt?
- Which policies have been adopted to address population growth in China and Egypt and how effective are these policies?
- What are the prospects for population growth in China and Egypt? What are the consequences of that?
- In light of answers above, what can these countries, China and Egypt, learn from each other as they try to manage rapid population growth?
- What policy prescriptions might be made?

Thesis structure

The discussion of the thesis will be organised as follows:

Chapter two set out the major components of a conceptual framework appropriate for a scholarly examination of demographic change. Key components in this conceptual toolkit

⁴⁵ As of 2009, the Chinese capital Beijing has a population of 22 million, an area of 16801.25 Km square, a population density of 1309.4 people per Km with a per capital income of US17063 per year, and a TFR rate of average 1 child per woman. At the same time, the rural province of Qinghai has a huge area of 721,000 Km square, larger than the combined total of Germany (356,910 Km square), the United Kingdom (244,820 Km square), and Portugal (92,080 Km square). Yet, it only has a tiny population of 5.57 million people with a population density of 7.48 person per Km and a underdeveloped income of only US2425.875 per person per year . Despite the one child policy, in many parts of Qinghai, the TFR is about 2.3 and 3 children per woman. See the official website of Beijing at <http://www.ebeijing.gov.cn/government/administration.region/t930369.htm> For information on Qinghai, see <http://www.qh.gov.cn>

include the demographic transition, the methods of country comparison and the idea of policy transfer. These tools will be seen to gain considerable traction on the empirical data to follow.

Chapter three provides a literature review. It examines the ways in which the concepts outlined in the previous chapter have been brought to bear in debates about population and development in the scholarly literature. Different and contrasting studies are brought together to allow us to uncover various explanations of the patterns, social norms and policies in each country and their alleged influence on fertility change.

The empirical research is then divided into three chapters focused on the people, policies and prospects in both China and Egypt. Beginning with people, chapter four looks at China's and Egypt's basic geography, demography, social and economic indicators. The analysis then turns to historical background. The record shows that both China and Egypt faced a population crisis that was undermining their national development by the 19th century and that this historical legacy directly contributed to these countries' respective desires to limit population growth.

Chapter five looks at population policies. It argues that China and Egypt's fertility control programs toward population planning have experienced profound changes during the last three decades. For China, the first move to promote population planning in the early 1960s was conducted in the name of children's happiness and infant's well-being. By the early 1970s however, the aim of population planning was changed to slow the demographic expansion to better cope with Beijing's development related problems. This eventually evolved into the one child policy. Similar to China, the formulation and development of Egypt's population policies also passed various stages: the voluntary stage of 1939, the awareness stage of 1965 and the governmental programmatic stage of 1980. The chapter concludes with an assessment of the strengths and the weaknesses of these countries' respective family planning programs.

The final chapter draws on empirical data and scholarly analysis to offer some informed speculation on projected population growth in China and Egypt. The consequences of these projections are also considered. The chapter concludes with some assessment of what, if anything, China and Egypt could learn from each other. This returns us to the question: what is the scope for policy transfer?

Chapter 2

Conceptual framework: a toolkit for analysing demographic change

Introduction

In order to embark on a meaningful discussion of population and economic development, it is necessary to understand a number of basic “academic tools” to help people undertake empirical analysis of population issues. To this end, this chapter is structured into three sections outlining three sets of such tools: demographic instruments, comparative methods, and policy transfer. In the first section, important demographic instruments such as the Total Fertility Rate (TFR), the Demography Transition, and the Malthusian Population Trap will be explained. These tools will then be applied to the basic detail of the case studies, China and Egypt. The second section looks at how to compare countries, the tools comprising the comparative method, and controversies surrounding issues of comparative analysis. In section three, I will explain the concept of policy transfer and how it can be used in relation to China and Egypt. Each of these sections will be subdivided into three parts: explanations, relevance to our study of China and Egypt, and critical evaluation.

Demographic instruments: the total fertility rate

The TFR is one of the most commonly used tools for demographic analysis. It is understood as the total number of children an average woman is expected to have during her reproductive period between 15 and 49 years of age.¹ TFR is calculated on the basis of an age-specific birth rate for a female population of a particular geographical location “during a specific time period”.² For example, assume that China has a population of 3000 women between 15 and 49 years of age with a specific birth rate of three children per woman and a death rate of one child per woman in 2010; this will give China a TFR of 2.0 live births per family, just below replacement level fertility.

TFR is often associated with the idea of replacement level fertility. This concept argues that in order to achieve a zero population growth rate, 1000 women should produce “1000 births to replace themselves, 1000 births to replace their male counterparts and 100 births to replace those who do not reach or survive through their reproductive years.”³ The standardized TFR for replacement level fertility of a population is therefore 2.1 live births per family.

The total fertility rate of China and Egypt

The fact that China’s TFR has declined rapidly is well known, “but the speed of that decline can only be appreciated when China’s [achievement] is systematically compared with that of other countries.”⁴ Since the 1963 peak, China’s registered TFR steadily

¹ Dowling, M.J. and Valenzuela, R.M. 2004. *Economic development in Asia*. Thomson Learning. A Division of Thomson Asia Pte Ltd, p.169.

² The total fertility rate, the definition. See <http://www.naphsis.org>

³ The total fertility rate, the definition. See <http://www.naphsis.org>

⁴ Feeney, G. 1996. Fertility in China: Past, present, prospects. In *The future population of the world*. What

declined from a national average of 7.5 children per couple to fewer than 2.5 in 1982,⁵ 2.0 in 1995⁶ and 1.51 in 2010.⁷ Previously in the 1970s, only Shanghai had a TFR below three, “and at 2.3 it was approaching replacement level fertility whereby each couple would only replace themselves in the next generation.”⁸ Provinces such as Beijing, Liaoning, Sichuan and Shandong all had TFR over five and Inner-Mongolia, Jilin and Jiangxi were even higher at six or seven.⁹ Since the 1980s there were major declines with the TFR rates of above mentioned provinces having fallen from an average of 5.80 in the 1970s to 2.49 in 1985, and 1.39 in 2005.

So how does Egypt’s TFR compare to China’s achievement? Based on the national census from the Central Agency for Public Mobilization and Statistics (CAPMAS), Egypt’s fertility rate remained high in the 1950s at about 6.6 births per woman and the population increased tremendously from 18.9 million in 1947 to 36.6 million by 1976.¹⁰ As a result, Egypt’s State Information Service launched the country’s first family health campaign in 1980 “aimed at heightening the public’s awareness of the benefits of family planning to limit one’s fertility by having smaller families.”¹¹ Due to these family planning measures, the fertility rate declined by nearly 50% from 6.0 children per woman in the early 1960s to 5.3 in 1980 to 3.5 in 2001¹² and to 2.9 births per woman in 2010.¹³ Despite this decline however, Egypt still has a high TFR of about 3.0 children per woman, a figure considerably higher than China’s 1.51 as of 2010.¹⁴ This indicates that the possibility of Egypt achieving replacement level fertility or reach zero population growth in the foreseeable future is rather unlikely.

The total fertility rate: critical evaluation

Despite its strength in fertility measurements, there is one major limitation to using TFR as the basis of a country’s calculation in its population rate of growth.¹⁵ For example, all of the above fertility figures mentioned in China and Egypt’s achievement are based on the fertility behaviour of women aged between 15 and 49 years old. This means that all births to mothers younger or older than the 15 to 49 age requirement will not be included in the calculation of a country’s TFR.¹⁶ Due to its age requirement limitation, it is

can we assume today? Lutz, W. (ed). Earthscan Publications Ltd London, p.103.

⁵ ‘Family planning must be paid in high attention,’ *People’s Daily News*, April 1986.

⁶ ‘Birth control in China: Coercion and evasion,’ *New York Times*, June 25, 1995.

⁷ CIA Fact Book.

⁸ Hull, T.H. and Yang, Q. 1991. Fertility and family planning. In *Population and development in planning in China*. Wang, J. and Hull, T.H. (ed). Allen & Unwin, p.166.

⁹ Hull, and Yang, 1991, p.166.

¹⁰ CAPMAS (Central Agency for Public Mobilization and Statistics). 1976. *National Census 1976*, Cairo: Government of Egypt.

¹¹ Storey, D.J. and Kaggwa, E.B. 2009. ‘The influence of changes in fertility related norms on contraceptive use in Egypt, 1995-2005,’ *Population Review*, Vol. 48, no. 1, p.4.

¹² El-Zanaty, F. and Way, A. 2009. ‘Egypt demographic and health survey 2008,’ Cairo, Egypt: Ministry of Health. *El-Zanaty and Associates, and Macro International*, p.47.

¹³ CIA Fact Book.

¹⁴ CIA Fact Book.

¹⁵ OECD-Social Policy Division-Directorate of Employment, Labour and Social Affairs. Family Database from <http://www.oecd.org/els/social/family/database>

¹⁶ D’Addio, A.C. and Mira d’Ercole, M. 2005. ‘Trends and determinants of fertility rates in OECD countries: The role of policies,’ *OECD Social, Employment and Migration Working Paper*, no.27. Also see

sometimes more helpful to use a demographic instrument that considers the population issue in a longer timeframe. Specifically, the concept of demographic transition is most useful in terms of illustrating the impact of population growth in various stages of human development.

Demographic instruments: the demographic transition

“The demographic transition is a period of rapid population growth between a pre-industrial, stable population characterized by high birth and death rates and a later, modern stable population marked by low fertility and mortality.”¹⁷ Most industrialized countries such as Great Britain or the United States, with a typically stable population, have passed through three stages of demographic transition. In the first stage, when the economy is primarily agricultural, birth and death rates are fairly similar, with birth rates slightly higher than death rates. For example, the birth rate in late 18th century United States was about 5 per 1000, and mortality and fertility rates were both high and fairly similar.¹⁸ This produces limited population growth.¹⁹ Stage two begins when modernization, accompanied by better public health methods, improves food production and agricultural techniques, healthier diets, and increases per capita income.²⁰ In combination, this results in gradually raised life expectancy.²¹ Average expectancy worldwide increased from about 45 in the early 1900s to 65 by the 1950s, and it is currently around 76 in the early 2000s.²² Despite this, the birth rate continues to be high in the second stage of the transition, producing rapid population growth. In the third stage the economy is fully industrialized, birth rates begin to fall and are more in line with the declining death rate.²³

Demography transition in China and Egypt

In the first decade of the 21st century, many countries in Asia have begun or have nearly completed the demography transition. For example, China, Singapore and South Korea

<http://www.naphsis.org>

¹⁷ Nafziger, E.W. 2006. *Economic development, Fourth edition*. Cambridge University Press, Printed In the United States of America. p.277.

¹⁸ For example, Heer stated that “Abraham Lincoln’s mother died when she was 35 and he was 9. Prior to her death she had three children: Abraham’s brother died in infancy and his sister died in her early 20s. Abraham’s first lover, Anne Rutledge, died at age 19. Of the four sons born to Abraham and Mary Todd Lincoln, only one survived to maturity.” See Heer, D. 1975. *Society and population*. Prentice Hall, p.56.

¹⁹ Dowling, M. and Valenzuela, R. 2004. *Economic development in Asia*. Thomas Learning. A division of Thomas Asia Ltd, p.173.

²⁰ To illustrate, Sri Lanka experienced a great fall in life expectancy from the time of British release in 1948 to the first years of 1950s due to pestiferous mosquitoes. Starting in the late 1950s, the World Health Organization (WTO) sprayed a new pesticide DDT over large areas of Sri Lanka to destroy disease carrying mosquitoes. The cost was less than two dollars a day. The mosquitoes were largely eradicated, contributing directly to a steep decline in Sri Lanka’s mortality rates from 21.7 per 1000 in 1945 to 9.1 in 1959 and 6.13 in 2010. However, with a life expectancy of 75 years and an average birth rate of 16.24 per 1000, Sri Lanka has a relatively fast annual population growth rate of 15 birth per 1000. See Nafziger, 2006, p.281.

²¹ Ginsbury, F, Rapp, R. 1999. ‘The politics of reproduction,’ *Annual Review of Anthropology*, Vol. 20, p.342

²² Gelbard, A, Haub, C, Kent, M. 1999. ‘World population beyond six billion,’ *Population Bulletin*, Vol. 54, no. 1, p.43.

²³ Dowling and Valenzuela, 2004, p.173.

have relatively low population increase rate of less than 1%.²⁴ In contrast, countries in North Africa such as Egypt, Libya and Algeria are still in the second stage of demographic transition with relatively high rates of population increase of 1.5 to 2.9%.²⁵ In the early era of the Communist republic however, population growth in China had been generally similar to that of Egypt. China's annual population growth rate generally exceeded 2.9% from 1950 to 1965, not that much different from Egypt's 2.4% during the same time period.²⁶ Beginning in the early 1970s, population growth started to decline dramatically in China as substantial, organized family planning efforts began to bear fruit. By the late 1970s China's 2.18% growth rate was already below the rate in many regions of the developing world and by the 1990s it was even lower at 1.39%. Nevertheless, a Chinese State Statistical Bureau projection indicates that China will not complete stage three of the demographic transition before 2035.²⁷ This means that if China maintains the current TFR²⁸, of 1.51 children per woman for the next 40 years, the population will grow to 1.51 billion by 2050, the year where zero population growth rate should have been reached. Only then will China reach replacement level fertility, whereby a woman of reproductive age produces 2.1 children in the population.²⁹

Although Egypt's population rate of growth of 1.997% in 2010 is much higher than China's 0.494%³⁰, there have been substantial efforts on the part of the Egyptian government to lower birth rates. Egypt is in the second phase of the demographic transition with a high crude birth rate of 25 children per 1000 women and a low death rate of 4.85.³¹ The result of this imbalance is a relatively high 2% annual population increase in Egypt. Here, organized family planning programs, which provide public information campaigns and contraceptives to reduce birth rates, is one of the answers chosen by the Egyptian government to achieve the third stage of demographic transition which has virtually equal fertility and mortality rates.

Demography transition: critical evaluation

Like all demographic concepts, the demographic transition has limitations. The concept assumes that the fall in mortality rate in the second phase of the transition is due to the consequences of national development in industrialized countries. This means that the delayed fall in the death rate in many developing countries is mainly because of their inability to afford modern medical facilities.³² However, it should be noted that Saudi Arabia still has a high fertility rate of 3.77 children per woman and an annual population growth rate of 1.75%.³³ This means that despite China's low per capita income of USD

²⁴ Kuijs, L. and Wang, T. 2006. 'China's pattern of growth,' *China and the World Economy*. Vol. 14, no.1. p.17.

²⁵ World Bank 2008. 'Population growth in Asian countries,' Washington D.C. Printed in the United States, p.17.

²⁶ United Nations 2000. World population trends and prospects by country 1950-2000. Series 33. United States. USA.

²⁷ Chinese State Statistical Bureau 2007. Chinese statistical yearbook. China: Beijing publisher, p.71.

²⁸ Nafziger, 2006. P.282

²⁹ Nafziger, 2006. P.284.

³⁰ CIA Fact Book.

³¹ CIA Fact Book

³² The demographic transition <http://geographyfieldwork.com/demographictransition.htm>

³³ CIA Fact Book

(US Dollar) 6,600 as opposed to Saudi Arabia's high per capita income of USD 20,000, China still has a much lower fertility rate of 1.51.³⁴ This is likely to be the result of distinct cultural factors reflecting the role of women in Islamic societies,³⁵ which will be discussed in detail in our policy transfer section in chapter six. The Saudi example shows that the demographic transition theory may have ignored the specific social, cultural and historical backgrounds of a population in question. More importantly, the concept makes no reference of the critical relationship between a country's population size and the land's capacity for food production; this is best known as the Malthusian population trap.

Demographic instrument: Malthus population trap

Best known for his theory of population, Malthus published *An essay on the principle of population* in 1798. His theory claimed that "there is a constant tendency in all animated life to increase beyond the nourishment prepared for it."³⁶ Thus population tended to double from a population of 2 to a population of 4, to a population of 8, to a population of 16, 32, 64, 128 and so on. In the meantime, agricultural output could only increase from 1 kilogram of rice to 2 kilograms, to 3 kilograms, to 4 kilograms, to 5,6,7, and 8 kilograms and so on, certainly much slower than the alleged rule of exponential growth that governed population increase.³⁷ In consequence, as population continued to expand, the issue of land scarcity would gradually appear and people's "marginal contribution to food production would actually start to decline."³⁸ Because food production could not keep up the pace with the rate of population increase, per capita incomes, and the provision of basic services and other goods required for a people's rudimentary existence would have a tendency to fall so low as to lead to a stable population existing barely above or even below the survival requirement.³⁹

The deteriorating living standard would not only increase mortality rates dramatically, but would also force people, through the apparent inevitability of poverty, to have smaller families.⁴⁰ Thus, the basic conviction of Malthus's argument was that: "there is no reason whatever to suppose that anything besides the difficulty of procuring in the adequate plenty the necessaries of life should either indispose this greater number of persons to marry early, or disable them from rearing in health the largest families."⁴¹ How might Malthus' theory apply to China and Egypt?

Malthus and China

From a traditional Chinese perspective, more people meant more taxpayers and more

³⁴ CIA Fact Book.

³⁵ Cypher and Dietz, 2009, p.401.

³⁶ Malthus, T.R. 1830. *A summary view of the principle of population*. Penguin Classics Edition. Penguin Books, p.67. Also Malthus, T.R. 1798. *Essay on the principle of population*. In: Flew a (ed) 1982. *An essay of the principle of population*. Penguin Classics Edition, Harmondsworth.

³⁷ Malthus, 1830, p.67.

³⁸ Todaro and Smith, 2006, p.278.

³⁹ Todaro and Smith, 2006, p.278. Also see Dasgupta, P. 1995. 'Population problem: theory and evidence,' *Journal of Economic Literature*, Vol. 33, p.1879-1885.

⁴⁰ Cypher, Dietz, 2009, p.115.

⁴¹ To translate Malthus's argument into plain English, one could understand his conclusion as: in the absence of adequate necessaries of life (such as adequate income, water or food supply), this would prevent the majority people to either marry early or provide proper care to a large family. See Malthus 1830, p.243.

soldiers. More land could be put under cultivation and the growth of population represented increments in the social capital of the nation.⁴² But every now and then there was an alternative voice, uneasy about the nation-wide rapid increase in population. Hung Liang Chi was one such unorthodox writer. Born in 1744, Hung was well-known to Chinese scholars as a poet, philosopher, historian and patriot. He was a contemporary of Malthus. Like Malthus, he was one of the first in his country to give “coherent expression to the theory of the inexorable danger of threatening overpopulation.”⁴³

In 1755, the population of Hung’s China⁴⁴ was about 150 million. A hundred years later by the 1850s however, the size of the population had doubled. Between the late 18th century and mid 19th century, the population increased further by an estimate of 56% to 350 million.⁴⁵ Unprecedented as the population growth during this early modern era was, it was not unique in the late 18th century world. The Chinese annual rates of increase was about 9 live births per 1000 between 1775 and 1850, similar to the estimated growth figure of Western Europe during the same period.⁴⁶ The Chinese population experienced extraordinary growth between 1750 and 1850 from 150 to 350 million. So too did the population of Europe, which doubled from 144 million to 274 million at more or less the same time.⁴⁷ Improvements in agricultural techniques following the introduction of American food plants from the new world apparently were a possible common denominator of rapid population increase in both China and Europe.⁴⁸

Surprisingly, despite their geographic disconnection and historical disassociations, the reactions to the rapid growth in population in both locations tend to be remarkably similar.⁴⁹ In Europe, we note Malthus published his essay in 1798. His universal principle of population growth believed that “in the absence of natural and preventive checks, relentless population progression inevitability outstrips increase in food production.”⁵⁰ Quite independently in 1793, Hung Liang Chi cast his demographic observations in very similar terms:

Take the population question. Population will in 30 years increase five times and 10 times in 60 years....Let us take a single family as our unit of calculation. Suppose that at the time of the great grand father...a man possesses 10 rooms and 100 square metres of land, [and] is single. When he gets married there will be two in the family....Let us suppose

⁴² Lung, C.F. 1935. ‘A note on Hung Liang Chi: a Chinese Malthus.’ *T'en Asia Monthly*, p.248.

⁴³ Silberman, L. 1960. ‘Hung Liang Chi: a Chinese Malthus.’ *Population Studies*, vol 13, no. 3, p.258.

⁴⁴ Manchu China, officially know as the Manchu Qing Empire, or simply Qing dynasty for short. It was the last imperial dynasty in Chinese history. It lasted from 1616-1912, 296 years in total.

⁴⁵ Cunliffe, B. 2001. *Cassell's atlas of world history*. Cassell & Co. Wellington House, part B 4.22.

⁴⁶ Durand, J. 1960. ‘The population statistics of China, AD 2-1953,’ *Population Studies*, vol.13, no.3, p.244.

⁴⁷ Tien, Y.H. 1991. *China's strategic demographic initiative*. New York, Westport, Connecticut London, p.10. Also see Van De Kaa, D. 1987. ‘Europe’s second demography transition,’ *Population Bulletin* 42, no. 2, p.47.

⁴⁸ Tien, 1991, p.10.

⁴⁹ Tien, 1991, p.10.

⁵⁰ Tien, 1991, p.10.

however, that the couple has three sons. Now in the children's generation the father and his three sons, each with his spouse, constitute a group of eight. With eight in the family there is no overlooking for the desirability of servant help. So now there will be no less than 10 people in the family. When the sons bear sons and they acquire wives there will be no less than 20 odd people in the home even taking possible deaths into account. With over 20 people living in 10 rooms on 100 square metres of land we know, even if they tighten their belts and live most modestly, that shelter and land will not be sufficient.⁵¹

Though they were separated by distance and geography, Hung and Malthus's population observations turned out to be demographic conceptual twins. Their intellectual output must have been born under similar influences, principally demographic acceleration and associated socio-political difficulties. Consequently, Malthusian population theory might indeed offer useful insights into China's population development. However, flaws in the Malthusian model did not go unnoticed in China either.

Malthus and China: critical evaluation

On December 1999, the Portuguese colony of Macao was finally returned to the Chinese mainland after more than 150 years of colonial rule.⁵² To generate public approval for communist takeover, the Chinese media portrayed Macao as a modern state enjoying successful development. However, as a contemporary account recalls, as people watched a televised documentary about Portuguese funded medical facilities in a local pub, grandfather Tian became upset. "Look at how beautiful and clean their free hospital is. Unlike China, where no one cares about the elderly people. If I have no money for medical care, I will just die." A 23 year old university student Hun Yang responded with a Malthusian overtone: "the main problem here is overpopulation. People in Macao do not have many children so of course they are rich...How can China become rich in the future with every generation doubling the population?"⁵³

Hun's line of argument is strongly influenced by China's developmental principle that it is easier to modernize a smaller population than a large one.⁵⁴ The fewer people there are, the greater share of national wealth there will be for each person. However, returning us to the first question posed by the thesis in chapter one, today's population experts have been careful to distinguish this principle from that of Ma Yin-Chun, a condemned Chinese Malthusian from the University of Beijing in 1958. As senior official Liu Shao Chi criticized Ma at the Second Session of the Eight Congress of the Chinese Communist Party:

⁵¹ Silberman, 1960, p.262.

⁵² Fong, V.L. 2004. *Only hope. Coming of age under China's one child policy*. Stanford University Press, p.69.

⁵³ Fong, 2004, p.69.

⁵⁴ Fong, 2004, p.69-70.

Professor Ma asserted that the rate of agricultural growth could not keep pace with the growth of population. He argued that as the population grows, consumption will increase and there will not be much of an increase in accumulation....Underlying such ideas is an underestimation of the organized revolutionary peasants of our country....The great forward leap in agricultural production and construction this year has not only completely knocked the bottom out of the Malthusian contention that agriculture cannot make quick progress but also blown sky high Ma Yin Chun's argument that a big population impedes accumulation. Ma failed to see that men are first of all producers and that when there is a large population there is also the possibility of greater production and more accumulation. Malthusian views obviously run counter to Marxism-Leninism.⁵⁵

Shortly after 1958, Ma Yin Chun was sent to jail. The Malthusian ideology that he supported for was portrayed by the Chinese Communist Party as a concept used by "Western capitalist to absolve themselves of the guilt for letting impoverished people starve to death."⁵⁶ In other words, from a then-orthodox Chinese Communist perspective, Malthusian views were deemed inconsistent with the revolutionary optimism of the party.

Malthus and Egypt

Open almost any study produced by an international development agency and you are likely to find that it starts with a Malthusian discourse of overpopulation.⁵⁷ And the question of Egypt's economic development is clearly associated with the problem of geography versus demography. This is typically "pictured by describing the narrow valley of the Nile River, surrounded by deserts, crowded with rapidly multiplying millions of inhabitants."⁵⁸ This simple but powerful image of limited availability of arable land in Egypt produced much earlier than elsewhere, "a Malthusian fear of overpopulation."⁵⁹ As Dr Levi, the chief of the Egyptian department of statistics noted in 1922:

There is a saturation. Given the state of its economic organization, the density of the population has reached a level that is only surpassed perhaps by China....It would seem that this limit could not be surpassed by much without giving rise to troubling manifestations in the economic and social domains, unless there is an extension of cultivable land or a

⁵⁵ Silberman, 1960, p.261. Also see US Bureau of the Census 1958. 'The population and manpower of China,' *Pop Reports Series 90*, no.8, p.26.

⁵⁶ Fong, 2004, p.70.

⁵⁷ Mitchell, T. 1991. 'America's Egypt: discourse of the development industry,' *Middle East Report*, no.169, p.18.

⁵⁸ Mitchell, 1991, p.18.

⁵⁹ Fargues, P. 1997. 'State policies and the birth rate in Egypt: From socialism to liberalism,' *Population and Development Review*, Vol.23, no.1, p.116.

greater intensification of agriculture and industrial production in a manner that would permit the useful employment of a population surplus, assuring it of the necessary minimum for wellbeing.⁶⁰

Dr Levi's concern was echoed in 1963 by Pamela Johnson, a professor at the Washington Agency for International Development: "for more than 5000 years agriculture has sustained Egypt. During the first half of this century however, the growth of agriculture failed to keep up with the needs of a population which doubled, then nearly tripled. It is a matter of simple arithmetic...."⁶¹ Indeed, between 1966 and 2010 the population of Egypt grew by 76%, from 25 to 80 million.⁶² In the same time period, the domestic production of agriculture increased only by 77%, while the total Egyptian food consumption need increased by 148%. This was beyond Egypt's land production capability.⁶³ With so many people occupying so little space, the relevance of Malthusian population theory to Egypt's problem appears self-explanatory. The present economic status of the Egyptian peasantry is far from easy, mainly because there is just not enough land to go around. "The average size of a holding is two feddans⁶⁴, 94% of all owners have less than five feddans each, and only 2% have at least 50 feddans each."⁶⁵ This grim outlook of a country made up of some 80 millions of inhabitants crammed into an "elongated oasis"⁶⁶ that make up less than 4% of the land persuades Malthusians once again that if Egyptians are finding things difficult,⁶⁷ it is because there are just too many of them for the existing agricultural land space available.

Malthus and Egypt: critical evaluation

It is true that Egypt has the largest population in the Middle East. And as noted by the World Bank's report, *International comparison project*: "Its 80 million people are crowded into the Nile Delta and Valley...with a density level higher than that of Bangladesh or Indonesia."⁶⁸ The picture looks grim. However, three objections can be raised when considering the applicability of Malthus to Egypt. First, the choice of comparators; second, relative rates of consumption; and third, improvements in Egyptian food production.

To the first point, why choose two countries like Bangladesh and Indonesia? The World Bank may equally have mentioned more advanced countries such as Germany or the United Kingdom, where their respective levels of population densities of 229 and 241 are

⁶⁰ Levi, I. 1922. 'Le Recensement de la population de l'Egypte de 1917,' *L'Egypte Contemporaine* 13, no.67, p.471. The quote is based on Fargues (1997)'s translation. See Fargues 1997, p.116.

⁶¹ Johnson, P. 1983. 'Egypt: the Egyptian American rural improvement service,' *A point four project*, 1952-1963. Washington Agency for International Development, p.43.

⁶² Figures are based on the calculations from <http://esa.un.org/unpp/>

⁶³ World Bank 2007. International Comparison Project. From <http://www.worldbank.org>

⁶⁴ A feddan equals to 4201 square metres.

⁶⁵ Nassar, S. and Mansour, M. 2003. Agriculture: an assessment of past performance and task ahead. In *Egypt in the 21st century, challenge for development*. El-Ghonemy, M. (ed). Routledge Curzon Advances in the Middle East and Islamic Study, p.141.

⁶⁶ Mitchell, 1991, p.22.

⁶⁷ Mitchell, 1991, p.22.

⁶⁸ World Bank 2007. International Comparison Project. From <http://www.worldbank.org>

almost four times higher than Egypt's 80, but where the comparison would have a less negative implication.⁶⁹ Despite the visual image of 80 million Egyptians crowded into the valley of the Nile, this population actually makes very limited demands on world's resources. This leads to my second point concerning consumption. For example, one inhabitant of Germany requires more gas and energy per year than seven Egyptians, and one Briton is more expensive in energy terms than half a dozen Egyptians.⁷⁰ The fact is that advanced countries such as Germany and the United Kingdom, with less than one-quarter of the world's population, consume almost 80% of the world's resources. From a critical perspective, we might ask Malthusians to insist that developed nations curtail their excess consumption demands, instead of suggesting that population growth leads to poverty.⁷¹ Finally, between 2000 and 2010, the population of Egypt grew at an annual rate of 2%. Yet during the same time period, a *United Nation Arab Human Development Report* indicates that agricultural production grew at an even faster rate of 3.6% per year.⁷² Even during the 1980s when Egypt's population growth was at its fastest at 2.7% annually, food production continued to keep slightly ahead with foreign assistances and food imports. In 2007, food production per capita was 16.5% higher than at the beginning of the 1980s.⁷³ For all of its problems, Egypt's population is not actually growing faster than the country's ability to feed itself.

Comparative method

How does the comparison of countries help us explore the China-Egypt study? In comparative politics, country comparison is mainly divided into the two categories: comparing many countries and comparing few countries. The method of comparing few countries is divided primarily into two types of system design "the most similar system design" and "the most different system design."⁷⁴ These two options are explained below.

Most similar system design seeks to compare countries that share a host of common features in an effort to identify key features that are different among similar nations and so account for the observed political outcome.⁷⁵

- For example, New Zealand and Australia is a set of two countries that share a host of common features such as their democratic system, Anglo-Saxon tradition, and their love for rugby. However, a key difference between these similar countries is

⁶⁹ Admittedly, the rate of population growth in the 21st century is slower in the first world. However, many of them are actually densely populated. The density per Km square in 2010 for the United Kingdom is 241.45, for Germany 229.97, for Italy 188.18, and for Japan 361.09. By comparison, for Mongolia it is 1.96, Kazakhstan 6.18, Egypt 80, Uganda 96.61, China 138.02 and India 365.82. Thus, excluding India, all the other mentioned developing countries are less populated than the advanced countries. The figures are based on CIA Fact Book. While the argument is inspired by Wilson, D. 1968. *A quarter of mankind*. Penguin Books. p.302.

⁷⁰ United Nations Development Project 2006. *Oxford: Oxford University Press*, p.37.

⁷¹ World Bank 2005. Trends in developed and developing countries. *Washington D.C: World Bank*.

⁷² World Bank 2008. 'United Nations Arab Human Development Report,' *Washington D.C: World Bank*.

⁷³ World Bank 2008. 'Arab Republic of Egypt: An agricultural strategy for the 21st century,' Washington D.C: World Bank.

⁷⁴ Landman, T. 2000. *Issues and methods in comparative politics. An introduction*. London and New York, p.27.

⁷⁵ Landman, 2000, p.27. Also see Mill, J.S. 1872. *A system of logic*. London: Longman, p.14.

Australia's widely recognized status as Australasia's most powerful military state. In this case, most similar system design would attempt to identify the key features that are different between New Zealand and Australia and so explains why Australia has a much larger military.

Most different system design in contrast, compares countries that do not share many common features apart from a certain observed political outcome.⁷⁶

- For example, the Mongol empire and the Third Reich had very little in common. Yet both Genghis Khan and Adolf Hitler conducted extensive policies of systematic extermination against real or imaged enemies. The most different system design therefore would attempt to investigate what is common between these different empires that together accounted for this observed common political outcome of invasion and brutality.

China and Egypt have tremendous differences in terms of population size, political system, economic and military capabilities. Due to the differences, most similar system design, which is particularly well suited to research in area studies, cannot be adopted.⁷⁷ This is because, the intellectual and theoretical justification for area studies holds that there is something inherently similar about countries that make up a particular geographic location of the world, such as Asia, Latin America, Africa or the Middle East.⁷⁸ This method is not particularly well suited for those engaged in comparative study that seeks to identify the key features among quite different nations, such as our two comparators, China and Egypt. The most different system design on the other hand, is typical of comparative studies that identify a particular outcome that is to be explained such as transitions to democracy, military coups or economic developments.⁷⁹ For example, Wolf's study *Peasant wars of the Twentieth century* compare examples of Communist movements that have significant peasant participation in Russia, Vietnam, China and Cuba.⁸⁰ Though these countries share few common features, the existence of capitalist exploitation appears to be the key explanatory factor common to each nation that accounts for the appearance of Communist revolution.⁸¹ In this way then we see that comparison between quite distinct cases is a legitimate, established method in political science.

Despite their huge difference in history, politics and culture, China and Egypt have one essential policy goal in common: to lower population growth rates. This is evident in the introduction of China's one child policy and Egypt's family planning programs, both explicitly designed for the purposes of population control. Due to this vital commonality,

⁷⁶ Landman, T. 2000, p.27

⁷⁷ Collier, D. 1993. The comparative method. In *Political science: the state of discipline*. Finifter, A (ed) Washington D.C: the American Political Science Association, p.112.

⁷⁸ Landman, 2000, chapter 2. Also see Przeworski, A. and Teune, H. 1970. *The logic of comparative social inquiry*. New York: Wiley, p.33.

⁷⁹ Geddes, B. 1990. 'How the cases you choose affect the answers you get: selection bias in comparative politics,' *Political Analysis* Vol 2, p.131.

⁸⁰ Landman, 2000, p.31.

⁸¹ Wolf, E. 1969. *Peasant wars of the Twentieth century*. New York: Harper Torch Books.

comparison of the similarities and differences between the two countries may be undertaken in order to try and uncover the explanatory factors in each case. Hence, the research seeks to highlight the key political features such as population patterns, family planning policies and prospects that are similar among our choice of comparators.

Returning once again to the principle research questions outlined in chapter one, plausible reasons for China's lowered fertility rate are: 1) Economic development, 2) National family planning policy, 3) and Local policy implementations. These three proposed reasons can also be understood as 'independent variables' representing the Chinese path to achieve the 'dependent outcome': fertility decline. These two concepts can be explained as follows:

- The independent variable is typically the variable representing the value being manipulated or changed;
- And the dependent variable is the observed result of the independent variable being manipulated.
- Take a person's health as an example; the independent variable of taking an illegal substance will have the ability to influence the dependent outcome of life expectancy.⁸²

However, as noted in our examination of demographic instruments above, it is as well to be mindful of potentially complex and over-lapping explanations. In this regard, it has been noted that "an especially useful feature of comparative analysis is its attention to complex causation, defined as a situation where a given outcome may follow from several different combinations of causal conditions."⁸³ Clearly, this project has good reasons to allow for several distinct paths or recipes that may explain the decline in fertility rates. By examining population decline in the two countries with different combinations of causally relevant conditions, it is possible to identify the "decisive recipes and thereby unravel causal complexity."⁸⁴ By listing different logically possible combinations of causal factors, it is possible to assess not only the validity of a specific recipe (e.g. the Chinese variables), but also the other logically reliable combinations of possible conditions that can be constructed from the existing causal variables.⁸⁵ For example, if regions within China with all three causal conditions present all experience fertility decline and regions of Egypt with only two of the three factors present and one absent (e.g. the one child policy), also experiences fertility decline, then the study might conclude that the family planning policy that varies across China and Egypt is irrelevant. The key variables for the dependent outcome are the remaining two conditions; in this case, a country's general level of socio-economic development and its local characteristics might be the determining factors for fertility transition.

⁸² Ragin, C. 2007. Comparative methods. In *The sage handbook of social science methodology*. Outhwaite, W. and Turner, S. (ed). Sage Publications.

⁸³ Mackie, J. 1965. 'Causes and conditionals,' *American Philosophical Quarterly*, Vol.2, p.245-250.

⁸⁴ Ragin, C. 2007. Comparative methods. In *The Sage Handbook of Social Science Methodology*. Sage Publications. William Outhwaite and Stephen Turner (ed), p.73.

⁸⁵ Romme, A.G.L. 1995. 'Boolean comparative analysis of qualitative data: A methodological note,' *Quality and Quantity*, Vol.29, no.4, p. 318-324.

Comparative method: critical evaluation

Having made a case for comparative method, and having resolving to adopt it, we can also take a moment to reflect on the potential limitations of that method. In this regard, a fundamental problem confronting any comparative analysis is the issue of selection bias. The problem of selection bias does not affect studies that compare many countries as much as studies that compare few countries, but it is a major problem for any two country comparison studies.⁸⁶ Studies that compare many countries usually have a sufficient number of quantitative studies and other statistical observations that can be used to avoid the problems of selection.⁸⁷ For qualitative study that compares few countries on the other hand, selection bias can seriously influence the conclusions that are drawn from the analysis. Frequently in few country comparisons, countries are chosen because they exhibit a desired outcome that a researcher seeks to explain such as the reasons for lowered fertility rates in the Third World.⁸⁸ Selecting the dependent outcome in this way can lead either to an overestimation of an explanatory factor that does not exist, or to an underestimation of a causal effect that does have great influence.⁸⁹

This China-Egypt study has adopted the most different system design of comparison, where the outcome is always present and the two countries may share the same main explanatory variables. This study nevertheless has an issue with selection bias since the dependent outcome of lowered fertility rate, is not allowed to vary. The study does not, for example, compare instances in which economic development, national family planning policy, and local policy implementations did not lead to lowered birth rates in other areas of the developing world. The point here would be to remain conscious of the sorts of limitations highlighted above. There is also ample opportunity for future studies to be done in this regard that may strive to overcome such methodological limitations.

Policy transfer

Moving on from demographic instruments and the comparative method, we turn to our third set of tools--the concept of policy transfer, viewed here in a global perspective. When countries are confronted by a problem that is unfamiliar to them, "this does not mean that they are the first to encounter the issue;"⁹⁰ it may simply indicate that they are the last to become aware of what is already familiar elsewhere.⁹¹ For example, wage inequality was not regarded as a problem in China until the late 1990s because the income distribution of the country was previously almost 100% managed by the Communist regime.⁹² The introduction of the "Open Door Policy" and the economic liberalization in the early 1980s changed all that. Before responding with legislation,

⁸⁶ Landman, 2000, p.44.

⁸⁷ Fox, J. 1997. Applied regression analysis, linear models and related methods. Thousand Oaks and London: Sage Publications.

⁸⁸ Landman, 2000, p.45.

⁸⁹ Geddes, 1990, p.132-133.

⁹⁰ Rose, R. 2005. *Learning from comparative public policy. A practical guide.* Routledge. Taylor & Francis Group. London and New York, p.41.

⁹¹ Rose, 2005, p.41. Also see Stone, D. 'Learning lessons, policy transfer and the international diffusion of policy ideas,' *Centre for the Study of Globalisation and Regionalisation*, p.3-5.

⁹² James, O. 2003. 'The limitations of policy transfer and lesson drawing for public policy research,' *Political Studies Review*, Vol.1, p.180-183.

Chinese policy makers looked to Hong Kong for examples of policy, since a wide income gap is an old problem in any capitalist country.⁹³ Governmental organizations in both developed and developing countries do not always possess the necessary expertise to tackle the problems that they are confronting and are increasingly looking outside their national boundaries to other governments or governmental institutions for the answers to the problems.⁹⁴ As Evans explain:

Policy transfer analysis is a theory of policy development that seeks to make sense of a process or set of processes in which knowledge about institutions, policies or delivering systems at one sector or level of governance is used in the development of institutions, policies or delivery systems at another sector or level [of] governance.⁹⁵

To illustrate by way of example, the following section details a case of policy transfer in Latin America.

Policy transfer: from Brazil to Ecuador

In December 1998, Mr Buarque founded a non-governmental organization named “Child Mission.”⁹⁶ Its purpose was to create a national network for the implementation of the *Bolsa-escola* program at a national level.⁹⁷ The *Bolsa-escola* program was an attempt by the Brazilian government to provide monthly payments to mothers in the most financially vulnerable households.⁹⁸ The cash benefits were made on the condition that all children of school age regularly attend education. The results were impressive. Out of the 3153 children from 1173 families in 17 Brazilian cities, 36% of the children completed their primary education, a significant improvement from its previous 16% before the program’s implementation.⁹⁹

Due to its significant impact on both basic schooling and impoverished families, the *Bolsa-escola* program served as a model for the development of similar policies by governments in Africa and Latin America. For example, Ecuador decided in 1999 to implement a poverty relief program inspired by the *Bolsa-escola* example.¹⁰⁰ The main objective of this program was to address the issue of wide-spread poverty and under-education that had emerged as a result of the country’s natural disasters and economic

⁹³ Rose, 2005, p.41.

⁹⁴ Evans, M. 2004. Introduction: Is policy transfer rational policy making?’ In *Policy transfer in global perspective*. University of York, UK. Evans, M. (ed), p.3.

⁹⁵ Evans, 2004, p.10.

⁹⁶ Evans, M. and Lana, X. 2004. Policy transfer between developing countries: The transfer of the Bolsa-Escuela program to Ecuador. In *Policy transfer in global perspective*. Evans, M. (ed). Ashgate, p.199.

⁹⁷ Aguitar, M. and Aranjo, C. 2003. ‘Bolas-escola: educa para enfrentar a pobreza,’ *Bras Lia: UNESCO*, p.17.

⁹⁸ Bourguignon, F. Francisco, H. Ferreira, G. and Leite, P. 2002. *Ex-ante evaluation of conditional cash programs: the case of Bolsa-escola*. Development Research Group. Poverty Team, p.1-4.

⁹⁹ Mossberger, K. and Wolman, H. 2001. Policy transfer as a form of prospective policy evaluation. <http://www.hull.ac.uk/futgov/>.

¹⁰⁰ Buarque, C. 2001. ‘What is Bolas-escola,’ *Missao Crianca*, p.1-5.

crisis.¹⁰¹ During the El-Nino crisis, Ecuadorian GDP declined by 7.3%, and the inflation rate was accompanied by a devaluation of the national currency.¹⁰² The population under the poverty line of two USD a day reached 43.8% in a period of less than six months. A banking collapse then followed, leading to a 15% increase in Ecuadorian unemployment and a 22% decrease in minimum salary in real values.¹⁰³

This Ecuadorian condition was similar to Brazil in the 1980s. Following more than 20 years of military rule, the Brazilian economic condition during its transition to the civilian regime attracted profound and widespread criticism. Brazil was highly indebted and the country's per capita growth between 1985 and 1993 was a negative 0.6%.¹⁰⁴ The country's standard of education was also low, with an average of just six years of schooling. This was similar to Ecuador's figure; its average for years of schooling from 1990 to 1999 was 6.7 years. In the poorest quarter of the population, only 12% of the children finished primary school, while 9% were working and 57% of the Ecuadorian children from 10 to 17 years of age did not attend school at all.¹⁰⁵

The comparable level of development in Brazil and Ecuador offers a ready enough explanation of why the *Bolas-escola* program was considered suitable. In October 1999, Mr Buarque was invited by the Ministry of Human Development and the Ministry of Education of Ecuador to present the *Bolas-escola* program to the Ecuadorian officials.¹⁰⁶ The consultation eventually resulted in the creation of the *Beca-escolar* program in the period between 2000 and 2003.¹⁰⁷ Through this program, a fixed amount of monthly stipend¹⁰⁸ was directly transferred to the head of the households, mothers and to those who could not work due to mental or physical disabilities.¹⁰⁹ The decision of the Ecuadorian government to adopt the *Bolas-escola* program was a direct result of voluntary policy transfer. The President of Ecuador at the time of transfer had a great interest in implementing a program that could protect the country's human resources through universal education and, simultaneously, to provide a safety net for a population at greater risk of extreme poverty.¹¹⁰

Policy transfer: China and Egypt

The above case study reveals that voluntary policy transfer occurs when developing countries experience similar social problems, such as child labour, mass poverty and high school drop-out rates. Because the Brazilian program was rather successful in confronting these problems, it was adopted by the Ecuadorian officials as a policy to be implemented, despite significant social, political and economic differences between the two countries.

¹⁰¹ Lana and Evan, 2004, p.203.

¹⁰² Programa de proteccion social, ministerio de bienestar 2003. See <http://www.pps.gov.ec>

¹⁰³ Lavinas, L. 1999. 'The appeal of minimum income programs in Latin America,' *Geneva: ILO*, p.72.

¹⁰⁴ International Bank for Reconstruction and Development 1995. World Bank Atlas: Washington D.C.

¹⁰⁵ Lavinas, L. 1999, p.77.

¹⁰⁶ World Bank 1999. 'Ecuador-human capital protection,' *Washington D.C: World Bank*, p.14.

¹⁰⁷ Brussels, C. 2002. 'Ecuador, country strategy paper,' *European Commission*, p.5.

¹⁰⁸ Ponce, J. and Bedi, S. 2003. 'The impact of a cash transfer program on cognitive achievement: The Bono de Desarrollo Humano of Ecuador,' *Documento de Trabajo*, p.8.

¹⁰⁹ Lana and Evan, 2004, p.198-199.

¹¹⁰ Lana and Evans, 2004, p.206.

The fact that China and Egypt share a common concern with population growth is also established. However, as we shall see, China's one-child policy would surely generate intense local resistance in Egypt. As Madiha Khattab, head of the ruling National Democratic Party's Health and Population Committee explained to President Mubarak during a January 2010 meeting that although the Chinese style one-child per family policy certainty cannot be adopted "it must be stressed that two children for every family leads to better life for everyone."¹¹¹

What are the prospects for the implementation of a "two children policy" in Egypt? A recent analysis conducted by John Casterline and Laila El-Zeini concluded that the possibility is rather positive. A standard question put to participants in their research is: "if you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be?"¹¹² Among mothers with two living children, the majority 55% considers a number less than three children as an ideal figure, and the average number of ideal children is 2.5. Around 60% of two child mothers indicate a desire to have no further children and only 40% wish to have an additional child or are uncertain.¹¹³ A similar study was conducted by Blanc, Curtis and Croft on childbearing attitudes and perceived costs and benefits of reproduction, with particular attention to views about the two child family.¹¹⁴ In this research, fresh samples of 917 unmarried women and 945 unmarried men aged between 18 and 29 are interviewed about the acceptability of low fertility rates and small family size.¹¹⁵ When asked for their ideal number of children, the majority of unmarried participants choose two children, 58% and 51% for women and men respectively. At the same time, 39% of women and 44% of men believe three or more children to be the ideal family size. What emerged from this study is a complicated analysis that ultimately suggests that Egyptians are largely indifferent on the question of having two or three children.¹¹⁶

As shown in figure 2.0, when asked about how they will feel about having one child more or less than their ideal, 73% of women seemed unconcerned on the matter of two and three. This may suggest that there may be little resistance to a downward shift in ideal family size. More surprisingly, the majority 59% of those for whom two children is the ideal express no concern at having one child less, and only 27% indicate that a one child family would matter a great deal.

¹¹¹ 'Population boom,' *Al-Ahram weekly*. 14-20 January 2010. Issue no.981.

¹¹² Casterline, J. and El-Zeini, L. 2005. 'Fertility decline in Egypt: current status, future prospects,' *Pennsylvania State University*, p.9.

¹¹³ Casterline and El-Zeini, 2005, p.9.

¹¹⁴ Blanc, A. Curtis, L. and Croft, T. 2002. 'Monitoring contraceptive continuation: links to fertility outcomes and quality of care,' *Studies in family planning* vol 33, no. 2.

¹¹⁵ Blanc, A. Curtis, L. and Croft, T. 2002, p.127-140.

¹¹⁶ Casterline and El-Zeini, 2005, p.9

Figure 2.0¹¹⁷
 Feelings about having one child more or less than ideal

	Ideal Number of Children Two	Ideal Number of Children Three
How much would it matter if you had one child more than ideal?		
A great deal	35%	40%
Little	16%	13%
Not at all	49%	47%
Total	100%	100%
How much would it matter if you had one child less than ideal?		
A great deal	27%	12%
Little	14%	15%
Not at all	59%	73%
Total	100%	100%

With respect to policy transfer, the Chinese experience could point Egypt's planned fertility effort in the following direction. The "Egyptian two children policy" could provide awards and benefits to couples who volunteered to stop at two children. This may include health-care subsidies and other economic rewards.¹¹⁸ Similar to China, no economic rewards should be provided to families with many children.¹¹⁹ However, it should be stressed clearly that this proposed Egyptian policy will not be a coercive practice similar to the one child policy. No disciplinary action will be taken against couples who produce children that exceed a certain number, and no economic sanctions will be imposed on those producing a third child. The acceptability of this recommendation will be discussed further in chapter six.

Policy transition: critical evaluation

¹¹⁷ Stalled Fertility Transition Project 2005. Cairo Demographic Centre: SFT Survey.

¹¹⁸ Zhang, Q. 1981. 'Birth control and late marriage. China's population problems and prospects,' *Beijing: New World Press*, p.111-116.

¹¹⁹ Song, J. 1981. 'Population development-goals and plans. China's population problem and prospects,' *Beijing New World Press*, p.32.

Even if the proposed recommendation of a certain policy practice from China appears to be desirable and the pressure in Egypt creates a demand for political action, this does not guarantee that people can successfully transfer a policy from one place to another. For start, there must be sufficient resources for the introduction of a newly recommended policy “into an already crowded set of government commitments” and cultural specific measures must be taken to ensure that there is no miscommunication between what the experience requires and “the beliefs and practice of the government adopting it.”¹²⁰ For example, the possible underlying assumption of the “two children policy” is to aid or reward those who reduced fertility and not necessarily promote the idea of having only two children. “This is to propose that the superiority of planned childbearing be affirmed in economic terms.”¹²¹ Nevertheless, before applying the two child policy, Egypt’s policy makers must verify that they have the resources necessary to make it work. That is to say, do they have the necessary funding to implement the policy? Further analysis of the potential for policy transfer between China and Egypt is conducted in chapter six.

Conclusion and summary

In this chapter, I have discussed three sets of academic tools for the China-Egypt population study: demographic instruments, comparative methodologies and policy transfers. I have explained some of the important population concepts such as the TFR, the demographic transition and the Malthusian population trap. The chapter has provided detailed examples of how these academic instruments may further our understanding of fertility transition of developing countries. The chapter has also introduced, explained and critiqued the research methods of comparative analysis, particularly in terms of most similar and most different system designs. Finally, we have discussed the idea of policy transfer and considered how it might relate to our China-Egypt study. It was particularly noted that--subject to culturally-sensitive modifications--a Chinese style population policy may have the potential to contribute to Egypt’s population strategy and we shall return to this point in chapter six. Comparative analysis of China and Egypt’s population policies and prospects is advanced in subsequent chapters. However, prior to that, we turn to examine some of the key scholarly contributions to the literature on demographic change and population policy. These contributions are both generic and case-study specific.

¹²⁰ Rose, 2005, p.103

¹²¹ Su, R. and Kou, Y.H. 1978. ‘Control of population growth and the acceleration of agricultural development: village population survey, Wuwei county, Gansu province,’ *Beijing: Chinese People’s University Press*, p194.

Chapter 3

Literature review: considering research on demographic change in China and Egypt

Introduction

This chapter reviews the relevant secondary literature on demographic change and population policy in our two case studies. It examines the concepts, theories, and debates on fertility and development and brings together contrasting research in order to compare views on economic development, social norms, and policies that together are said to influence fertility change. There has indeed been much change to fertility in our two cases: during the past 50 years, China and Egypt have faced similar problems but also experienced remarkably similar reductions in population growth. Current data indicates that population growth, which exceeded 3% annually in the early 1950s in both countries, has declined to less than 0.5% in China and 2% in Egypt as of 2010.¹

This literature review begins by looking at work on China's population issue, work that considers how economic development, family planning programs and female empowerment may influence fertility transition. This is followed by an examination of the literature on population and population policies in Egypt. Specifically, the literature review attempts to achieve the following aims: first, to examine the argument and research methods that have been employed in the primary and secondary sources; second, to critique as appropriate; and third, to identify possible gaps in the literature that might be filled by this study.² To this end, the chapter is organised into three sections. The first section examines fertility change and the developmental idealism literature on China and Egypt. The second section reviews family planning literature. In the third section, I examine the arguments surrounding female empowerment and fertility change. This is followed by a conclusion that summarizes the main arguments of this chapter. But first let us explore the difference between primary and secondary sources.

Primary and secondary sources

A primary source is firsthand information concerning a topic under investigation.³ It include original materials such as historical censuses, surveys, speeches or scientific journal articles. Secondary sources on the other hand, are interpretations about the original information that have been evaluated or modified for specific research or educational purposes.⁴ These include examples such as editorials, book publications, review articles, thesis and dissertations. In the field of academic study, it is advisable to use primary information whenever possible.⁵ This is because original materials tend to

¹ Poston, D. 2000. 'Social and economic development and fertility transitions in mainland China and Taiwan,' *Population and Development Review*, Vol. 26, p.40.

² Hart, C. 2000. *Doing a literature review. Releasing the social science research imagination*. Sage Publications, p.178.

³ What is a primary source? From <http://libraries.luc.edu/help/guides/primseco.htm>

⁴ What is a secondary source? From <http://libraries.luc.edu/help/guides/primseco.htm>

⁵ Cilpolla, C.M. 1992. *Between two cultures: An introduction to economic history*. W.W.Norton & Co, p.27.

avoid problems associated with the secondary literature, where authors may frequently distort the original information through biased interpretation.⁶ The strength and weakness of primary and secondary sources will be discussed further in the following literature review.

Fertility change and developmental idealism

As recently as June 2010, Thornton, Binstock, Yount, Abbasi-Shavazi, Ghimire and Xie published research entitled *International fertility change*. This project investigated the relationship between economic development and fertility behaviour commonly portrayed in the literature as ‘developmental idealism.’⁷ The developmental idealism paradigm argues that modern industrial society with high levels of urbanisation, individual autonomy, wealth and education can help people produce changes in childbearing attitude, contraceptive use and family planning.⁸ The research was conducted in six diverse countries including our two comparators: Iran, Egypt, Nepal, China, the United States and Argentina. Some 633 and 1500 respondents were interviewed in China’s Gansu province and Egypt’s Fayoum and Qaliubia provinces respectively between October and November 2007. It was found that 95% and 79.9% of the Chinese and Egyptian participants expressed the opinion that “low fertility is a feature of developed societies.”⁹

Numerous studies have argued for a causal relationship between fertility rates and levels of social and economic development. For example, Susan Greenhalgh and Edwin Winckler support the hypothesis that fertility rates, as well as mortality rates, tend to fall in response to increases in social and economic development.¹⁰ Mason takes a similar view and comments that development and low fertility theory “attributes fertility decline to changes in social life that accompany, and are presumed to be caused by, industrialization and urbanization. These changes initially produce a decline in mortality, which sets the stage for...fertility decline by increasing the survival of children, and hence reduces the need for large families.”¹¹ This line of thinking is based on the classical fertility transition theory that children from smaller families tend to enjoy concentrated parental investment, and are thus less likely to suffer the conditions of shortage of food and healthcare often experienced by the families of the developing world.¹² The idea is that improved child mortality rates would alter parental desires for family size, mainly because they feel less pressured to bear a large number of offspring in order to ensure a few surviving children.¹³

⁶ Ross, J.I. 2004. ‘Taking stock of research methods and analysis on oppositional political terrorism,’ *The American Sociologist*, Vol. 35, no. 2, p.26.

⁷ Thornton, A. Binstock, G. Yount, K. Abbasi-Shavazi, M.J. Ghimire, D. and Xie, Y. 2010. ‘International fertility change: New data and insights from the developmental idealism framework,’ *Population Studies Centre Research Report 10-713*, p.7.

⁸ Thornton, Binstock, Yount, Abbasi-Shavazi, Ghimire, and Xie, 2010, p.7.

⁹ Thornton, Binstock, Yount, Abbasi-Shavazi, Ghimire, and Xie, 2010. p.19.

¹⁰ Greenhalgh, S. and Winckler, E. 2005. *Governing China’s population: From Leninist to neo liberal bio-politics*. Stanford: Stanford University Press, p.34.

¹¹ Mason, K. 1997. ‘Explaining fertility transitions,’ *Demography*, Vol. 34, no. 4, p.444.

¹² Motestein, F. 1953. Economic problems of population change. In *Proceedings of the Eighth International Conference of Agricultural Economists, Eighth Conference 1952*. London: Oxford University Press, p.13.

¹³ Zhang, D. 2004. ‘Marketization and gender wage differentials,’ *Chinese Journal of Population Science*,

Developmental idealism and China

You and Zheng have argued that due to improved child mortality rates, China's urban fertility was lower than their rural counterparts as early as the 1950s, even before the government initiated birth control policies. According to their data, in urban places-- where there was greater access to education and healthcare, the TFR fell from five children per family in 1950 to 1.4 in 1980. This was much lower than their less developed rural counterparts, among whom fertility declined from 6.1 to 2.9 over the same time period.¹⁴ In 1981, Hsu's sample survey *Growth and control of population in China* was conducted in the rural areas of southern Hubei province to investigate the reasons for second birth. Some 2356 couples were interviewed. When asked "what is the desired number of children in your household," the majority 51% responded that it was two. While 28% desired three children, 15% wanted four and only 5% of the participants interviewed were satisfied with having only one child.¹⁵ Some 97% of participants indicated that their reasons for wanting more children were to provide for old age security and to increase the family's labour force activity.¹⁶ This means that the implementation of a welfare policy and a further development of the national economy could be the best "family planning program" for China's rural residences.

Developmental idealism and China: critical review

To critique You and Zheng's analysis, Bryant states that changes in development indicators are sometimes an unreliable guide to changes in the incentives to limit fertility. For example, China enjoyed a period of rapid economic development in the 1980s and was followed in 1989 by the event of the Tiananmen Square Massacre. During the period of relative prosperity, employment in urban sectors increased and extended education became the major path of development to attain higher socio-economic status.¹⁷ After the Tiananmen crisis, aspirations changed from the achievement of higher status to the avoidance of further impoverishment, as a result of economic sanctions imposed on China for the internal crackdown on political opposition to the regime. "Despite the lowering of aspirations, the imperative to invest in children's education is at least as strong as it was during more prosperous times, while the difficulty of paying for these investments is even greater."¹⁸ If anything, China's TFR declined from 1.90 in 1990 to 1.65 in 1995, even though the Chinese scores on development indicators such as per capita income, foreign trade and industrialization suffered stagnation. This suggests that the relationship between the development of the national economy and the correlating fertility decline is weaker than predicated by You and Zheng's analysis.¹⁹

Vol.1, p.32-35.

¹⁴ You, D. and Zheng, Z. 2002. 'Fertility desire of returned migrants in rural China,' *Sociological Research*, Vol. 6, p.58.

¹⁵ Hsu, M.L. 1985. 'Growth and control of population in China: The urban and rural contrast,' *Annals of the Association of American Geographers*, Vol. 75, no.2, p.252.

¹⁶ Hsu, 1985, p.252.

¹⁷ Bryant, J. 2007. 'Theories of fertility decline and the evidence from development indicators,' *Population and Development Review*, Vol. 33, no.1, p.105.

¹⁸ Bryant, 2007, p.105.

¹⁹ Casterline, J. 2004. 'The pace of fertility transition: National patterns in the second half of the twentieth century,' *Population and Development Review*, Vol. 27, p.77.

Gaps for the thesis

You and Zheng contend that “development is the best contraceptive” and this view tends to be influential. What is missing in the literature however, is China’s uneven development of the national economy. Entwisle and Chen’s 2002 study noted from a left-wing socialist perspective that there is very little attention given in the literature on China’s urban-rural economic distributions and corresponding fertility inequalities.²⁰ Rather, the emphasis in the literature tends to focus on examining the fertility achievement of China’s national average, primarily using the data gathered from Beijing’s Ministry of Statistics and Information. What is largely ignored is the fact that China’s urban residences enjoyed a standard of living much higher than their rural counterparts. The means that since economic development is concentrated in a few areas of Chinese society, it can only influence the fertility behaviour of privileged minorities who benefit from economic growth.

It has become increasingly evident in the literature that because of the uneven distribution of wealth, economic development in China will not necessarily lower its overall birth rate.²¹ Instead, since resources are monopolized by rather small groups of urban residents described in Entwisle and Chen’s analysis, any decline in fertility will be concentrated in a small portion of Chinese society.²² The majority of Chinese by contrast, with marginalized educational and employment opportunities, will rely inevitably on a large number of children for support and security. As Repetto’s classic account of the redistributionist’s discourse claims: “for a community at any level of economic development, as measured by average income per capita...the overall birth rate of the community will be lower, the more equally distributed that total income is.”²³ Building on the above critique, we might argue that “redistribution is the best contraceptive”²⁴ in the context of China’s economic development.

Developmental idealism and Egypt

The developmental idealism literature on Egypt argues that high levels of education, wealth and urbanisation will help the country to produce low fertility. Tabutin and Schoumaker’s 2005 article confirms this perspective and it stresses the importance of development as a condition for fertility decline in Egypt and recommends that population policies be fully integrated into developmental policy. Their “development is the best contraceptive” discourse contained five recommendations in the Egyptian setting:

- Social institutions make formal education compulsory and directly influence the cost of rearing children.
- Raise family income and people’s standard of living.

²⁰ Entwisle, B. and Chen, F. 2002. ‘Work patterns following a birth in urban and rural China: A longitudinal study,’ *European Journal of Population*, Vol. 18, no.2, p.99-119.

²¹ Heschel, S. 1995. ‘Feminists gain at Cairo population conference,’ *Dissent*, p.15.

²² Furedi, 1997, p.119.

²³ Repetto, R. 1979. *Economic equality and fertility in developing countries*. Balti-More: John Hopkins University Press, p.1-5.

²⁴ Furedi, F. 1997. *Population and development. A critical introduction*. Polity Press, p.115.

- Rural women have access to income-earning opportunities in the labour market.
- Arrangement for old age security must be made.
- Reduced population growth must be viewed as advantageous to economic development.²⁵

There are multiple further references in the literature on Egypt that seek to forge connections between population and development. For instance, Pearson proposed that it was generally accepted in Egypt that agricultural societies with a high need for farm workers tend to support a regime of high fertility. The solutions are industrialization and urbanization. These developments will create a situation in Egypt where families no longer require a large number of children to provide labour and security.²⁶ Engelhardt and Chandrasekhar similarly suggest that industrialization in Egypt will encourage, if properly managed, the development of new urban patterns of living which lead to control of high birth rates.²⁷ Notestein, Yavuz and Davis believe that industrialization and economic development is a means of reducing fertility through the indirect measure of changing the condition of life and “thus forcing people in their private capacity to seek the means of family limitation.”²⁸ Furedi, Mencarini and Salvini likewise predicted that Egyptians will acquire modern development in time to check their fertility and thus achieve an efficient demographic balance.²⁹

Developmental idealism and Egypt: critical review

A common problem in all of the above literatures is the authors’ exclusive reliance on survey and questionnaires as their method of data collection. For example, Pearson’s analysis suggested that there is a significant relationship between a household’s access to features of modern civilization such as electricity, water, education and universal health care and women’s fertility and pregnancy. This evidence was unfortunately solely based on a household characteristics survey conducted in 2003 that investigated people’s socio-economic status. What Pearson needs to worry about is the possibility of a “social desirability bias” in his survey answers.³⁰ To explain, one dimension of the Egyptian developmental discourse is the television promotion of the message that low and controlled fertility are desirable for the country’s modernisation process. It is thus

²⁵ Tabutin, D. and Schoumaker, B. 2005. ‘The demographic of Arab world and the Middle-East from the 1950s to the 2000s. A survey of changes and a statistical assessment.’ *Population*, p.505-616. Also see Tabbarah, R. 1992. Socio-economic change and population programmes: Balancing priorities. In *Population policies and programmes*. United Nations. Cairo, Egypt, p.197.

²⁶ Pearson, C.H. 2003. ‘On the decline of the family,’ *Population and Development Review*, Vol. 29, p.299-300.

²⁷ Engelhardt, H. 2004. ‘Egypt’s stalled fertility decline and possible role of tempo distortions,’ *Population Network Newsletter*, p.12. Also Chandrasekhar, S. 1954. ‘Population growth, socio-economic development and living standard,’ *International Labour Review*, Vol. 69, p.540.

²⁸ Yavuz, S. 2006. ‘Completing the fertility transition: Third birth development by language groups of Turkey,’ *Demographic Research*, Vol, 15, no.15, p.435-440. Notestein, F.W. 1953. *Economic problems of population change*. London: Oxford University Press, p.15. Davis, K. 1951. *The population of India and Pakistan*. New York: Russell and Russell, p.229.

²⁹ Mencarini, L. and Salvini, S. 2003. ‘Mediterranean fertility: Toward a south-north convergence,’ *Popolazione e Storia*, p.69-70. Furedi, F. 1997. *Population and development. A critical introduction*. Polity Press, p.77. Also Biddulph, F. 1999. *Guide notes for students*. School of Education. University of Waikato.

³⁰ Thornton, Binstock, Yount, Abbasi-Shavazi, Ghimire, and Xie, 2010, p.20.

reasonable to question whether Pearson's participants would simply repeat the government expressed opinions to present themselves as responsible citizens without actually believing in any of those intended messages. This contextual issue challenges Pearson's research validity; a critical scholar might ask: to what extent do Egyptian families truly recognise that low fertility is a feature of a developed society?

Gaps for the thesis

What are the other critiques and controversies surrounding the literature on development and population? Since the early 1980s, a new linkage between population and material redistribution was formulated to challenge the previous one between population and economic development. Several authors such as Repetto and Furedi have openly rejected the old orthodoxy which associated economic development with the decline of population growth.³¹ They contend that attitudes towards family planning can be influenced without the need for far-reaching social changes and that economic development does not necessarily lead to fertility decline. "This perspective of influencing attitudes towards fertility" without prior social change "promotes a process which can be called modernization without development."³²

A 2006 study by Warsh supports this perspective noting that in Upper Egypt 63% of children aged between one and five years of age were under-nourished. By contrast, the richest 10% of Egyptians from Lower Egypt including the capital Cairo and the fertile Nile delta consumed almost eight times as much meat, rice, eggs and seafood as the poorest 20%. This is a reflection that there was an extremely high variation in the amount of food consumed by the rich and the poor.³³ El-Zanaty and Way's analysis likewise indicates that Upper Egyptians tend to be poorer and less economically developed than those of Lower Egypt.³⁴ In her 2008 publication, Yount similarly indicates that for example, 26% of households in Upper Egypt owned land as opposed to 36% in Lower Egypt. In education and employment, 49% versus 58% of ever married women of reproductive age had any education, and only 14% Upper Egyptian women as opposed to 26% Lower Egyptian females were working for tangible economic rewards.³⁵ Yet the TFR rate of 3.4 births per woman in economically less developed Upper Egypt was actually rather similar to Lower Egypt's 2.9 births per family, according to El-Zanaty and Way's 2009 survey.³⁶ Like our China case study, the data on Egypt helps make a case for the study to investigate to what extent fertility transitions are truly associated with a region's level of socio-economic development, as suggested by development/low fertility discourse. This would no doubt have great implications for redistribution as an alternative

³¹ Furedi, 1997, p.115.

³² Furedi, 1997, p.115.

³³ Warsh, D. 2006. *Knowledge and the wealth of nations: A study of economic discovery*. New York: W.W. Norton & Co.

³⁴ El-Zanaty, F. and Way, A. 2001. 'Egypt demographic and health survey.' *MD: macro international*, p.8.

³⁵ Yount, K. 2008. Women's family power and gender preference in Minya, Egypt. In *Family in the Middle East ideational change in Egypt, Iran, and Tunisia*. Yount, K. and Rashed, H. (ed). Routledge Advances in Middle East and Islamic Studies, p.176. Also see Charrad, M. 2007. Unequal citizenship: Issues of gender justice in the Middle East and Africa. In *Gender Justice Citizenship and Development*. International Development Research Centre. p.23.

³⁶ El-Zanaty, F. and Way, A. 2009. 'Egypt demographic and health survey 2008,' Cairo, Egypt: Ministry of Health. *El-Zanaty and Associates, and Macro International*, p.47.

approach to simple development in Egypt.

Family planning literature and China

Besides arguments over development, redistribution and low fertility, what are the critiques and controversies surrounding the literature on family planning programs? According to Greenhalgh's 2003 article, China's one child policy is not about a strong state or its coercive practice. Instead, "at the heart of China's post-1979 population policy lie two powerful notions: that China faced a population crisis that was sabotaging the nation's modernization, and that the one child policy was the only solution to it."³⁷ An article published by Tian at the time of the one child policy similarly pointed out that according to the 1980 average fertility rate of 2.2 children per woman, China's population was expected to reach 1.3 billion in mere 20 years and will certainly surpass 1.5 billion in 40 years. This rapid population increase will no doubt become one of the biggest obstacles for the country's level of socio-economic development in the foreseeable future and "give rise to grave situation in which the people's standard of living can hardly be improved...."³⁸ Song Jian agrees with this perspective and further argues that:

The decrease in forest area, arable land per person, lack food supplies...and the use of natural resources are growing with the increase in population...To guarantee future generations...good survival conditions, we cannot exceed our limit on taking natural resources or...destroys the balance and stability of the ecosystem.³⁹

Thus, China's official position is said to have presented population growth as an all purpose villain that has aggravated the difficulties for China's national advancement and exacerbated every major problem associated with the country's drive for economic modernisation.⁴⁰ Once population was identified as the arch-enemy responsible for every social illness experienced by the Chinese nation, the solution can only be to restrict the country's population growth by all means necessary.⁴¹ Though unsophisticated, the one child policy and its by "all means necessary" discourse in the literature has had powerful effects: preventing the development of other methods such as the resource redistribution as an alternative population strategy.⁴² While much Western literature voiced such negative concerns associated with the consequences of the one child policy as

³⁷ Greenhalgh, S. 2003. 'Science, modernity, and the making of China's one-child policy,' *Population and Development Review*, Vol. 29, no. 2, p.165-166.

³⁸ Tian, X.Y. 1985. 'Control Population to Advance the Four Modernizations,' *Beijing: Zhongguo Jingji Chubanshe*, p.10.

³⁹ Song, J.1999. Population problems from the perspective of modern science. In *The Selected Scientific Papers of Song Jian*. Published in Beijing Publication, p.553. And Greenhalgh, 2003, p.174.

⁴⁰ Greengage, 2003, p.174. Also see Nie, J.B. 2005. 'Why reproductive rights matter in Chinese context,' *Gender Studies*, p.7-10.

⁴¹ Greenhalgh, 2003, p.174.

⁴² Greenhalgh, 2003, p.173-174. Also see Nie, J.B. 2004. 'China's birth control program and western feminism: Toward a Confucian-Feminist population policy,' *International Network of Feminist Approach, Sydney*, p.26.

reproductive rights, selective abortion and shortage of labour, population reduction is the only way available in Chinese literature to think about the national obstacle to economic development.⁴³ The scholarly interpretation of the one child policy as China's only population solution successfully prevented both Chinese academicians and the general public from seeking the possibility of other, less extreme ways to solve the issue of overpopulation.

Family planning literature and China: critical review

Though the one child policy have being described by China's government as an enlightened measure to speed up the process of development, global observers such as Nie from Stanford University have emphasised the policy's violation of reproductive rights.⁴⁴ In her 2005 publication, Nie offered anecdotal evidence, documenting the suffering of Ms. Li, a 22 years old wife forced to go through abortion. Local policy in Li's area required that the woman must be 23 years of age to obtain a childbearing certificate. Being one year younger, she was denied the necessary permission.⁴⁵ When asked how she felt about the abortion, the young woman was consumed by tears and sadness:

No words can describe it....First, drugs were injected into my womb to kill the child, to make it dead. Then...I asked the doctor to show me the aborted baby....The baby is a part of my flesh and blood, but I could not do anything to protect my baby. Only a few months later, the baby would have been born and because a child...should not this be regarded as murder?⁴⁶

Nie's research was conducted in summer of 1997 in three rural villages from two different counties located in Southern-China.⁴⁷ Among Nie's 600 participants, 92% of the respondents were of reproductive age and 61% of them were women.⁴⁸ The research was designed to collect information on how the one child policy may have influenced people's demographic structure including sex, age, gender, marital status and decisions for pregnancy termination. Overall, Nie's analysis was rather comprehensive and specific efforts such as door to door surveys were used to include a wide variety of opinions from a diverse range of people.

However, what needed to be considered was that due to China's authoritarian nature, Chinese people were not accustomed to freely expressing their personal opinions, especially if the subject matter was politically sensitive. In traditional Chinese societies, "trust" was mainly earned through two social channels of connections: place bonds and

⁴³ Greenhalgh, 2003, p.173-174. Also see Liu, X. 2000. *In one's own shadow: An ethnographic account of the condition of post-reform rural China*. Berkeley: University of California Press, p.105.

⁴⁴ Svensson, M. 2002. *Debating human rights in China: A conceptual and political history*. Lanham, MD: Rowman & Littlefield.

⁴⁵ Nie, J. B. 2005. *Behind the silence: Chinese voices on abortion*. Rowman & Littlefield Publishers, Inc, p.4.

⁴⁶ Nie, 2005, p.4.

⁴⁷ Nie, 2005, p.257.

⁴⁸ Nie, 2005, p.259.

blood bonds.⁴⁹ This meant that in order to be considered as a trustworthy social researcher, Nie must become a local residence for a number of years, preferably with a blood relative living in the same neighbourhood, in order for the villagers to wholeheartedly expressing their opinions without the fear for political prosecution. Being a Chinese American based in Stanford University, it was rather uncertain as to what extent Nie was truly accepted into these rural villages. This would no doubt affect the outcome of Nie's demographic survey.

Gaps for the thesis

Nie's literature focused primarily on problems in rural areas, where the establishment of an industrialized economy had not taken place.⁵⁰ What is lacking in the literature is a clearer acknowledgement that although population control remains basic state policy, little reference is made to the fact that China does not enforce a strict one child policy for all. For example, Gu, Wang, Guo and Zhang note that since the "Opening small holes" policy was introduced in 1984, couples in rural China are allowed to have two children if they meet certain criteria.⁵¹ The exemptions can be grouped into four broad categories:

- Gender based: Exemptions can be made to rural couples with only one daughter.
- Economic: This category extends to all rural family providers that are involved in certain risky occupations such as military servicemen, drug detectives, miners, or farmers in mountainous areas.
- Ethnic: Exemptions are granted to the country's 55 minority nationalities that live in under-populated regions of China.
- Replacement: Parents are allowed to produce a second baby if their first has died at a young age or is physically disabled.⁵²

This list of exceptions, accommodating on aggregate a substantial proportion of the Chinese population, means that dominant literature on China's family planning, with its focus on the urban Han population, largely ignores vast tranches of Chinese society. This must call some of the research findings into doubt. Further research should be conducted on the implementation of the one child policy nationwide and investigation conducted to establish the degree of local variations. This could be done by gathering primary information such as World Bank Development Indicators, historical consensus, and government published population statistics in our explanation of population study in China.

Family planning literature and Egypt

As with China, there is no shortage of Egyptian references that argue that family planning services accompanied by greater contraceptive use will bring about fertility decline. Mahubani and Moffett's study offers one such example. Their study revealed the story

⁴⁹ Li, Z. 2004. *Strangers in city. Reconfigurations of space, power, and social networks within China's floating population.* Stanford University Press, Stanford California, p.55.

⁵⁰ Fong 2004.

⁵¹ Gu, B. Wang, F. Guo, Z. and Zhang, E. 2007. 'China's local and national fertility policies at the end of the twentieth century,' *Population and Development Review*, Vol. 33, no. 1, p.130.

⁵² Gu, Wang, Guo, and Zhang, 2007, p.132-133.

of Aziza Mohammed Ahmed, a young mother from a small Egyptian family. Aziza Ahmed had been one of the majority Egyptian women who, according to Maged Osman--the chairman of the cabinet's Information and Decision Support Centre, desired family planning but did not receive adequate governmental support.⁵³ The use of contraception provided by the family planning clinics was a mystery. At the same time, Aziza's children, five born into the world's twelfth most populous city of Cairo with 97,106 residents per square mile, kept coming.⁵⁴ Three month later, Aziza Ahmed finally found what she was looking for: a knowledgeable doctor "who provided professional advice that cut through the layers of fear, ignorance and suspicion" regarding the negative side effects that attend the use of contraceptives in much of the developing world.⁵⁵ Since then, Ahmed successfully prevented further unwanted fertility.⁵⁶

Family planning and Egypt: critical review

Despite Moffett's nice anecdote, there are a few things that the author needs to consider. Contraceptive devices may cause bleeding and infections that could affect the safety and effectiveness of contraceptive use. Contrary to Aziza Ahmed's example which argues that family planning works, many studies report that suspicion regarding side effects made many women reluctant to use contraception because they feared that birth control would undermine their ability to bring in income and lower their family status by disrupting their health.⁵⁷ Moreover, Moffett's study claimed that "Aziza Ahmed is a young mother who wanted to stop having children but did not know how." The statement suggest that it is women who are mainly responsible for deciding on the ideal number of children and men are not explicitly mentioned as having any responsibility on the matter.⁵⁸ This means that Moffett's article fails to acknowledge that the traditional structure of male dominance remained relevant in many Egyptian families where early marriage, polygamy and the subjection of women to "masculine domination leads to uncontrolled population growth and the dehumanization of women."⁵⁹ For example, in sharp contrast with women who have no co-wives, females who are engaged in polygamous marriage are less likely to use a method of contraceptives because they feared that their status within the family could be jeopardized without male offspring.⁶⁰ Therefore Moffett's literature might allow for the fact that in order to realize that without prior realisation of empowerment, development and wealth redistribution, family planning programs alone will have less influence on Egyptian fertility.

Gaps for the thesis

The above critique should not be taken to imply a reflection of the fact that Egypt has

⁵³ Moffett, G. 1994. 'The population questions revisited,' *The Wilson Quarterly*. Vol.18, no.3, p.55-56.

⁵⁴ Moffett, 1994, p.56.

⁵⁵ Moffett, 1994, p.56.

⁵⁶ Mahbubani, K. 2010. *The new Asian hemisphere: The irresistible shift of global power to the east*. The national university of Singapore's school of public policy.

⁵⁷ Bier, 2008, p.67.

⁵⁸ El Dawla, A. 2000. 'Reproductive rights of Egyptian women: Issues for debate,' *Reproductive Health Matters*, Vol. 8, no. 16, p.50.

⁵⁹ Bier, 2008, p.67.

⁶⁰ Fargues, P. 2005. 'Women in Arab countries: Challenging the patriarchal system,' *Population Et Societes*, p.387.

indeed lowered its fertility rates significantly through its birth control programs. Eltigani argues that in 1960 it was estimated that only 5% of the married women were using contraceptives. This percentage reached to 10% in the 1970s and 25% by the 1980s. In 2003, 56% of married women were reported to be practicing family planning, and nearly 75% reported using a method of contraceptive at some point in time.⁶¹ But the point to note here is that people should expect the fertility rate to be much lower in Egypt than its previous figures given Egypt's improved life expectancy of 72 years, higher female literacy, and greater female involvement in gainful employment.⁶² For example, in 2009, agriculture accounted for 32% of employment in Egypt. About 46% of females worked in this sector. Most women with high or medium levels of education are employed, with an employment ratio of 94% and 72% respectively, for university and secondary graduates.⁶³ My point here would be that literatures on family planning tends to claim a large share of the credit for whatever fertility declines have occurred in Egypt. This means that the literature component that addresses the promotion of economic and social development as a possible solution to bring fertility down to a socially desired level is simply not mentioned, as in Mahbuani, Moffett and Eltigani's analysis.⁶⁴ Their literature focused exclusively on fertility and family planning. In response, this thesis will have to look for other contributing factors including female attitudes towards family planning as an alternative explanation to fertility decline.

Female empowerment literature and China

Much of the literature on China's fertility programs has exclusively focused on the suffering of women and its associated result of female infanticide, lethal neglect of daughters, selective abortion, or a combination of these factors.⁶⁵ However, relatively few references ever mentioned that in a traditional Chinese society, daughters had little worth and they were merely raised to become good mothers and wives. Girls born into urban China after the country's one child policy began in 1979, however, were all raised to be breadwinners who, like their male counterparts, were their parents' only hope for the future. This meant that daughters of the one child generation suffered from less sex discrimination and they received all the parental indulgence, encouragement, and investment that their family could afford.⁶⁶ Vanessa Fong writes from this perspective and argues that one child daughters enjoy unprecedented parental support. This is mainly due to the absence of male offspring for resource competition and parental favouritism. This was the case with a Chinese girl named Ding Na, as Fong describe in her article:

When Ding Na's university entrance scores were released, I

⁶¹ Eltigani, E. 2003. 'Stalled fertility decline in Egypt, why?' *Population and Environment*, Vol.25, no.1, p.53-54.

⁶² Sen, 1997, p.15.

⁶³ Attia, S.M. 2009. 'The informal economy as an engine for poverty reduction and development in Egypt,' *Munich Personal REPEC Archive*, p.27.

⁶⁴ Demeny, P. 1993. Policies seeking a reduction of high fertility: A case for the demand side. In *Population, policies and programs*. Cairo: Egypt, p247.

⁶⁵ Li, Y. and Peng, X. 2000. Age and sex structures. In *The changing population of China*. Peng, x and Guo, Z (ed). Oxford: Blackwell Publishers, p.69.

⁶⁶ Greenhalgh, S. 2001. 'Fresh wind from Beijing: Chinese feminists speak out on the one-child policy and women's lives,' *Signs*, Vol. 104, no. 4, p.1098.

began to see the relationship between Ding and her father in a different light....She had scored higher than she had ever scored on a practice exam in high school, and is well above the likely cut off for her top-choice four year university....her father beamed at her with tears in his eyes and said: "I was wrong to have wanted a son. A daughter like you is worth ten sons."⁶⁷

Female empowerment and China: critical review

Fong's research methods primarily consisted of observation and face to face conversations. Her research was conducted between 1999 and 2000 in the Dalian City of northern-China. Some 94% of the participants in her participatory observation were vocational and junior high school single child students aged between 13 and 20 years. Fong worked as a volunteer English teacher in a Dalian high school in exchange for the opportunities to interview, interact with and observe students and their parents' attitude towards family planning, gender gaps and female empowerment. During the course of field research, Fong was invited to 107 Chinese family homes as an English home tutor. The advantage of Fong's observation interviews was obvious, she was able to interact with everyday Chinese families in real life situations and not just observe a group of people pretending to put up a good performance in order to impress the researcher.⁶⁸

Despite this strength, there are a few weaknesses that the author might have considered. Fong came from the prestigious Stanford University, received a first world education and grow up according to first world living standards. Due to her elite affiliations, she was considered as a better qualified English teacher than many China-based language tutors. Besides her better qualified English skills, Fong often provided free advice to students that aspire to study in an advanced western university, especially in the United States. This means that Fong needed to deal with the fact that a social researcher with first world education will no doubt possess a socio-economic status higher than China's third world participants; and it is also unclear as to what extent Fong's liberal democratic educational background may influence her perception of third world citizens who were educated according to communist principles.⁶⁹

Gaps for the thesis

To summarise Fong's work, she made four claims in China's urban setting that explained the relationship between female empowerment and fertility transition.

1. Concentrated parental investment in the one child families produces highly educated children.
2. The increased length and expense of children's education delay marriage and promotes employment.

⁶⁷ Fong, V. 2002. 'China's one child policy and the empowerment of urban daughter,' *American Anthropologist New Series*, Vol. 104, no.4, p.1098.

⁶⁸ Wolcott, H. 2005. *The art of fieldwork. Second edition*. Altamira Press. A division of Rowman & Littlefield Publishers, Inc. Oxford.

⁶⁹ Lobban, C. 2003. *Ethics and profession of anthropology. Second edition*. Altamira Press. A division of Rowman & Littlefield Publishers, Inc. Oxford.

3. Paid employment in turns enables women to provide for their own parents with old age security and thus prove that daughters could fulfill the obligations once reserved for sons.⁷⁰
4. The longer educated women engaged in full time employment, the fewer opportunities they have to start a family or bear children.

Still, the thesis recognizes that Fong's study does not include families from the elite sector of society or the wide, impoverished rural citizens who constituted 65% of the Chinese population.⁷¹ Fong's study is only useful in explaining the fertility behaviour of China's middle class urban sectors. Realizing the limitations of Fong's contribution, this study aspires to contrast the fertility behaviour of China's urban and rural families from a diverse range of socio-economic backgrounds.

Female empowerment literature and Egypt

Like China, the connection between female empowerment and fertility transition has been examined extensively in much of the literature on Egypt.⁷² According to D'Addato, Vignoli and Yavuz, major factors resulting in a decrease in the demand for children in Egypt can be listed as: family planning, social security, education, child health, urbanization, higher family income and women's labour force participation.⁷³ Their article argues that development such as female employment usually improves family income and rising opportunities for childhood education and female empowerment, openness to diversity and family planning efforts. Thus similar to China, female empowerment facilitates the transition to modern family limitation.⁷⁴ Casterline emphasised the issue of female labour force participation and associated family and fertility change in Egypt to changing gender and employment norms within families, and attributes these changes to female education and empowerment.⁷⁵ Recent work by Giusti and Vignoli further suggests that not only will female education in Egypt increase the opportunity cost of having children, resulting in a delayed marriage and motherhood, but it may also lead to a decline in demand for children by encouraging and enabling females to make their own choices regarding child rearing.⁷⁶

Female empowerment and Egypt: critical review

Despite their insightful explanations, critique of the above analysis is possible from several perspectives. Caldwell and Schindlmayr explored low fertility norms and associated ideas of female empowerment in explaining fertility transition in 15 developed

⁷⁰ Fong, 2002, p.1099.

⁷¹ Fong, 2002, p.1099-1100.

⁷² Bongaarts, J. 2006. 'The causes of stalling fertility,' *Studies in Family Planning*, Vol. 37, no. 1, p.1-16.

⁷³ D'Addato, A. Vignoli, D. and Yavuz, S. 2008. 'Towards smaller family size in Egypt, Morocco and Turkey: Overall change over time or socio-economic compositional effect?' *Population Review*, Vol. 47, no. 1, p23.

⁷⁴ D'Addato, Vignoli, and Yavuz, S. 2008, p.23. Also Rodriguez, G. and Cleland, J. 1981. 'The effects of socio-economic characteristics on fertility in 20 countries,' *International Family Planning Perspective*, Vol. 7, no. 3, p.99.

⁷⁵ Casterline, J.B. 2001. The pace of fertility transition: National patterns in the second half of the twentieth century. In *Global fertility transition*. Bulatao, R. and Casterline, J. (ed), p.17-19.

⁷⁶ Giusti, C. and Vignoli, D. 2006. 'Determinants of contraceptive use in Egypt: A multilevel approach,' *Statistical Methods & Applications*, Vol. 15, no. 1, p.91.

countries with universal education and relatively equal male to female employment ratios, but did not find evidence for female empowerment/low fertility as suggested by Giusti and Vignoli.⁷⁷ Contrary to Giusti and Vignoli's article, many have argued that education will not bring about empowerment. Mensch, Ibrahim, Lee and El-Gibaly report that over 90% of children among boys and girls aged between 10 and 19 in their study stated that wives should be solely responsible for all domestic works.⁷⁸ Gender socialization in Egypt was found to be extremely patriarchal with a particular emphasis on women's role as domestic house workers. This was also strongly reflected in parental perception of the benefits of education. While employment opportunities were cited as the most important reasons for schooling among 62% of parents for educating boys, to become better wives and mothers was the most important reasons for educating girls.⁷⁹ While it may be true that economic development may bring about greater educational opportunities for women, Egyptian females were not educated for the purposes of paid employment.

Gaps for the thesis

Giusti and Vignoli's argument is based on the assumption that fertility levels are generally associated with a country's level of socio-economic development, measured by statistical indications such as the percentage of educated female workers within a population. However what is not mentioned in their analysis is the possibility of the existence of a distinct cultural component to fertility levels that are independent from the levels of education or national modernization.⁸⁰ This is the idea of changing fertility attitudes without the prior affect of development described in the redistribution discourse.⁸¹ Due to the fact that human beings are inherently social animals, the fertility attitudes of the Egyptian families are likely to be influenced by the behaviour of the people with whom they interact in everyday societal life. However, the idea that changing parental attitudes towards smaller family size could positively influence a state's demographic transition received very little attention in the literature; moreover this testable hypothesis has not been in fact mentioned in Giusti and Vignoli's analysis. The study therefore suggests that in Egypt's local context, women's fertility desire may play a key role in the country's demographic transition. This point of critique suggests a need for the thesis to examine Egypt's local and provincial characteristics, particular in terms of marriage and a couple's childbearing attitudes.

Conclusion and discussion

Through the summary of key ideas from books, articles and journal publications on China and Egypt's population issues, existing literature offered three general explanations for

⁷⁷ Caldwee, J. and Schindlmayr, T. 2003. 'Explanations of the fertility crisis in modern societies: A search for commonalities,' *Population Studies*, Vol. 57, no.3, p.256.

⁷⁸ Mensch, B.S. Inbrahim, B. Lee, S. and El-Gibaly, O. 2003. 'Gender role attitudes among Egyptian adolescents,' *Studies in Family Planning*, Vol. 34, p.8-18

⁷⁹ Mensch, Ibrahim, Lee, and El-Gibaly, O. 2003, p.9.

⁸⁰ Weeks, J.R. Getis, A. Hill, A.G. Gadalla, S.M. and Rashed, T. 2004. 'The fertility transition in Egypt: Intraurban patterns in Cairo,' *Annals of the Association of American Geographers*, Vol.94, no.1, p.77.

⁸¹ Weeks, J.R. 2003. The role of spatial analysis in demographic research. In *Spatially integrated social science: Examples in best practice*. Goodchild, M.F. and Janelle, D.G. (ed). New York: Oxford University Press.

fertility transition: developmental idealism, family planning program, and female empowerment. These ideas are summarized in figure 3.0; although there are many studies written on population and development, there do seem to be various flaws or limitations to the work. In China, few studies have ever mentioned the idea of economic redistribution and how the one child policy is implemented in its less economically developed rural regions where female education is lacking? In Egypt no study can be found on why Egypt's fertility level is rather similar between its urban and rural populations, despite the lack of development in its country areas. Drawing on these findings, the thesis will continue to probe the relationship between population and development. In particular, it endeavours to attempt to identify the strength and weakness of China and Egypt's population development approaches, and provide an analysis of whether these countries can learn anything from each other through policy transfer.

Figure 3.0 Literature Review

China studies	Critiques	Gaps
Economic development will bring about low fertility (You and Zheng, 2002)	The relationship between fertility and development is weaker than predicated by You and Zheng.	Research needs to be done on the uneven economic growth among China's urban-rural populations.
Family planning could bring about low fertility (Nie, 2005)	The literature argues that the one child policy is the only solution to China's problem.	Literatures have largely ignored the exemption criteria to China's one child policy.
Female empowerment could bring about development and low fertility (Fong, 2004)	The researcher possesses higher socio-economic status than the participants.	The research is only relevant for the study of urban China.
Egypt studies	Critiques	Gaps
Economic development will bring about fertility transition (Pearson, 2003)	Social desirability bias	Little has been mentioned in the literature that despite its lack of development, rural Egypt's fertility rate is similar to its more developed urban regions.
Family planning will bring about low fertility (Mahbubani, 2010 and Moffett, 1994)	Family planning programs need to be more in line with the Egyptian cultural.	The literature component addressing the promotion of methods other than contraception is missing.
Female empowerment will bring about development and low fertility (Giusti and Vignoli, 2006)	The evidence for female empowerment/low fertility theory is lacking.	No literature has addressed the issue of women's attitude towards family size and childbearing.

Chapter 4

People:

The populations of China and Egypt in Geographic, Demographic and Historical Context

Introduction

The previous three chapters examined the factors that influenced population growth in general, identified the conceptual framework that speaks of the tools to be used in a demographic comparative analysis, and offered a description, justification and critique of the existing research on population and development. This chapter furthers the thesis by applying what we have learned thus far to empirical detail of the China-Egypt population study. In particular it attempt to apply the academic tools identified in the conceptual framework such as the demographic transition and the Malthusian population trap to explore the historical origin of China and Egypt's population issues. To this end, the chapter aspires to answer two of the important research questions from the introduction chapter: what are the particular details of population growth in China and Egypt, and what is driving the population increase in these countries?

This chapter is divided into three sections. Section one reviews the basic details of China and Egypt's geographical location and demographic data. Section two looks at the social and economic indicators of the two countries to establish contemporary country profiles. In section three we explore the historical background of the two countries with a particular emphasise on the influence of Manchu and Ottoman Empires on the demographic past. This help explain the historical struggle with population increase that has continued into the 21 century.

China: geography and demography

China is located in Southeast Asia. It extends from 54 degrees north from the border of the Russian Far East to 18 degree south, the location of the semi tropical island of Hainan. It stretches for 7770 Square Kilometre (Km) across Eurasia from its far northern province of Manchuria at 74 degrees east to the point of 135 east, the most westerly part of Chinese controlled Central Asia.¹ It occupies a land area of 9.64 million Km, a land border of 35,742 Km and a maritime frontier of 23,310 Km.² Politically China is divided into the 18 provinces of China Proper, three provinces of Manchuria, five autonomous regions of Xinjiang, Tibet, Qinghai, Inner-Mongolia and Yunnan, two special administration regions of Hong Kong and Macao and one disputed autonomous republic of Taiwan.³

Image China⁴

¹ Dillon, M. 2009. *Contemporary China. An introduction*. Routledge Taylor & Francis Group. London and New York, p.3-4.

² Magstadt, T. 2005. *Nations and governments. Comparative politics in regional perspective. Fifth edition*. Thomas & Wadsworth Learning, p.279-280.

³ Dreyer, J.T. 2008. *China's political system. Modernization and tradition. Sixth edition*. Pearson and Longman, p.105.

⁴ China image from



China's population of 1.3 billion people is characterised by a very uneven geographical distribution with almost 80% of the population occupying 40% of China's territory, the portion that constitutes the 18 provinces of China Proper.⁵ In sharp contrast, the ethnic minority provinces of Manchuria, Inner-Mongolia, Xinjiang and Tibet occupy almost two-thirds of China's total land mass but are home to only 20% of the population.⁶ Officially China is made up of 56 nationalities with 55 minorities.⁷ The Han majority numbers more than 1.2 billion and comprises 92% of China's population. Even though China's 55 minorities may total only 8% of the population, this still amounts to roughly 106 million people as indicated in figure 4.0.

Figure 4.0⁸

China's six largest minority groups in 2000 (note these are based on the most recent census information available)

<http://www.google.co.nz/imgres?imgurl=http://www.telecomapprovals.com/images/thumb/>

⁵ Zhang, X.B. and Ravi, K. 2005. 'Spatial inequality in education and health care in China,' *China Economic Review*, Vol. 16, p. 190-193.

⁶ In 1985, the strategic provinces that occupies 60% of China's territory only has 6% of the country's population. China Proper on the other hand, occupies 40% of China's land total but are home to 94% of the population. See Jowett, J. 1992. People: demography pattern and policies. In *The geography of contemporary China. The impact of Deng Xiaoping's decade*. Cannon, T. and Jenkin, A. (ed) Routledge: London and New York, p.102-104.

⁷ Human Rights in China 2007. *China: minority, marginalization, and rising tensions*. London, UK: Minority Rights Group International.

⁸ Figures are from Dreyer, 2008, p.278.

Minorities	Population	Location
Zhuang	16,178,811	South-China
Manchu	10,682,262	Manchuria
Hui-Muslim	9,816,805	Gansu
Uygur-Muslim	8,399,393	Xinjiang
Mongol	5,813,947	Inner-Mongolia
Tibetan	5,416,021	Tibet

Aging population is another issue confronting China's population. A recent study indicates that the number of elderly in China will increase dramatically and rapidly in the next couple of decades perhaps reaching as much as 230 million or 17% of China's population by 2040.⁹ There is little doubt among observers that the need for old-age security is a key factor of gender imbalance in China (that there are 114 boys per 100 girls¹⁰), particularly in less developed rural areas. In 2006, China classified 74,544 million of its people as rural residents. This is shown in figure 4.1 which indicates how China's population is divided based on residential areas.

Figure 4.1¹¹
China's demography

Year	Population	Male	Female	Urban	Rural
2004	129, 227, 000	66,556,000	62,671,000	52,375,000	76,851,000
2005	129, 988,000	66,976,000	63,012,000	54,283,000	75,705,000
2006	130,756,000	67,375,000	63,381,000	56,212,000	74,544,000

Egypt: geography and demography

Similar to China, Egypt is one of the oldest civilizations in the world, and for the Middle East and North Africa region, it is also by some margin the largest. The country is located in northeast Africa and is bordered by the Mediterranean Sea to the north, Sudan to the south, Libya to the west, and the Red Sea to the east.¹² It covers a total area of one million Km and it is the most densely populated Arab country with about 80 million citizens.¹³

⁹ England, 2005, p.28.

¹⁰ Gifford, R. 2007. *China read: A journal into the future of a rising power*. London: Bloomsbury. Also Meng, Q.Y. and Liu, X.Z. 2006. 'Reforming China's health system: Beijing's strategy for establishing universal coverage,' *China Brief*, p.14-16.

¹¹ Figures are from China Population Information and Research Centre, <http://www.cpirc.org.cn>

¹² El-Zanaty, and Way, 2009, p.1.

¹³ El-Saharty, S. Richardson, G. and Chase, S. 2005. 'Egypt and the millennium development goals. Challenges and opportunities,' *HNP Discussion Paper*, p.2.

Fully 94% of the land in Egypt is desert and a majority of Egypt's population lives in a crowded, narrow strip along the Nile River, by far the most important habitable area of the country.¹⁴ Egypt is politically divided into 26 governorates and has four major urban areas: Alexandria, Cairo, Port Said, and Suez.¹⁵ The remaining 22 governorates are divided as follows:

- Nine governorates are located in the Nile Delta of Lower Egypt.
- Eight are located in Upper Egypt along the Nile River.
- Five are located in the frontier regions on the deserts west and east of the Nile.¹⁶

Image Egypt¹⁷



Figure 4.2 shows that Egypt's population total is increasing rapidly, moving from 69.313 million in 2004 to 80.471 million by 2010. Despite this sizeable increase, the country's urban population only altered slightly in the past six years between 2002 and 2008¹⁸, indicating a slower process of urbanization. Despite the overall demographic growth, the crude birth rate has in fact declined from 26.5 per 1000 in 2002 to 25.7 in 2004. Though it increased slightly to 26.6 in 2008, Egypt's birth rate in 2010 declined once more to 25.0.

Figure 4.2¹⁹

¹⁴ Magstadt, 2005, p.464.

¹⁵ El-Saharty, Richardson, and Chase, 2005, p.3.

¹⁶ El-Saharty, Richardson, and Chase, 2005, p.2-3.

¹⁷ Egypt image from <http://www.google.co.nz/imgres?imgurl=http://www.alrahalah.com>

¹⁸ El-Zanaty, and Way, 2009, p.1.

¹⁹ CAPMS (Central Agency for Public Mobilization and Statistics) 2008. *Statistical Year Book, Population Place of Residence Sample Survey*, Cairo: The Agency. Also CIA Fact Book.

Population of Egypt

Year	Population	Urban	Rural	Crude Birth Rate
2002	66,531,000	42,900,000	57,100,000	26.5 per 1000
2004	69,313,000	42,800,000	57,200,000	25.7 per 1000
2006	72,212,000	42,500,000	47,500,000	25.7 per 1000
2008	74,302,000	43,100,000	56,800,000	26.6 per 1000
2010	80,471,000			25.0 per 1000

In employment and education, women now constitutes 30% of the Egyptian labour market and account for more than one third of the university enrolments.²⁰ Female students in urban areas are more likely to receive an education than their rural counterparts; the illiteracy rate is 70% for most rural Egyptian women.²¹

Social and economic indicators

Before considering how China and Egypt's geographical and demographical factors have influenced their respective economic developments, the thesis needs to answer a fundamental question: how do we measure successful development?²² As far as socio-economic indicators are concerned, the methods commonly used by most economists are the opulence and capability approaches.²³ The opulence approach focuses on GDP development and measures it in three ways:

- The total of all investment, consumption and government spending.
- The total of all domestic individual wages, incomes and earnings.
- The total of all types of goods (i.e. cars or computers) produced in the economy.²⁴

The capability approach on the other hand, focuses on education and life expectancy²⁵ as indicators for economic development.²⁶ This approach argues that greater per capita income allows individuals greater expenditure on health and education and thus raises life expectancy. Conversely, improvements in health and education, "especially in so far as they imply a healthier worker force," will raise GDP.²⁷ Using GDP growth, education and life expectancy as economic tools of measurement, the following analysis turns to

²⁰ Baron, B. 2005. *Egypt as a woman: nationalism, gender, and politics*. Berkeley: University of California Press, p.58.

²¹ Palmer, M. 2006. *Comparative politics. Political economy, political cultural, and political interdependence. Third edition*. Thomas Advantage Books, p.503.

²² Bramall, C. 2009. *Chinese economic development*. Routledge. Taylor & Francis Group, p.4.

²³ Bramall, 2009, p.5.

²⁴ Bramall, 2009, p.5.

²⁵ Sen, A.K. 1999. *Development as freedom*. Oxford University Press, p.75.

²⁶ Maddison, A. 2001. *World economy: A millennial perspective*. Paris: OECD, p.115.

²⁷ Ranis, G. Stewart, F. and Ramirez, A. 2000. 'Economic growth and human development,' *World Development*, Vol. 28, no. 2, p.197-219.

China's social and economic indicators.

Social and economic indicators: China

China's success in maintaining robust economic growth in the past four years is shown in figure 4.3. If its current rate of a 9% increase is continued, there is every chance that China will become the world's largest economy by 2040.²⁸ As things currently stands, China is the world's second largest trading power behind the United States²⁹ with the world's largest foreign currency reserves.³⁰ The country's annual economic growth increased at a stunning rate of 15.1% between 1995 and 2004. China is also one of the largest consumers of natural gas, minerals and oil since 1995, accounting for nearly 40% of the world's energy market increase.³¹ In the meantime, sustained manufacturing growth meant that by 2007, China's "trade surplus with the rest of the world [had risen] an astonishing 74% to 117.5 billion US dollars"³² in favour of China. Its per capita income similarly increased from its initial 4990 USD in 2003³³ to 6600 USD in 2010.³⁴

Figure 4.3³⁵
China's official GDP figures

Year	GDP (100 million in USD)	Growth Rate
2005	22,576,2	11.3%
2006	27,135,0	12.7%
2007	34,956,6	14.2%
2008	45,218,3	9.6%
2009	49,847,3	9.1%

Despite these achievements, China's economic growth continues to be highly uneven, resulting in first world prosperity in some areas and extreme poverty in others.³⁶ This discrepancy raises the relationship between income distribution and fertility discussed in chapter three. Take education as an indicator: figure 4.4 shows that in 2009 the illiteracy rate in Beijing was only 2%. In extreme contrast, the figure was over 40% in the rural areas of the Tibetan autonomous region. Tibet was clearly not alone in its struggle with high illiteracy; rural Gansu also has a high percentage of 25%. To make the matter worse, the criterion used to determine literacy required a person to read and write only 1500

²⁸ Yang, Y.Z. 2006. 'China's integration into the world economy: Implications for developing countries,' *Asia-Pacific Economic Literature*, Vol. 20, no. 1, p.45-48.

²⁹ Naughton, B. 2007. *The Chinese economy*. Cambridge, MA: MIT Press, p.27.

³⁰ See World Bank <http://www.worldbank.org/poverty/wbactivities/lend/>.

³¹ Winters, and Shahid, 2007, p.14.

³² Dreyer, 2008, p.158.

³³ See <http://www.worldbank.org/poverty/wbactivities/lend/>

³⁴ CIA Fact Book.

³⁵ International Monetary Fund. <http://www.imf.org/external/index.htm>

³⁶ Dreyer, 2008, p.158.

words in the countryside, much lower than the 2500 words requirement in the cities.³⁷ This means that China's literacy gap is actually wider than figure 4.4 suggested, if one accounts for the criterion differences in the two areas.³⁸ China's overall educational achievement on the other hand, is actually quite impressive. Figure 4.5 indicates that the educational attainment in China's national average is slowly improving. For example, the percentage of university students in China's population increased from 4% in 2002 to 7% in 2009. Life expectancy is another indicator of China's improved life standards. The data provided by the World Bank shows an increase in life expectancy from 69 years in 1990 to 73.2 years in 2007.³⁹ This figure improved by 1.3 years to reach 74.5 in 2010.⁴⁰ Since 2006, 23 of China's 31 administrative units recorded an improved life expectancy of over 70 years, a remarkable achievement for a country still considered poor in terms of per capita income.⁴¹

Figure 4.4⁴²

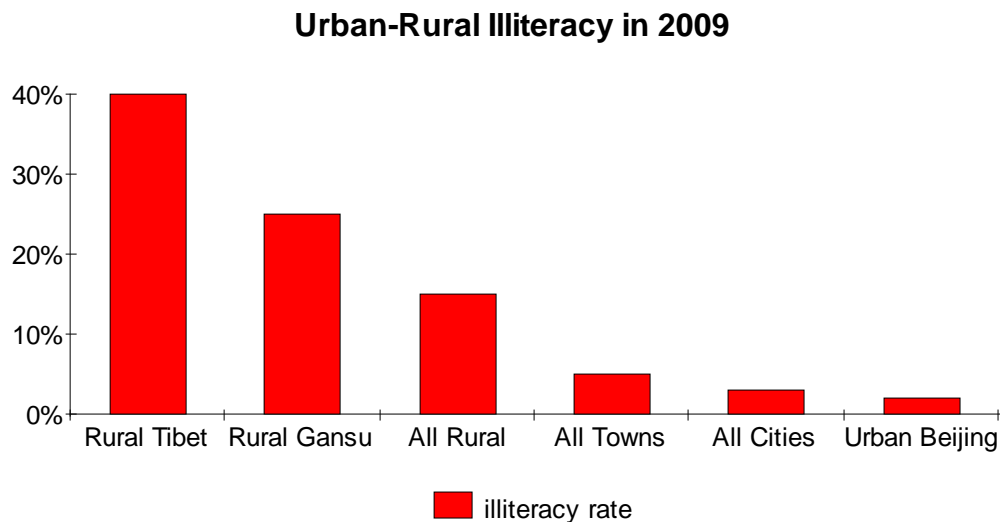


Figure 4.5⁴³
Education attainment in China

³⁷ Bramall, 2009, p.519.

³⁸ Meng, X. Gregory, R. and Wang, Y. J. 2005. 'Poverty, inequality and growth in urban China. 1986-2000,' *Journal of Comparative Politics*, Vol.33, no. 4, p.719.

³⁹ World Bank 2007. *World development indicator 2007*. CD-Rom Version. Washington, DC: World Bank.

⁴⁰ CIA Fact Book.

⁴¹ Bramall, 2009, p.506.

⁴² The figures are based on: Chinese Statistical Bureau 2009. *Chinese Statistical Year Book*. Beijing: Jingji Guanli Publisher, p.61.

⁴³ Chinese Statistical Bureau 2009. *Chinese Statistical Year Book*. Beijing: Jingji Guanli Publisher, p.61.

Year	Percentage of university students in China's population	Percentage of high school students in China's population
2002	4%	12%
2003	5%	13%
2004	5%	13%
2005	6%	12%
2006	6%	13%
2007	6%	13%
2008	7%	14%
2009	7%	13%

Social and economic indicators: Egypt

Although Egypt is smaller than China in population and land space, its rate of GDP growth is no less impressive. The Egyptian economic reform which began in 2004 has resulted in an upsurge in almost all socio-economic indicators.⁴⁴ In only four years, Egypt's GDP experienced an extraordinary growth from an annual rate of 4% in 2005 to 7.2% in 2008.⁴⁵ The 2009 figure has declined somewhat from its previous high, but it still has an impressive growth of 5.2% as evident in figure 4.6.

Figure 4.6⁴⁶
Egypt's GDP growth

Year	Real GDP growth
2005	4.0%
2006	6.9%
2007	7.1%
2008	7.2%
2009	5.2%

This increase in economic momentum has positioned Egypt along with China as two of the fastest growing economies in the third world. Egypt's domestic investment had increased by almost 60% between 2004 and 2008, and this was drive "primarily by

⁴⁴ Radwan, S. 2009. 'Economic and social impact of the financial and economic crisis on Egypt,' *A Study Prepared for the ILO*, p.6.

⁴⁵ Radwan, 2009, p.6.

⁴⁶ International Monetary Fund. <http://www.imf.org/external/index.htm>

private sector investment which grew by 96%.⁴⁷ More impressively, Egypt's direct foreign investment increased from 400 million USD in 2001⁴⁸ to 13.2 billion USD or 9% of the Egyptian GDP in 2008 with half of it being agricultural or green technology investment.⁴⁹

On the other hand, a prominent feature of the Egyptian economy as shown in figure 4.7 is that in 2007 agriculture, administration, trade and transportation industries together accounted for 90% of the employed labour force and these sectors are not typically employment intensive.⁵⁰ Only 10% of the employment remaining can be classified as modern services which tend to hire Egypt's most educated human resources.⁵¹ It is thus clear that Egypt's skill shortage needs to be compensated for through educational and employment training. It is evident in figure 4.8 that some 41% of the Egyptian workers in 2008 cannot read or write.⁵² Nevertheless, Egypt has performed rather well with respect to its overall educational achievement. For example, the number of Egyptians with university degrees has risen from 7.3%⁵³ in the late 1990s to 15% in 2008. Its overall literacy rates improved from 55.5%⁵⁴ in 1999 to 71.4% by 2010.⁵⁵ Meanwhile, the improvements in GDP growth that Egypt has experienced in recent years "have had a demonstrable effect on increasing the life expectancy"⁵⁶ of the Egyptian population. Figure 4.9 indicates that life expectancy improved by four years for males and six years for females between 1995 and 2010.

Figure 4.7⁵⁷

⁴⁷ Radwan, 2009, p.7.

⁴⁸ Radwan, S. 2008. 'Investment impact assessment,' *Egypt Investment Report 2008, Cairo*.

⁴⁹ Radwan, 2009, p.7.

⁵⁰ Radwan, S. 2007. 'Impact of investment on the economic and social aspects in Egypt,' *Memo, Cairo*. Also, Radwan, 2009, p.10.

⁵¹ Asaad, R. 2007. 'Unemployment and youth insertion in the labour market in Egypt,' *ECES, Working Paper*, no. 118, p.28.

⁵² CIA Fact Book.

⁵³ El-Saharty, Richardson, and Chase, 2005, p.6.

⁵⁴ El-Saharty, Richardson, and Chase, 2005, p.6.

⁵⁵ CIA Fact Book.

⁵⁶ El-Zanaty and Way, 2009, p.2.

⁵⁷ CAPMAS (Central Agency for Public Mobilization and Statistics) 2008. 'Labour force sample survey,' *Quarterly Bulletin*, Table 5A, p.50.

Structure of Egypt's labour force 2007

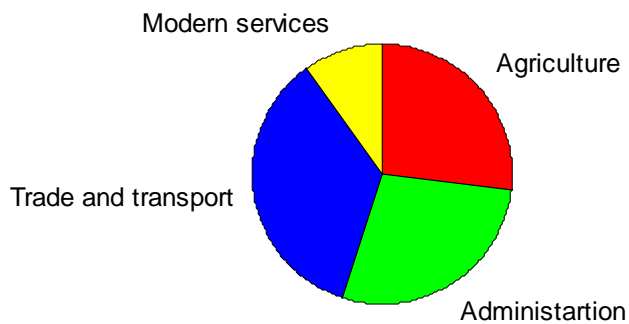


Figure 4.8⁵⁸

Labour and education: Egypt

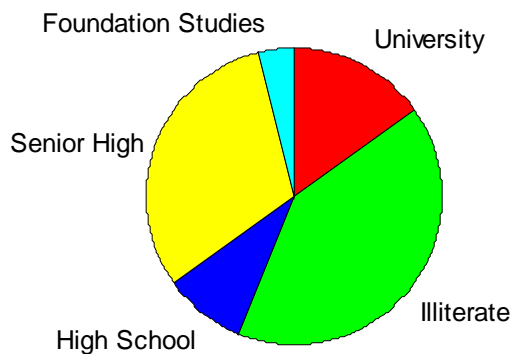


Figure 4.9⁵⁹
Life expectancy of Egypt

Year	Male	Female
1995	65.1 years	69.0 years
1998	66.3 years	70.5 years
2001	67.1 years	71.5 years
2004	68.4 years	72.8 years
2007	69.5 years	74.0 years
2010	69.8 years	75.1 years

⁵⁸ CAPMS 2008. 'Labour force sample survey,' *Quarterly Bulletin*, Table 5A, p.50.

⁵⁹ El-Zanaty, and Way, 2009, p.2. Also CIA Fact Book.

Although China and Egypt are both third world countries, their economies are developing rapidly and both have experienced remarkable achievements in recent years. Since 1979, the Chinese economy had experienced an extraordinary process of industrialization, making it possible for millions of urban and rural populations alike to improve their standards of living. A similarly remarkable achievement in economic development is detected in Egypt in that its GDP growth increased from 4% in 2005 to 5.2% in 2010. In summary, this section has introduced, described and analysed the levels of socio-economic developments of our two country comparators and so helped set the study of population and development in empirical context.

Historical background

Understandably the two states' achievements in economic and population development may have attracted considerable admiration from other less developed countries. What is less extensively discussed, however, is why China and Egypt became countries with large population in the first place. The following section addresses this question with a historical analysis by revisiting demographic concepts such as the demographic transition and the Malthusian population trap. The analysis suggests that prior to the 18th century, China and Egypt were both at the first stage of the demographic transition characterized by high fertility and high mortality rates. During the Manchu invasion for example (1620-1644), China lost almost 80% of its population. After the initial loss from the conquest, China experienced an extraordinary period of prosperity and population growth that marked the beginning of the second stage of the demographic transition, this time characterized by rising birth rates accompanied by falling death rates. However, this vastly expanded population placed an enormous burden on the country's food production industry and the relevance of the Malthusian population trap seemed applicable to the situation of the 19th century China. This section thus furthers the thesis by answering two important research questions: what is the particular detail of population growth in China, and what is driving this increase?

Manchu Qing Empire in China

In the early 17th century, with Ming dynasty China (1368-1644) facing rebellion and corruption,⁶⁰ a powerful nomadic group from beyond the "Great Wall" was ready to take control of northern China and were well on their way to conquering the south as well. These Manchus, like the Mongol soldiers of the 13th century, were alien conquerors achieving power through invasion.⁶¹ After the fall of Beijing in 1644, the Manchus turned their attention to the south, fighting for several decades to subdue all of China.⁶² They also fought against the Mongols to the west, and incorporated Mongolia, Tibet, as well as parts of the Central Asia into a vast multi-ethnic empire identified by the Manchu dynastic name "Qing"(1616-1912).⁶³ The 19th century commentator, Hugh Murray,

⁶⁰ Hong, W. 2005. 'Return of the Manchurian tigers: The Manchu Qing dynasty, The Ming conquered by the Qing,' *East Asian History: A Korean Perspective*, Vol. 3, no. 6, p.1.

⁶¹ Zarrow, P.G. 2004. 'Historical trauma: Anti-Manchuism and memories of atrocity in late Qing China,' *History & Memory*, Vol. 16, no. 2, p.67.

⁶² Goldstone, J. 2002. 'Efflorescence and economic growth in world history: rethinking the rise of west and the industrial revolution,' *Journal of World History*, Vol. 13, no. 2, p.348.

⁶³ Goldstone, 2002, p.348.

described the basic demography and geography of the Qing dynasty thus:

The Manchu empire, stretching from 18 to 56 of north latitude, and from 70 to 140 of east longitude, covers an area of about 5,350,000 square miles, or one tenth of the whole land-surface of the earth. The population of this vast region, according to the most probable modern computation, is about 183,000,000 [in 1760] as follows:

- China Proper: 148,897,000
- Korea: 8,463,000
- Tibet: 6,800,000
- Manchuria, Mongolia, Chinese Turkestan: 9,000,000
- Colonies: 10,000,000⁶⁴



Stage one: high morality rates

The collapse of Ming dynasty China, the spread of violence, and the ruthless invasion of the Manchu military caused great suffering amidst China's population.⁶⁵ Whole areas of Han settlement were massacred. When their residences refused to submit,

men were killed, women raped and children enslaved...Everyone saw how the Manchus cold-bloodedly slaughtered people and set fires....The cries of the dying were all people heard from morning to night without cease. Some had their heads cut off; some their arms and legs; some had their heads sliced open and some were split into two from head

⁶⁴ Murray, H. 1843. *The Encyclopaedia of Geography, Comprising a Complete Description of the Earth*. Vol.2, p.34. Copy right of the above two maps are owned by Philip's atlas of world history. A division of Octopus Publishing Group Ltd.

⁶⁵ Zarrow, 2004, p.67.

to foot....⁶⁶

China suffered an estimated 800,000⁶⁷ casualties in the city of Yang Zhou alone, not including those who died by suicide or were enslaved.⁶⁸ Likewise when the city of Jiangyin was conquered on October 8th 1645, the Manchu soldiers were ordered to “fill the city with corpses before you sheathe your swords,”⁶⁹ and duly massacred the city’s entire population; of a total of 172,000 people, only 53 survived.⁷⁰ So too in Sichuan which had a population of 3.56 million people in 1646, over the course of five years the Manchus slaughtered over 2.61 million people and reduced Sichuan’s population by 75%.⁷¹ Overall China’s population was reduced from 51.66 million in 1620 to 10.63 million in 1648; that some 80% of the population was lost as a result of the Manchu conquest is evident in figure 5.0.

Figure 5.0⁷²
Population of early-modern China

Year	Population
1562	63,652,246
1572	62,537,418
1602	56,308,051
1620	51,655,459
1648	10,633,326

Stage two: declining mortality rates and development

Notwithstanding the enormous suffering and destruction, the Manchu conquest also created opportunities for extraordinary advancements in the socio-economic structures in the economically most viable regions of southern China.⁷³ This led to the collapse of the slavery based farming estates that characterised Ming dynasty China, and the restoration of an independent profit making peasantry.⁷⁴

This combination of a large-scale shift to a free peasantry, combined with a shift from direct to more market oriented

⁶⁶ Zarrow, 2004, p.85.

⁶⁷ Wang, X. 1991. ‘Account of ten days in Yang Zhou,’ *Voices from the Ming-Qing Catalyse*, Vol. 36, no. 40, p.46-47.

⁶⁸ Suzi, 1907. ‘Revolutionary declaration of Jiangsu,’ *Minbao Tiantao*, p.58-59.

⁶⁹ Antze, P. and Lambek, M. 1996. *Tense past: Cultural essays in trauma and memory*. New York.

⁷⁰ Tan, S. 1990. *The complete work of Tan Sitong*. Beijing, p.342.

⁷¹ Zarrow, 2004, p. 80. Zhao, W. L. 2000. *The population history of China*. China: Beijing Publisher, p.41.

⁷² Qingshilu (Historical record of Qing). China: Beijing Publisher. Also see Deng, X.G. 2004. ‘Unveiling China’s true population statistics for the pre-modern era with official census data,’ *Population Review*, Vol. 43, no. 2, p.27-28.

⁷³ Goldstone, 2002, p.348.

⁷⁴ Goldstone, 2002, p.348.

control of that peasantry by the central state and local elites, was an essential component in the vast increase in market specialization and participation by independent, profit-maximizing peasant households that fueled the Qing economy.⁷⁵

With minor exceptions, most of the new territories conquered by the Manchu Empire were comprised of unfruitful soils located in North and Central Asia. Supporting large population growth therefore, required a substantial expansion of international trade, the fertilization of new lands and very substantial economic growth of the Chinese mainland.⁷⁶ In the 16th century, China's population was little over 50 million. The upheaval of the Manchu invasion hindered growth in most of the 17th century, so that by 1686 the population was still about 50 million.⁷⁷ Once Manchu authority was firmly established by the mid-17th century, extensive reductions in taxation and other administrative relief was afforded the peasantry in order to enhance their rate of survival.⁷⁸ The opening up of new agricultural settlements in northern China, along with similar extensions in other areas in the northwest and southwest provided additional resources for demographic expansion.⁷⁹ The New World crops introduced from international trade into Yunnan and Guangdong⁸⁰ provinces led to "increases not only in productivity per unit of land, but also in the amount of arable land"⁸¹ through new settlements of hilly areas previously unsuited for traditional agricultural development such as rice and wheat.⁸² The result was that after the initial losses from the conquest⁸³, China experienced a remarkable period of population growth and economic prosperity between 1680 and 1780.⁸⁴

During the course of the 18th century, China's population increased tremendously as shown in figure 5.1.

Figure 5.1⁸⁵
Qing population growth

⁷⁵ Goldstone, 2002, p.348-349. Also see: Li, B. 1998. *Agricultural development in Jiangnan, 1620-1850*. New York: St. Martin's Press. And Rawski, E. 2002. *The Qing formation and the early modern period*. In *The Qing formation in world historical time*. Struve, L. (ed). Cambridge, MA: Harvard University Asia Centre.

⁷⁶ Marks, R. 1997. *Tigers, silk and silt: Environment and economy in Guangdong, 1250-1850*. Cambridge University Press.

⁷⁷ Goldstone, 2002, p.350.

⁷⁸ Tien, Y.H. 1991. *China's strategic demographic initiative*. New York. Westport, Connecticut, London, p.9.

⁷⁹ Tien, 1991, p.9.

⁸⁰ Sugihara, K. 1996. 'The European miracle and the East Asian miracle: Towards a new global economic history,' *Nara Industrial University*, Vol. 11, no. 2, p.27-30.

⁸¹ Tien, 1991, p.9.

⁸² Tien, 1991, p.9.

⁸³ Struve, L. 1984. *The Southern Ming 1644-1662*. New Haven: Yale University Press.

⁸⁴ Goldstone, 2002, p.349.

⁸⁵ Deng, 2002, p.27.

Year	Population
1685	55,891, 347
1701	56,082,100
1721	70,383,584
1734	75,162,388
1752	102,750,000
1766	208,095,796
1812	361,693,379

Despite this massive increase, China did not experience a substantial decline in its standard of living. This was evident in the Yangzi Delta where both land and labour productivity improved in 18th century China.

Increased agricultural output was achieved by increased application of capital...mainly in the form of fertilizer inputs....In addition, the cultivation of mulberry leaves for silk-worms and the production of silk and cotton textiles greatly expanded, fueling a regional specialization and dynamic import/export economy in which textile exports reaped increasing grain and fertilizer imports. The net effect was that the Yangzi Delta had both the highest population density in China and the highest per capita output.⁸⁶

Thus the socio-economic standards of the Qing dynasty experienced tremendous improvements. It was believed that in the early 17th century it had required as many as five adults to support one additional birth in the Ming dynasty China. By the time of the Manchu era in the mid-18th century, just one or two workers could make enough to support an additional person.⁸⁷ This was partially due to improvements in consumption and life expectancy. For example, the calorie consumption of 18th century China was 2386⁸⁸ per capita per day. This was comparable to the Chinese estimates for the mid-20th century level which had less than 2200.⁸⁹ This favourable nutritional foundation improves life expectancy. By 1750, the Qing dynasty had an estimated life expectancy of 39

⁸⁶ Li, 1998, p.115, and Goldstone, 2002, p.350. Also see: Pomeranz, K. 2000. 'Re-thinking the late imperial Chinese economy: Development, disaggregation and decline, circa 1730-1930,' *Itinerario*, p.29-74.

⁸⁷ Lee, J. and Wang, F. 1999. *One quarter of humanity: Malthusian mythology and Chinese realities*. Cambridge, MA: Harvard University Press, p.40.

⁸⁸ Pomeranz, K. 2000. *The great divergence: China, Europe, and the making of the modern world economy*. Princeton, HJ: Princeton University Press, p.39.

⁸⁹ The calorie consumption level in Sichuan province was 2176 calories per head per day in 1958. This figure was declined to 1641 in 1959, 1422 in 1960 and 1354 in 1961. See: Bramall, C. 1993. *In praise of Maoist economic planning*. Oxford: Oxford University Press, p.296.

years⁹⁰, almost identical to China's 1949 level of 42 years. It thus seems undeniable that the ability of 18th century China to triple its population to an unprecedented level of 300 million (as opposed to merely 50 million of the Ming dynasty) while raising living standards to levels of pre-industrial prosperity *initially* contested the popular Malthusian proposition that population growth leads to poverty.

Malthusian population trap in China

Yet such prosperity did not last. Between the late 18th to mid of 19th century, the population increased further by an estimate of 56% and reached almost 400 million as indicated in figure 5.2.⁹¹

Figure 5.2⁹²
Population growth of the Qing dynasty

Year	Population
1766	208,095,796
1812	361,693,379
1833	398,942,036
1887	377,636,000 (Western invasions)
1912	368,146,520 (End of the Manchu reign)

The negative effective of this huge increase placed enormous strain on the country's production industry and created an urgent need for steady expansion of food supply. Until the middle of 18th century, the growth in food industry outstripped the growth in population. However, as China approached the 19th century a slow decline in the availability of food per capita started to set in.⁹³ In response to this rapid population increase, the Chinese Malthusian Hung Liangqi presented his demographic observation in 1792. This was similar to Thomas Malthus's argument in a major regard. "In four generations or so, a population would increase 10 or 20 times while dwellings and land would only double or, at best, be some five times the initial amount."⁹⁴ Due to unfavourable development of the population/food ratio, the Manchu Empire's annual revenue was reduced from its initial 100 million taels of silver in 1760 to 40 million taels

⁹⁰ Wong, R.B. 1997. *China transformed: Historical change and limits of European experience*. Ithaca, NY: Cornell University Press, p.28.

⁹¹ Cunliffe, B. 2001. *Cassell's atlas of world history*. Cassell & Co. Wellington House, part B 4.22.

⁹² Deng, 2002. For similar figures see: Durand, J, D. 1960. "The population statistic of China, A.D. 2-1953," *Population Studies*, Vol.13, no.3, p.249.

⁹³ Tien, H.Y. 1991. *China's strategic demographic initiative*. New York. Westport, Connecticut London. p.11

⁹⁴ Tien, 1991, p.10. Note Tien's references are based on Chen, C.H. 1930. *San min chu I and population policy*. Shanghai: The Commercial Press. Chen, C.H. 1918. *On the population of China*. Shanghai: The Commercial Press Ltd.

of silver in 1798.⁹⁵ This rapid population growth accompanied by a falling food ratio confirmed the Malthusian theory that at first, economic prosperity tended to increase the average income per person, so there would be more food and other necessities to go around.⁹⁶ Then, as income and food supplies rose above the survival requirement of the general public more children would be added to China's population. Thus the effect of rising income combined with raised life expectancy and high fertility desires meant that the population could be expected to double every generation and eventually outstrip land production.⁹⁷

During the course of the 19th century, the Manchu government failed to increase productivity or to improve living standards, and yet the population continued to expand from 1812 onwards and reached almost 400 million. Even an increasingly unfavourable economic circumstance accompanied by deteriorating food population ratio could not prevent the population from reaching 456 million between 1912 and 1947.⁹⁸ When the People's Republic of China was finally established in 1949, the population increased further by an estimate of 86 million and reached 542 million in total.⁹⁹ Thus the relevance of the Qing dynasty to our thesis can be summarized as follows:

1. Due to the fact that a pre-industrial population could not sustain a rapid pace of population increase identified in the stage one of the demographic transition, China's officially registered population size prior to the Manchu invasion was no more than 60 million.
2. After the completion of the Manchu conquest, a combination of favourable economic and political factors led to a remarkable period of extraordinary prosperity and economic growth that increased China's population to an unprecedented level between 1680 and 1780.¹⁰⁰ This was stage two of the demographic transition, the stage of population explosion, characterized by rising birth rates and falling mortality.
3. However, a period of sustained economic growth that accompanied Manchu-ruled China's initial population expansion could not be maintained. China was gradually overmatched and then overwhelmed as an economic and administrative backwater due to its inability to cope effectively with its ongoing population increase.¹⁰¹ Consequently, the People's Republic unquestionably inherited the legacy of overpopulation and mass poverty that dates back to the Manchu era, and this issue continued to be on the top of the political agenda in 21st century China.

⁹⁵ Wei, L. 2008. 'The interaction between ethnic relations and state power: A structural impediment to the industrialization of China, 1850-1911.' *PH.D. Thesis*. p. 171.

⁹⁶ Solow, R. 1956. 'A contribution to the theory of economic growth,' *Quarterly Journal of Economics*, p.65-69.

⁹⁷ "Labouring poor" were Thomas Malthus's original words whom he viewed as "morally inferior" to the land and property owning rich. Malthus existed at a time of rising class conflict and resentment and he argued that the rich were not the enemy of the poor but the poor were enemy of their own fate. For further information see Malthusian interventions from: Gardlund, T. 1958. *The life of Knut Wicksell*. Almqvist & Wiksell, Stockholm.

⁹⁸ Ho, P.T. 'The significance of the Ch'ing period in Chinese history,' *The Journal of Asian Studies*, Vol. 26, no. 2, p.191.

⁹⁹ Tien, 1991, p.15.

¹⁰⁰ Ho, 1967, p.191.

¹⁰¹ Goldstone, 2002, p.353.

Ottoman Empire in Egypt

Similar to the Qing dynasty, the Ottoman Empire that ruled over Egypt from 1517 was a vast multi-ethnic empire that deserves comparison with Manchu China. As will be discussed in the follow analysis, prior to the 19th century economic development that took place under the reign of Muhammad Ali (1805-1848), Egypt had for centuries maintained a relatively stable population with very limited increase due to a combination of plague epidemics and foreign invasion. This was stage one of the demographic transition, typified by high fertility and matching mortality. However, the modernizing reign of Muhammad Ali saw the introduction of a series of economic improvements including a new water wheel system that set the stage for the next phase of Egypt's demographic transition, the phase of reduced mortality and raised life expectancy. However identical to the Chinese experience, Egypt's food production could not keep up with the pace of the country's population increase. Slowly but surely, a Malthusian fear of overpopulation was realized in Egypt and this concern for lack of development as a result of population increase continued well into the 21st century. Consequently, study of the Ottoman period in the Egyptian history is crucial to our understanding of the historical origin of Egypt's population issue. Hence let us briefly take a look on the history of the Ottoman Empire.

At the time of [the Sultan] Suleiman's death [in 1566] the Ottoman Empire stretched from Danube to the Persian Gulf and from the Ukrainian steppes to the tropic of cancer in Upper Egypt. It included the mastery of the great trade routes of the Mediterranean, of the Black and Red Seas, and of parts of the Indian Ocean. It had an estimated population of 50 million [almost identical to China's at the same time period] and embraced some 20 races and nationalities.¹⁰²



¹⁰² Lenczowski, G. 1980. *The Middle East in world affairs*. Ithaca, N.Y: Cornell University Press, p.27.

Stage one: high mortality rates

Unlike China, there is relatively little information available on Ottoman Egypt's population size prior to the 19th century.¹⁰³ According to Hollingsworth's estimates, Egypt's population decreased irregularly from 4.5 million at the post-biblical time (300 AD) to slightly over 1.5 million during the Arab era (642). The population of Egypt is then thought to have reached slightly above 4 million at the time of the Mongol invasion (1258), before falling back to 2.5 million at the beginning of the Ottoman conquest (1517).¹⁰⁴ Contrasting sources claim that Egypt's population in the early Arab time is estimated at 6 to 7 million. Long centuries of Mameluke misrule however, combined with repeated Ottoman, French and British invasions caused the population to drop significantly, to 2.5 million by the end of the 18th century.¹⁰⁵ Although this number agreed with Napoleon's estimates of 2.5 million about 1800, there were uncertainties concerning the actual size of Egypt's population.¹⁰⁶ For one, the estimated 2.5 million made on the basis of tax lists, may seem somewhat low in relation to the estimate of 4.5¹⁰⁷ million for 1846 calculated from a census of houses.¹⁰⁸ Nevertheless, there is hardly any doubt that the population had been larger than it was during the late 18th century.¹⁰⁹ In explanation, Mikhail examines one particular event in 18th century Egypt: the 1791 plague epidemic. One eyewitness reports that:

at the start of the awful plague, 1000 people died every day. It was not long however, before the number of dead per day rose to 1500. Elsewhere, the same chronicler estimates that the plague killed 2000 people every day. Plague, as it was oft to do, did not discriminate between the young and the old, the powerful and the weak, the pious and the heathen. We are told that an uncounted number of babies, youths, maidservants, slaves...soldiers and inspectors all died in spring of 1791.¹¹⁰

Despite the above descriptions, what cannot be judged accurately is the severity of the plague on Egypt's demography. The problem is that modern scholarship possessed limited information on Egypt's population at the end of the 18th century and during the reign of the Ottoman period in general.¹¹¹ More precisely, the description cited suggesting that between 1000 and 2000 people died everyday raises more issues than it answers.

¹⁰³ Mantran, R. 1982. 'Avant-propos,' *L'Egypte au XIX Siecle, Paris*, p.9.

¹⁰⁴ Hollingsworth, T.H. 1969. *Historical demography*. Ithaca: Cornell University Press, p.311.

¹⁰⁵ Issawi, C. 1949. 'Population and wealth in Egypt,' *The Milbank Memorial Fund Quarterly*, Vol. 27, no. 1, p.99.

¹⁰⁶ Kiser, C. 1944. 'The demographic position of Egypt,' *The Milbank Memorial Fund Quarterly*, Vol. 22, no. 4, p.384.

¹⁰⁷ Panzac, D. 1987. 'The population of Egypt in the nineteenth century,' *Asian and African Studies*, Vol. 21, no. 1, p.11-32.

¹⁰⁸ Kiser, 1944, p.384-385.

¹⁰⁹ Kiser, 1944, p.385.

¹¹⁰ Mikhail, A. 2008. 'The nature of plague in late eighteenth century Egypt,' *Bulletin of the History of Medicine*. Vol. 28, no. 2, p.254-255.

¹¹¹ Mikhail, 2008, p.260. Also see: Dols, M.W. 1977. *The black death in the Middle East*. Princeton University Press, 143-235.

How accurate are these numbers? For how many days did this amount of people die?¹¹² Whatever the actual number may be, one resource of information claims that Cairo lost anywhere between 26,000 and 40,000 of its 300,000 inhabitants in 1791.¹¹³ Since there are no reliable sources on 18th century Egyptian demography,¹¹⁴ modern scholarship has generally agreed that the actual phase of population growth in Egypt began during the reign of Muhammad Ali in the 19th century.¹¹⁵

Stage two: declining mortality rates and development

The early modern history of Egypt begins with the reign of Muhammad Ali, who surfaced as the head of an Egyptian government nominally loyal to the Ottoman Empire after the end of the French occupation.¹¹⁶ However, dreaming of an empire of his own, Ali felt little loyalty to the Ottoman regime and on two occasions he threatened to conquer Turkey itself.¹¹⁷ The population of Egypt during this warring period against the Ottoman dynasty at the beginning of 1805 is thought to have been about 2.5¹¹⁸ million, while at the end of the 19th century it increased to more than 10 million.¹¹⁹ But Egypt's rate of growth was not persistent throughout the 19th century, reflecting the impact of socio-economic developments¹²⁰ and the influence of Ali's aggressive campaign for territorial expansion. Welding Egyptian peasants into a well-regarded army of the Middle East¹²¹, Muhammad Ali had conquered much of the region that now constitutes Sudan, Israel/Palestine and Saudi Arabia.¹²² Unsurprisingly a low rate of growth was detected during this aggressive period "with an annual increase of only 0.3 to 0.4% between 1800 and 1830, and no growth at all between 1830 and 1840."¹²³ The end of Ali's war of aggression, a return of peace, and the widespread medical breakthrough "produced a 1% population growth rate between 1840 and 1848."¹²⁴ By 1849, plague epidemics had almost disappeared due to vaccination measurements and better quarantine controls.¹²⁵

According to Issawi's analysis, Muhammad Ali's economic development and the modernization efforts achieved under his reign¹²⁶ produced strong population growth in the 19th century and continued into the 20th. Prior to his economic development, Egypt's

¹¹² Mikhail, 2008, p.260.

¹¹³ Panzac, D. 1985. *La peste dans L'Empire Ottoman, 1700-1850*. Louvain: Association pour le developpement des etudes torques, 361.

¹¹⁴ Toledano, E. Social and economic change in the "long nineteenth century," p.253.

¹¹⁵ Kiser, 1944, p.385.

¹¹⁶ Palmer, 2006, p.476.

¹¹⁷ Lawson, F.H. 1992. *The social origins of Egyptian expansionism during the Muhammad Ali period*. New York: Columbia University Press.

¹¹⁸ Toledano, p.253.

¹¹⁹ Panzac, 1987, p.11-32.

¹²⁰ Toledano, p.253-254.

¹²¹ Palmer, 2006, p.476-477.

¹²² Goldschmidt, A. 1988. *Modern Egypt: The formation of a nation state*. Boulder, Co: Westview Press, p.19.

¹²³ Toledano, p.254.

¹²⁴ Toledano, p.254.

¹²⁵ Panzac, D. 1987. 'On public health and the fight against epidemic,' *Asian and African Studies*, p.15-16. Also see: Kuhnke, L. 1990. *Lives at risk: Public health in nineteenth-century Egypt*. Berkeley.

¹²⁶ Issawi, 1949, p.99.

agriculture relied almost exclusively on the availability of the Nile water.¹²⁷ In order to make full use of the Nile flooding, Egypt initially developed a “Basin Irrigation System” used for water accumulation surrounding the areas of cultivated land for organic fertilizer and agriculture development.¹²⁸ Since the Nile floods annually from July to October, Egyptian agriculture could only produce one major crop per year.¹²⁹ It was impossible under the basin system to produce a significant population increase due to its lack of water supply. This produced a strong need for Muhammad Ali’s regime to introduce a new and different agricultural system, one that would allow crop growing throughout the year.¹³⁰ The introduction of the new water system started in the early 1820s. Existing shallow canals were depended, or where necessary new canals were developed.¹³¹ At the same time a fairly considerable amount of wealth was spent on the acquisition of new water-wheels¹³² from the West, one of the most important agriculture apparatus in the pre-industrial era.¹³³ Thus in areas where new systems were developed, water supply was available all the year round, making possible food and wealth accumulation.¹³⁴

All of sudden, Egypt’s economy was expanded and further developed, its agricultural production steadily increased, a fact reflected in for example cotton production. Figure 5.3 shows that Egypt’s cotton production increased from 127,000 in 1821¹³⁵ to 150,000 in 1835.¹³⁶ It decreased to about 147,000 in the following years, but totalled more than 200,000¹³⁷ thereafter. This rapid expansion of cotton production stimulated population growth, since cotton requires a labour force, especially child labour,¹³⁸ giving parents greater incentives for having large families. A great amount of labour power was required not only for developing the new water system and installing the water-wheels,¹³⁹ but also for maintaining and clearing them every year.¹⁴⁰ When the need for additional agricultural workers was combined with the need for increased labour conscriptions for Egypt’s new water-wheel systems, one can easily imagine Egypt’s desire to expand the size of its population. As a result of these factors, the population doubled from 2.5¹⁴¹ million in

¹²⁷ Rwlin, H. 1961. *The agricultural policy of Muhammad Ali in Egypt*. Cambridge: Harvard University Press.

¹²⁸ Willcocks, W. and Craig, J.I. 1913. *Egyptian irrigation, Third edition*. London: E. & F.N. Spon, p.299.

¹²⁹ Ishida, S. ‘Delta barrages and Egyptian economy in the nineteenth century,’ *The Developing Economies*, p.171.

¹³⁰ Ishida, p. 171.

¹³¹ Ishida, p.172.

¹³² Bowring, J. 1840. *Report on Egypt and Canada*. London: W. Clowes and Sons, p.12.

¹³³ Ishida, p.172.

¹³⁴ Muhammad Ali’s desire for further agricultural developments in Egypt seem to be inspired by Napoleon’s scientists during the time of the French occupation. See: Wilson, A. 1933. *The Suez canal*. London: Milford, p.633.

¹³⁵ Crouchley, A.E. 1938. *The economic development of modern Egypt*. London: Longmans, Green and Co, p.262.

¹³⁶ Owen, E.R.J. 1969. *Cotton and the Egyptian economy 1820-1914*. London: Oxford University Press, p.34.

¹³⁷ Ishida, p.172.

¹³⁸ Issawi, 1949, p.99.

¹³⁹ Cromer, E. 1908. *Modern Egypt, Vol. 1*. London: Macmillan.

¹⁴⁰ Ishida, p.172.

¹⁴¹ Makhout, H. 2003. *Population of Egypt in the 20th century*. Cairo: Cairo Demographic Centre.

1805 to about 6.8¹⁴² million in 1882 as shown in figure 5.4.

Figure 5.3¹⁴³
Egypt's cotton production

Year	Quintals
1821-1825	127,006
1826-1830	150,719
1831-1835	147,273
1836-1840	218,186
1841-1845	232,784

Figure 5.4¹⁴⁴
Egypt's population growth

Year	Population in millions
1800	2.5
1820	2.8
1840	4.5
1860	5.0
1880	6.8

Despite this rapid increase, most of Egypt's population continued to be rural, relying on agriculture as its primary means of living. Urbanization in general was not a major development of the 19th century Egypt, and Egypt's urban population only increased slightly from 8% in 1820 to 10% by end of the century.¹⁴⁵ Egypt's urban population was nevertheless concentrated in two large cities: Cairo and Alexandria with 570,000 and 320,000¹⁴⁶ inhabitants respectively and together they accounted for 40% of Egypt's urban increase between 1850 and 1880.¹⁴⁷ Although Egypt's rural population had declined from 81% in 1907 to 53% in 1975, "in absolute numbers it [increased] from 9.1 million in 1907 to over 20 million in 1975."¹⁴⁸ The rural population had therefore increased by

¹⁴² Issawi, 1949, p.99.

¹⁴³ Owen, 1969, p.34.

¹⁴⁴ Kiser, 1944, p.384.

¹⁴⁵ Toledano, p.254.

¹⁴⁶ Panzac, 1987, p.28-31

¹⁴⁷ Toledano, p.254.

¹⁴⁸ Parvin, M. and Putterman, L. 1980. 'Population and food dynamics: A caloric measurement in Egypt,' *International Journal of Middle East Studies*, Vol. 12, no. 1, p.86.

120% since 1907¹⁴⁹, while total population had grown from 9.6 million in 1897 to 19.0 in 1947 as evident in figure 5.5.

Figure 5.5¹⁵⁰
Egypt's population increase

Year	Population
1897	9,635,000
1907	11,190,000
1917	12,718,000
1927	14,178,000
1937	15,921,000
1947	19,040,000

Malthusian population trap in Egypt

It is thus clear that Egypt's population increased six-fold during the course of the 19th century, a rate of growth matched only by China's Manchu era; this period, it will be recalled, was characterized by growing prosperity and rising birth rates accompanied by falling death rates. What then was the increase in Egyptian agricultural development which accompanied this huge population expansion? Identical to the Manchu experience, Ottoman Egypt's population growth initially occurred in conjunction¹⁵¹ with improvements in economic development, including growing agricultural productivity based on more effective use of water supplies and on the introduction of western water-wheels.¹⁵² "Cultivated land [increased] from 2.03 million feddans¹⁵³ in 1821 to 4.16 in 1852, and 5.04 in 1897."¹⁵⁴ During the same time, wheat production increased from four ardeb¹⁵⁵ per feddan in 1830 to six ardeb in 1840; while cotton production showed a more spectacular expansion from 200,000 cantars¹⁵⁶ per annum in 1841 to around eight million by 1897.¹⁵⁷

While the progression from 2.03 to 5.04 million feddans represented a more than two-fold increase in agricultural land since 1821, "Egypt's population had increased six-fold

¹⁴⁹ Parvin, M. and Putterman, 1980, p.86.

¹⁵⁰ Issawi, 1949, p.100.

¹⁵¹ Parvin and Putterman, 1980, p.83.

¹⁵² Yousef, T.M. 2003. 'Egypt's growth performance under economic liberalism: A reassessment with new GDP estimates, 1886-1945,' *Review of Income and Wealth*, Vol. 48, Issue 4, p.561-579.

¹⁵³ A feddan equals to 4201 square metres.

¹⁵⁴ Parvin and Putterman, 1980, p.83. Also see: Mabro, R. 1974. *The Egyptian economy: 1952-1972*. Clarendon Press, Oxford, p.9.

¹⁵⁵ An ardeb equals to 150 Kilograms

¹⁵⁶ A cantar is 99 pounds.

¹⁵⁷ Issawi, 1949, p.101.

since the beginning of the 19th century.”¹⁵⁸ As we saw above, at the same of the French occupation in 1798, Egypt’s population was about 2.5 million. By 1852, the population had doubled to almost five million.¹⁵⁹ Between 1852 and 1907, the population increased further by an estimate of 150% and reached 11.19 million.¹⁶⁰ Although Egypt’s cultivated area had indeed increased from 2.03 million in 1821 to 5.40 in 1907 as shown in figure 5.6, the pace of this increase is clearly “insufficient to prevent a decline in cultivated feddan per inhabitant over time.”¹⁶¹ The total cultivated area rose about 260% between 1821 and 1907, but the population grew by 450% during the same period, far exceeding the total growth in agriculture land.¹⁶² This fact increasingly led to a Malthusian fear of land scarcity and overpopulation, which was a problem that continued well into the modern Egypt.¹⁶³

Figure 5.6¹⁶⁴
Land and population of Egypt

Year	Cultivated area in million feddan	Population in millions	Cultivated feddan per person
1800		2.5	
1821	2.03	3.3	
1840	3.86	4.0	
1852	4.16	4.5	
1871		5.25	
1877	4.74	6.28	0.76
1897	5.04	9.72	0.70
1907	5.40	11.29	0.68
1917	5.27	12.75	0.60
1927	5.54	14.22	0.61
1937	5.28	15.93	0.52

It is thus clear that Ottoman Egypt and Manchu China were both at the second stage of their demographic transition during the 19th century, the stage of declining death rates as a result of improved economic conditions “unaccompanied by falling birth rates.”¹⁶⁵

¹⁵⁸ Parvin and Putterman, 1980, p.83.

¹⁵⁹ See figure 3.4.

¹⁶⁰ Also see figure 3.5.

¹⁶¹ Parvin and Putterman, 1980, p.84.

¹⁶² Parvin and Putterman, 1980, p.84.

¹⁶³ Cleland, W. 1937. ‘Egypt’s population problem,’ *L’Egypte Contemporaine* 137, p.67-69

¹⁶⁴ Parvin and Putterman, 1980, p.84.

¹⁶⁵ Issawi, 1949, p.99.

Hence the relevance of this section to our overall thesis can be summarized as follows:

1. Almost identical to the Chinese experience, stage one of Egypt's demographic transition continued until the end of plague epidemic in 1791, the stage that was characterized by high mortality rates as results of disease and foreign invasion.
2. Thus when Muhammad Ali first introduced Egypt to the next stage of Egypt's demographic development through the introduction of modern agricultural technologies, high fertility was still regarded as a positive phenomenon and children were deemed as an important source of agricultural labour.¹⁶⁶ The second stage of Egypt's demographic transition thus began in 1805, where the relationship between birth and death rates was no longer in a preserved balance.
3. By the end of the 19th century, the negative effects of this rapid increase were being felt throughout the country: overcrowding, deteriorating population/food ratio and rising poverty all eats up the little available fruits of developments.¹⁶⁷ Slowly but surely, a Malthusian fear of overpopulation was realized in Egypt as early as 1936, the time when the country's first family planning program was first introduced and this fear has continued well into the present.

So, in response to one of the central questions posed at the outset of this thesis concerning the particular detail of population growth in China and Egypt, we can see that the late Manchu and the Ottoman/Mohammed Ali periods are crucial to our understanding of these countries' population development into the present day.

Conclusion and discussion

This chapter has highlighted the sharp difference in China and Egypt's geography, demography, social and economic indicators, and discussed the implications of historical background on these countries' population development. It argues that China and Egypt both experienced remarkable levels of economic development in recent years, especially in terms of improved living standards and raised life expectancy. The chapter then furthered the thesis by answering the two research questions from a historical perspective: what are the particular details of population growth in China and Egypt? And what is driving their increase? By referencing to such classical macroeconomic and demographic models as the demographic transition and the Malthusian population trap, the chapter argue that China and Egypt were facing a population crisis that was appeared to be undermining their national development by the 19th century. The particular details of population growth were described in the historical section; in both cases, initially economic development improved people's living standards and reduced mortality rates. However as the population continued to expand while the size of the living space and its land production capabilities remained unchanged, a Malthusian fear of overpopulation gradually appeared in the two countries and this fear continued well into the 21st century.

¹⁶⁶ Nardi, B.A. 'Modes of explanation in anthropological population theory: Biological determinism vs. self regulation in studies of population growth in third world countries,' *American Anthropologist, New Series*, Vol. 83, no. 1, p.33.

¹⁶⁷ Pathy, J. 1976. 'Population and development,' *Economic and Political Weekly*, Vol. 11, no. 30, p.1125.

Chapter 5

Policies: China and Egypt

Introduction

This chapter examines China's and Egypt's governmental systems and the population policies they have produced. In particular it looks at three questions: how do China and Egypt make their respective population policies? What have been the policy response so far to their population issues? And how do they compare with each other? It is generally argued that China and Egypt's political systems are both somewhat authoritarian, meaning that civil societies are not allowed to flourish. In China, the Communist Party can make all political decisions without the need for democratic approval.¹ In Egypt, political powers are not shared, truly democratically approved, or separated as they are in a modern democracy. Instead they are concentrated in the hands of the President in a dictatorial manner.² The lack of democratic procedure presented quite a challenge for the study; how to briefly outline just how the Chinese and Egyptian political systems operate in order to set the process of policy making in context? This challenge is met in three sections. Section one looks at the political structure of China and Egypt. In particular, it seeks to identify how policies are formulated in their respective national settings. In section two, an attempt is made to answer two research questions on China and Egypt: which policies have been adopted to address population growth? And how effective are these policies? Finally the last section compares and contrasts the Chinese and Egyptian population policies with a particular reference to provincial policy implementation.

Policy setting: political overview of China

To briefly answer the first question: how do China and Egypt make their respective population policies, this section attempts to provide an analysis for these countries' political system so to allow the study to come to terms with population planning. In terms of political overview, "the Communist Party rules China through three instruments of power: the party apparatus, the state apparatus, and the military [apparatus]."³ Among the key bodies of the state apparatus, the National Party Congress is theoretically the most powerful.⁴ Ideally, the delegates of the National Party Congress are democratically elected candidates chosen by the people to serve the nation, but in actuality this is never the case in practice.⁵ The National Party Congress which theoretically meets every at five years is responsible for the selection of 350 members that constitutes the Central Committee. The Central Committee, being too large to operate as a single decision making body, in turns select a Politburo which consist of 20 to 25 members. Within the selected Politburo, positions are reserved for an inner circle of six or seven leaders who together makes up the Standing Committee and they are responsible for every major economic, military and political priority of the country.⁶

¹ Palmer, 2006, p.331.

² Magstadt, 2005, p.499.

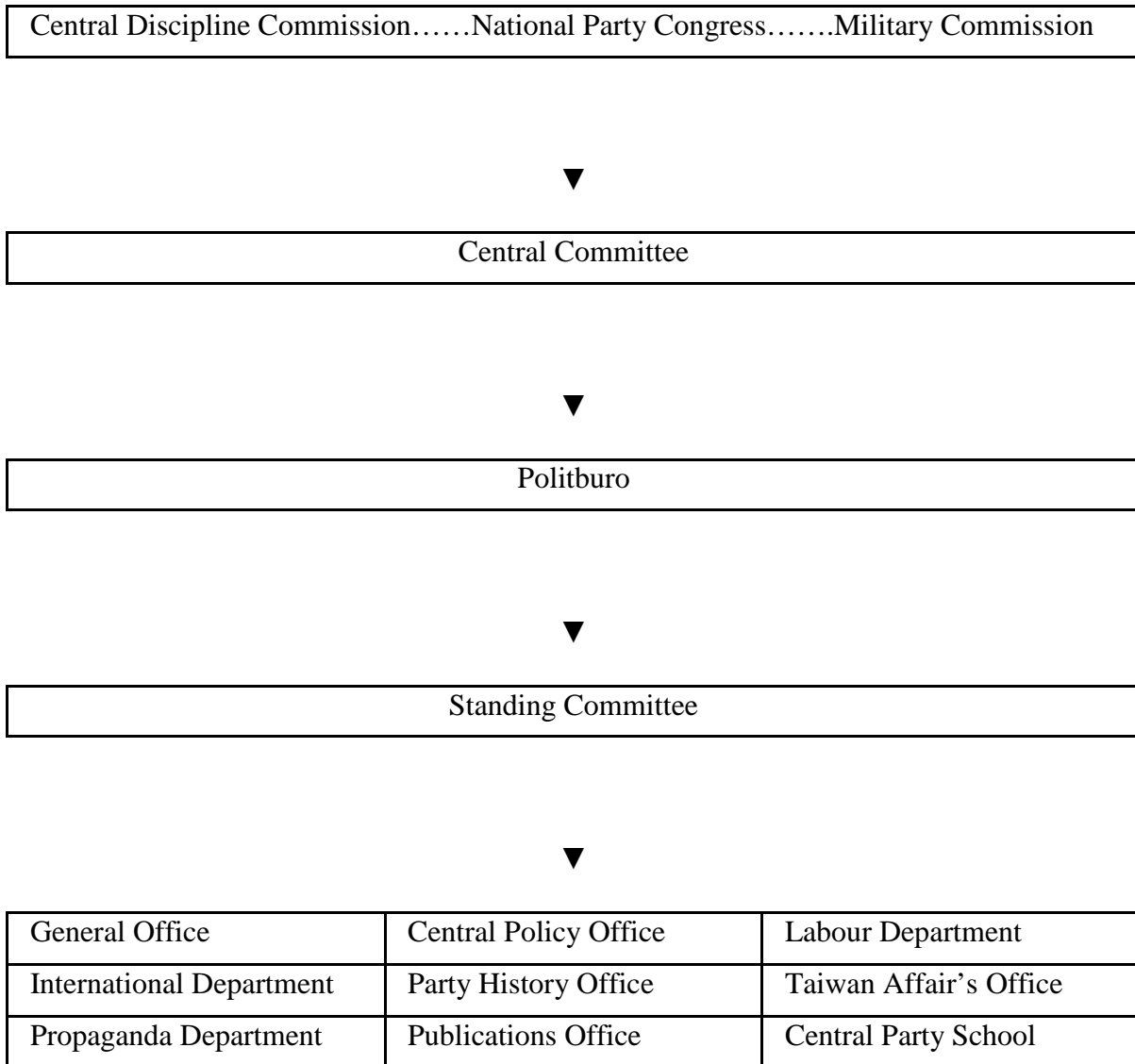
³ Palmer, 2006, p.332.

⁴ Magstadt, 2005, p.310.

⁵ Palmer, 2006, p.332.

⁶ Magstadt, 2005, p.310. Also see Lawrence, S.V. 1998. 'Excising the cancer,' *Far Eastern Economic Review*, Vol. 161, no. 34, p.10-13. And Harding, H. 1997. 'The complexity of China's reform,' *Vital*

Figure 6.0⁷
 The organisational structure of China's government



China's population planning is a matter of national priority. Figure 6.1 indicates that "the responsibility for population planning is divided between the State Planning Commission and the State Family Planning Commission."⁸ The State Planning Commission is responsible for policy implementation and resource allocation, while the State Family Planning Commission determines the long term and annual population targets.⁹ However,

Speeches, Vol.64, no.3, p.77-78.

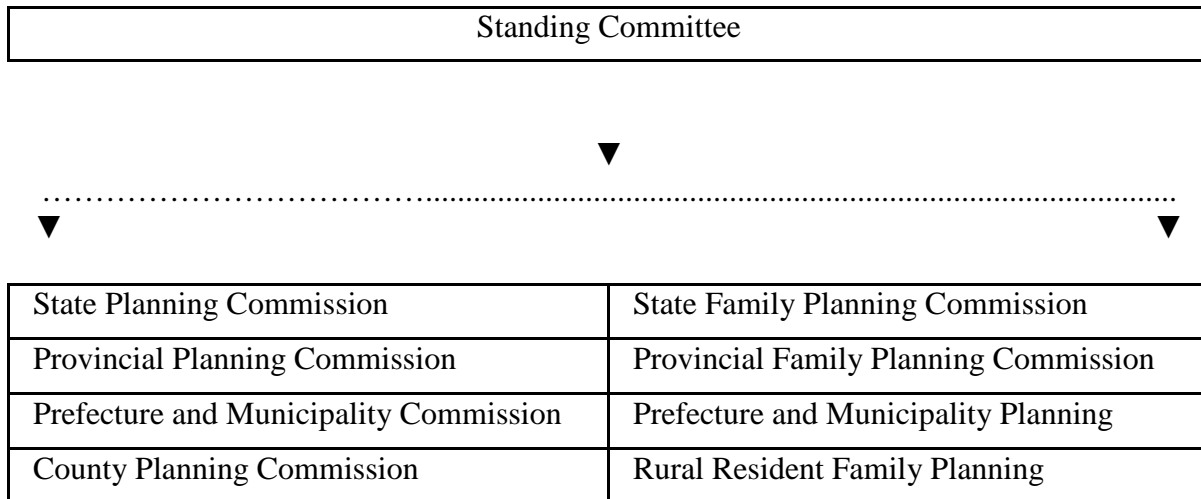
⁷ Source: CIA Fact Book

⁸ Wang, H. 1991. Population planning in China. In *Population and development planning in China*. Wang, J. and Hull, T.H. (ed). Allen & Unwin, p.76.

⁹ Wang, 1991, p.76.

China's policy makers recognized the "diversity of demographic and socio-economic conditions across China and stipulated that regulations regarding birth control were to be made in accordance with local conditions and to be approved by the provincial Standing Committee of the...provincial level governments."¹⁰ This means that decentralization is a main feature of China's family planning authorities which are generally concerned with balancing the central policy against local needs.¹¹

Figure 6.1¹²
Policy Planning in China



Policy Setting: political overview of Egypt

As in authoritarian China, Egypt's National Democratic Party (NDP) cooperates with the state's military apparatus, controls the mass media, the bureaucracy and it exercises a considerable influence in the judiciary system as well.¹³ The President is the Commander in Chief of the military and he stands at the pinnacle of Egypt's political system. As the head of the NDP, he appoints the Prime Minister, the Vice-President and he may also dissolve parliament at will.¹⁴ Despite all of his seemingly dictatorial powers however, Egypt's President is far from being politically invincible and he needs the support of the military to maintain the regime in power.¹⁵ This means that the military have direct access to Egypt's Presidential Office and its influence remains the strongest voice in Egypt today.¹⁶ Similar to the military, the NDP party controls much of Egypt's bureaucracy and

¹⁰ Gu, B. Wang, F. Guo, Z. and Zhang, E. 2001. 'China's local and national fertility policies at the end of the twentieth century,' *Population and Development Review*, Vol. 33, no. 1, p.131.

¹¹ Wang, 1991, p.76.

¹² Wang, 1991, p.77.

¹³ Magstadt, 2005, p.499.

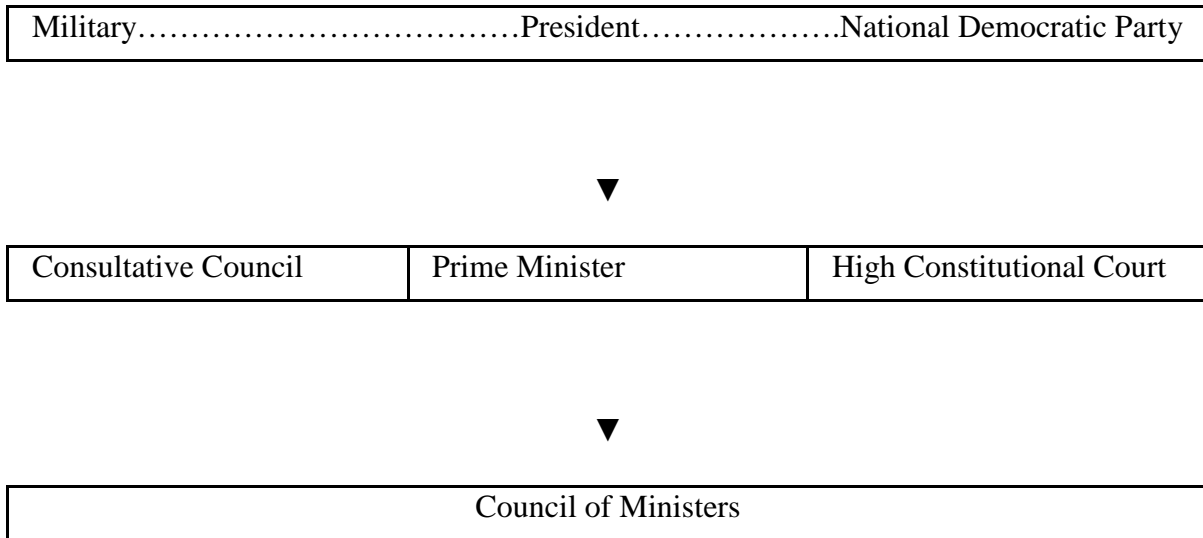
¹⁴ Palmer, 2006, p.485.

¹⁵ Kechichian, J. and Nazimek, J. 1997. 'Challenges to the military in Egypt,' *Middle East Policy*, Vol. 5, no. 3, p.125-139.

¹⁶ Palmer, 2006, p.486.

it determines how effectively the President’s policies will be implemented at the national and the local levels. This means that Egypt’s President must prevent either the army or the bureaucracy from becoming too powerful by balancing the military officials against the bureaucratic elites.¹⁷ The framework of this relationship is shown in figure 6.2.

Figure 6.2¹⁸
Egypt’s Presidential system



Due to its authoritarian nature, Egypt’s policy making procedures in the field of population are not based on a participatory development. Instead it has relied exclusively on processes such as population data collection, research, policy formulation, policy planning, policy implementation and evaluation.¹⁹ In particular, they emphasise that family planning could best be accomplished through communication about the acceptability of contraceptives in order to reduce fertility.²⁰ Family planning programs in China and Egypt have varied greatly in their policy priorities, methods and effectiveness. This is shown in the countries’ policy responses to their respective population issues.

Figure 6.3²¹

¹⁷ Gomaa, S. 1991. ‘Leadership and elections in local government, perspectives in the centre-local relations: Political dynamics in the Middle East,’ *M.E.S. Series* 28, p.34-63.

¹⁸ Table from Magstadt, 2005, p.500.

¹⁹ Sadik, N. 1991. *Population policy and programs: Lesns learned from two decades of experience*. New York University Press, NY, p.3.

²⁰ Cleland, J. 1985. Marital fertility decline in developing countries: Theories and the evidence. In *Reproductive change in developing countries: Insights from the world fertility survey*. Cleland, J. and Hobcraft, J. (ed). Oxford University Press, Oxford, p.223-252.

²¹ Data Collection: data from censuses, survey, vital registration Research: information on causes and consequences of fertility, mortality, migration, and population growth etc. Dissemination: process by which research data is made available to population policy planner. Policy Formulation: the formulation and

Policy making in Egypt



China's national population policy response

This section looks at the Chinese population policy. It argued that between 1957 and 1979 China experienced three phases of policy development: 1) the early awareness stage of 1957, 2) the great famine stage of 1963, and 3) the one child policy stage of 1979. With this chronological order in mind, this section examines the question: which policies have been adopted to address population growth in China? Secondly, we review the relationship between population and development by using our demographic concepts such as the demographic transition and the Malthusian population trap.

China's family planning policies achieved great success in the field of population, and the country experienced one of the fastest demographic transitions in world history.²² Initially in the most years between 1952 and 1976, China experienced a strong population growth of more than 2%²³, a rate twice the pre-Communist era figure.²⁴ As we have seen, in the pre-Communist China, internecine warfare, foreign invasions and general disorders over many chaotic years continued to cause extremely high mortality; a rate of 38 deaths per 1000 during the first half of the 20th century.²⁵ Population underestimation reinforced the perception of demographic stagnation. Thus when the first national census was taken in

design of policies which reflect research and the goals and priorities of an agency or country. Policy Implementation: the translation of policies into programs. Policy Evaluation: the continuous assessment, monitoring, and evaluation of programs and policies. Policy Analysis: continuing activity drawing on research, policy planning, implementation, and evaluation to help identify issues that are insufficiently understood or overlooked in policy development. All information presented on population policy making procedures in the below tables come from Sadik, 1991, p.4-6.

²² Wang, p.42.

²³ Chen, T. 1981. *The population of modern China*. Tianjin: Tianjin People's Publishing Co. p.16.

²⁴ Wang, 1991, p.42..

²⁵ Yuan, H.T. Zhang, T. Ping, Y. Li, J. and Liang, Z. 1992. 'China's demographic dilemmas,' *Population Bulletin*. A Publication of the Population Reference Bureau, Inc, p.4.

1953 after the end of the Japanese invasion and the Chinese civil war, the Communist Party “recorded a larger than expected population of 583²⁶ million.”²⁷

Greatly surprised at this result, the Central Committee of the Communist regime²⁸--which had previously estimated China’s population to be 470 million, suggested a need for demographic transition through population planning.²⁹ Thus, by the end of 1954, a research committee on the problems of birth control was established under the direction of the Ministry of Health of the State Council and it was made responsible for the analysis of the problems relating to population growth and for drafting measures to promote the practice of birth control.³⁰ On 6th August 1956, the Ministry of Health further issued a directive order--under the supervision of China’s future leader Deng Xiao Ping, to every provincial, regional and local health unit instructing them to

make all preparations to instruct and assist all those who have such needs [in family planning] in order to help them plan their birth, adjusting spacing of children...and protecting the health of mother and children so as to reduce the need for induced abortions and the distress and danger that are associated with the operations of abortion.³¹

The issue of this directive was followed by a famous publishing event, an article entitled *New population theory* on March 15th 1957 by population expert Ma Yin Chu. This provided the theoretical basis for family planning policy. In this article, Ma made three suggestions:

1. A population census must be carried out...and targets to reduce population growth rates should be included in the five year plan.
2. Numbers of births should be controlled. This must be done first through popular propaganda to enable the broad masses to be aware of the importance of birth control and to put methods into practice.
3. Family planning. To control population growth, the government must provide for the widespread distribution of contraception information and materials.³²

Ma’s viewpoint, that it was reasonable for government to have the right to interfere in birth and population control, was approved by senior official Liu Shaoqi at the Eighth National Congress in 1957 concerning the recommendations of the second five year plan

²⁶ ‘Year-end population totals, 1949-1990,’ *National statistical Bureau of the People’s Republic of China*.

²⁷ Yuan, Zhang, Ping, Li and Liang, 1992, p.4-5.

²⁸ Wang, 1991, p.42.

²⁹ Population Research Centre 1986. Chinese Academy of Social Sciences 1986. *Almanac of China’s population*, Beijing: China, p.807.

³⁰ ‘Should properly practice birth control,’ *People’s Daily News*. Beijing 55 March 1957, p.1.

³¹ Yu, Y.C. 1979. ‘The population policy of China,’ *Population Studies*. Vol. 33, no. 1, p.126.

³² Ma, Y.C. 1979. *Neo population theory*. Beijing: Beijing Publishing House, p.57.

of national development:

as for the problem of family planning, does our party, our health institutions and propaganda agencies encourage or oppose [birth control]? Some people oppose and some people have written articles. Now we like to establish one point, that is the Communist party agrees with a policy of birth control....This should have crystallized the government's position on population and development planning in China.³³

Prior to Liu's speech in September 1957, Chairman Mao Zedong similarly stressed the problem of population control at the Eleventh Supreme Conference of State Affairs on February 27th. Mao announced that "it is out of the question that human beings practice anarchy completely in respect of reproduction; births should be planned...otherwise it will be too late to carry out birth control when the population has reached 800 million."³⁴ These statements clearly indicate that as early as the 1950s, the top level of China's government had reached an early agreement that the country's population growth was associated with the prospect of Beijing's socio-economic development.³⁵

The Great Famine: 1958-1976

However, it was not long before China's internal political struggles prompted stagnation of the country's progress towards population planning. Between mid-1957 to early 1962, early opinions established through China's population council promoting family regulation were subjected to continuous criticism and "a number of specialists and scholars who advocated family planning to control population growth were labelled as capitalists" and persecuted by communist elements.³⁶ As Wang claimed: "concern with the population problem during this tortuous period of anti-rightist struggle became a prohibited sphere of debate with the result that family planning efforts were brought to a virtual standstill."³⁷ In January 1958, Chairman Mao reversed his position on family planning at the Supreme conference of State Affairs that:

Of all things in the world, people are the most precious...and that before long there will arise a new China with a big population and a great wealth of products, where life will be abundant and culture will flourish....All pessimistic views are utterly groundless. In short, revolution plus production can solve the problem of feeding the population.³⁸

³³ Liu, S. Q 1986. *Call for birth control*, Population Research Centre 1986. This government announcement was presented at the Eight Congress of the Chinese Communist Party on 16th September 1957. Its information could also be found on 'Report on the proposals concerning the second five year plan for the development of national economy,' *Beijing publisher* 1957. p.68-69.

³⁴ Mao, Z.D. 1957. 'Concluding speech of the Eleventh Conference of State Affairs,' *CCCPC*, China. Also see, Wang, 1991, p.45.

³⁵ Wang, 1991, p.45.

³⁶ Wang, 1991, p.45.

³⁷ Wang, 1991. p.45.

³⁸ Mao, Z.D. 1961. *Selected work of Mao Zedong*. Beijing: Foreign Languages Press. Vol. 4. p.452.

This re-statement of the policy proclaimed in 1949 in favour of revolution plus production as an approach to the third stage of the demographic transition where economic development will produce zero population growth was a marker for the start of infamous campaigns. These include “the Great Leap Forward” and the “Cultural Revolution.” Unfortunately, these ambitious movements turned out to be dreadful economic failures and a Malthusian discourse of population check came into full play. From this perspective, the only check to population growth would be through epidemics, infanticide and ultimately starvation as a result of land scarcity.³⁹ Indeed one consequence of the “Great Leap Forward” was a striking decline of food production in three consecutive years between 1959 and 1961, resulting in drastic deterioration of the standard of living, massive fertility deficits and excess death.⁴⁰ Take the case of Sichuan province as an example: food availability per person was on average only about 1400 calories, compared with the 2200⁴¹ calories needed to sustain the rudimentary life requirements of a person. As a result, the crude death rate in Sichuan increased from 17 per 1000 in 1959 to 69 per 1000 in 1960 and to 100 per 1000 in 1961. Overall, almost 10 million people died in Sichuan alone, and China’s national population growth rate was reduced to a *negative* 0.46%.⁴²

Conditions were little better the following year; the period between 1962 and 1965 revealed a measure of economic revival and rejuvenation of population control policy but the advances proved short lived. Further evidence of a Malthusian population check was presented in the form of the Great Cultural Revolution from 1966. Bramall⁴³ and Andres have observed that: “only about 33% of all deaths amongst children aged between 6 and 15 were actually reported. On this basis, around 35 million excess deaths could have occurred.”⁴⁴ The population decline that occurred in the 1960s was therefore, not a result of China’s demographic transition but a clear evidence of Malthusian positive check resulting from political chaos and starvation.

What was even more unfortunate was that because of the population check that occurred as a result of the “Great Leap Forward” and the “Cultural Revolution,” many advocated that it was no longer necessary to purposely regulate people’s fertility behaviour. As a result, following Mao’s death and the end of Cultural Revolution in 1976, crude birth rates increased drastically from 26.3 per 1000 in 1966 to 35 per 1000 in 1977. This was followed by a net population increase of 122 million people with an annual net increase of more than 22 million, giving a growth rate above 2.5% per year.⁴⁵

³⁹ Sen, A. 1997. ‘Population policy: authoritarianism versus cooperation,’ *Journal of Population Economics*, Vol. 1, no. 1, p.6.

⁴⁰ Peng, X. 1987. ‘Demographic consequences of Great Leap Forward in China’s provinces,’ *Population and Development Review*. Vol. 13. p.301.

⁴¹ Bramall, 2009, p.128.

⁴² Bramall, C. 2006. ‘The last of the romantics? Maoist economic development in retrospect,’ *China Quarterly*. Vol. 187, p.69.

⁴³ Bramall, 2009, p.145.

⁴⁴ Andreas, J. 2002. ‘Battling over political and cultural power during the Chinese culture revolution,’ *Theory and Society*. Vol. 31, no. 4, p.497.

⁴⁵ Peng, P. 1990. ‘Population problems and countermeasures,’ *Beijing Review*. Vol. 33, no. 19, p.17.

Third Family Planning Program and the One Child Policy: 1977 to the present

The year of 1977 also marked the beginning of a new social order in China as the third family program was introduced after the breakdown of the first two failed attempts launched in 1957 and 1966. Unlike previous campaigns, the stated goals of this third campaign were very clearly to promote three norms known as “later marriage,” “longer birth interval,” and “fewer children.” As Huang explained:

If the whole nation adheres to the principle of “late, sparse and few” there will be more time and energy to be devoted to productive work outside the home, especially in the case of mothers. With the general masses practicing fertility planning, parents will have more time to participate in political study and strengthen their political awareness as a prerequisite to raising work efficiency.⁴⁶

With regard to late marriages, despite article 4 of China’s 1949 marriage law proclaiming that a marriage was allowed only after the man has reached the age of 20 and the woman has reached age of 18,⁴⁷ men were not encouraged to marry until they reached age 25 for rural areas and 27 for urban areas.⁴⁸ During 1977, this “fewer” campaign also aimed at two children per couple in urban areas and four children in rural regions.⁴⁹ After 1977 however, rural couples were also limited to two children and this eventually became the one child policy in 1979.

With a net annual population increase of more than 22 million, China spent tremendous energy on regulating couple’s reproductive behaviour with well organized fertility planning policy. At the Second Session of the Fifth National People’s Congress, Premier Hua Guofeng proposed that the rate of population growth be gradually reduced to 5 per 1000 by 1985, and that by the year of 2080 (a century from then), birth and death rates should be in balance, and this meant that a full demographic transition should have been achieved.⁵⁰ This represented Beijing’s leadership with five possible scenarios. In the first scenario, an average fertility rate of 3 per couple, China’s 1975 birth rate, would produce a country with 4.26 billion people by 2080, almost equal to the population of the entire world at that point.⁵¹ In the second and third prediction, birth rates of 2.3 and 2.0 would expand the population size to 2.12 billion and 1.47 billion respectively, by 2080. The next estimate reduced the fertility rates to 1.5 and in terms, decreased population to 777 million. The final scenario restricted each family to one child. By holding the birth rate at this level for the next entire century, Beijing could reduce its population to 370 million, a

⁴⁶ Huang, L. 1982. ‘Planned fertility of one-couple/one-child policy in the People’s Republic of China,’ *Journal of Marriage and Family*. Vol. 44, no. 3, p.778.

⁴⁷ Yang, C.K. 1959. *The Chinese family in the communist revolution*. Cambridge, MA: Harvard University Press. p.221.

⁴⁸ Tso, A.H. 1978. ‘Declining population growth,’ *Beijing Review*. Vol. 14, p.20.

⁴⁹ Liu, C. 1979. ‘Women’s planned fertility work is progressive,’ *Women of China*. Vol. 8, p.22.

⁵⁰ Wang, N. 1980. ‘Solving China’s population problem,’ *China Reconstructs*. Vol. 29, p.6.

⁵¹ Song, J. 1981. ‘Population development-goals and plans,’ *China’s population problem and prospects*. Beijing New World Press, p.28.

size comparable to that of the United States.⁵² Given the seriousness of the population problem, China's scholars determined in an article from *People's Daily News* that:

The first three solutions obviously cannot be adopted. The fourth scenario, based on a 1.5-child family, will also be disadvantageous to our country's modernization...and to the raising of the people's standard of living. The key to the entire problem...is to lower the average birth rate to 1 before 1985, that is the practice of "one child per family."⁵³

In March 1979, China's one-child policy was officially introduced in Sichuan province on a trial basis to encourage birth control in "a province [that] consisted of 10% of China's population."⁵⁴ This was done through education, persuasion, and propaganda coupled with economic rewards. In order to encourage couples to voluntarily control their fertility behaviour, significant financial incentives were used to reward those parents who had only child and who undertook not to have a second. This came in the form of a government sponsored monthly payment plan of five Yuan a month (with an average working person making 100 Yuan a month), for childcare until the child was 14 years old.⁵⁵ Employees with only one child in state owned enterprises were entitled to receive the same amount of accommodation as a family with many children and priority would be given to the single child either in admission to schools or in allocating financial supplements.⁵⁶ Due to those tangible economic rewards for smaller family size, Sichuan province enjoyed great success in fertility planning, successfully implementing central government policy on a local level. Li Chengying, the deputy head of the provincial Public Health Bureau was pleased to note that:

According to statistics, from 1950 to 1978 more than 60 million children were born in the province based on a fertility rate of three per couple. If every couple gives birth to only one child from 1979 onwards, there will only be an increase of 12 million people by the end of this century.⁵⁷

The speed of China's demographic transition was thus remarkable, even though as the following argument shows, disagreement had been loud and long over the negative effects of the family planning programs and parental over-indulgence in relation to the country's overall economic development.

China's one child policy: debates and effects

Though they were low-income workers, Pan Na's parents spared no expense when it

⁵² Greenhalgh, S. 2003. 'Science, modernity, and the making of China's one-child policy,' *Population and Development Review*, Vol. 29, no. 2, p.181.

⁵³ Song, J, Tian, X.Y, Li, G.Y, Yu, J.Y. 1980. 'Concerning the issue of our country's objective in population development,' *People's Daily Newspaper*, p.5.

⁵⁴ Huang, 1982, p.779.

⁵⁵ Huang, 1982, p.779.

⁵⁶ Cheng, C.Z. 1979. 'Families with one child encouraged,' *Beijing Review*. Vol. 15. p.6-7.

⁵⁷ Ouyung, H. Y. 1979. 'Marked results in China's most populous province,' *Beijing Review*. Vol. 46, p.23.

came to providing for their only daughter. Their small apartment only possessed limited living space, yet Pan Na enjoyed having a room of her own. On one Saturday afternoon, Pan Na's grandmother started get into her bed while Pan Na was doing her homework.

“What are you doing?” Pan Na cried in dismay. “Your father wants to watch TV but your grandmother wants to sleep, so I told her to sleep in your bed,” Pan's mother replied. “Do not let her lie on my bed. She is dirty and she smells!” Shocked, Pan's mother cried: “Your grandmother never goes to commercial showers because she wants us to save money so we can buy good cloth and nice food for you...How dare you complain that [she] is dirty?”⁵⁸

A comparative analysis of 375 single-child families with 425 non-single child families in Tianjin area in 1980 similarly revealed that singletons were more likely to display egocentric behaviours such as selfishness, jealousy, uncooperativeness, laziness, dishonesty and were generally less able to take care of themselves. For example, a social experiment conducted in Tianjin's toy city shopping mall demonstrated that whenever children could not get their way 75% of children aged between three and six from the single families tended to throw, kick and beat their mothers, and scream until their wishes were fulfilled. By comparison, only 43% of non-single children demonstrated similar behaviour.⁵⁹ Complicating the matter further, rearing an often spoiled only child required a great deal of parental sacrifice, which was always a hotly debated issue in China's various magazines. One such magazine showed parents skipping meals to raise money for their only son's education, while the boy falls asleep doing his homework.⁶⁰

On the other hand, supporters of the one child policy also presented several influential case studies that publicized as heroic mothers who supported planned fertility. In April 1976, a woman reported that she was divorced after four years of marriage for family infertility.⁶¹ The woman later remarried a divorced father with five children, of whom she was a good mother to. When she found herself pregnant to her new husband due to a faulty contraceptive method, she initially went into a period of indecisiveness and confusion. However, her enthusiasm for planned-fertility overpowered her desire to have her children, and she volunteered for an abortion.⁶² She decided to have a sterilization procedure and become a fulfilled parent for her existing stepchildren. This model woman was later on rewarded for her generous spirit of self sacrifice by China's Family Planning Commissions and was appointed as a leader in the planned fertility movement in Foochow city in Fukien province.⁶³ Emotional personal anecdotal evidence such as this had never happened in Chinese history prior the advent of one child policy.

⁵⁸ Fong, V.L. 2004. *Only hope. Coming of age under China's one child policy*. Stanford University Press. p.159.

⁵⁹ Bian, Y. 1980. 'A preliminary analysis of the basic features of the life styles of China's single child families,' *Social Sciences in China*. Vol. 8. p.189.

⁶⁰ Yiu, L. 1979. 'This kind of education,' *Women of China*. Vol. 3, p.43.

⁶¹ Cheng, L. 1980. 'Why can't divorce cases be appealed in court?' *Women of China*. Vol. 8, p.38.

⁶² Huang, 1982, p.781.

⁶³ Suen, Y. 1980. 'A leader in planned fertility,' *Women of China*. Vol. 19, p.43-44.

Other publications argued that a fully demographic transition occurs as a result of macroeconomic development. Since China's economic reform towards a free market economy, initiated in 1979 and continued into the present, "the idea that low fertility would promote modernization became an increasingly accepted component of national as well as local officials' rationale for fertility limitation policies."⁶⁴ As an article from China's Daily News argued:

if we do not implement planned population control and let the population increase uncontrollably, rapid population growth is bound to put a heavy burden on the state and the people, cripple the national economy, adversely affect the state's construction, the people's living standards and their wealth, and slow down the progress of modernization.⁶⁵

Since the early 2000s, a number of studies presented China alongside major industrialized nations on per capita measurement of developments. One typical study compared China, whose income had risen modestly from 4990 USD to 6600⁶⁶ USD between 2002 and 2010, unfavourable with the United States, whose per capita income increased from 37500 to 46400⁶⁷ in the same period. Such a study presented China's backwardness with a striking visibility.⁶⁸ Thus, a Communist official from a Prefecture and Municipality Family Planning Commission proclaimed in a public interview that: "we want to bring the function of people into full play, to build socialism at a still quicker pace, and to raise the level of people's material and cultural life at a still faster speed."⁶⁹ China's rapid demographic transition towards zero population growth would enable the people of the whole country to "live more beautifully and more meaningfully."⁷⁰ In short, supporters of planned fertility saw the one child policy as a rational, enlightened government's careful planning to improve the lives of its people.⁷¹

Overall China's population initially increased tremendously between 1957 and 1976. Meanwhile, ambitious political and economic campaigns such as the "Great Leap Forward" and the "Cultural Revolution" failed to increase productivity or to improve living standards, and yet the population continued to expand from 1962 onwards and there seemed no way out of this predicament.⁷² Thus when China's family planning policies produced rapid demographic transition in the 1970s, it took the country by surprise and various magazines and academic publications were published debating the

⁶⁴ Fong, 2004, p.72.

⁶⁵ Renmin Ribao, People's Daily News 1979, p.205. Fong, 2004, p.72.

⁶⁶ CIA Fact Book

⁶⁷ CIA Fact Book.

⁶⁸ Greenhalgh, 2003, p.175.

⁶⁹ Fong, 2004, p. 72. Institute of Population Research 1980. Population theory. In *Population theory in China*. Yuan, H.T. (ed) White Plains, New York: M. E. Sharpe, p.42. And Pritchett, L and Summers, L. 1996. 'Wealthier is happier,' *Journal of Human Resources*. Vol. 31, no. 4. P.866.

⁷⁰ Fong, 2004, p. 72.

⁷¹ Fong, 2004, p.72.

⁷² Yuan, Zhang, Ping, Li, and Liang, 1992, p.7.

effects and the consequences of the one child policy.

China's provincial policy responses

Chinese fertility decelerated greatly between the 1970s and the 1980s. However, this significant decline occurred mainly in economically development urban regions. Does this mean that the limits of China's demographic transition may have been reached given China's current level of socio-economic development? To explore the efficacy of China's policies, the following section presents a series of regional case studies from Shanxi and Liaoning provinces. This allows us to discuss the strengths and weaknesses of Chinese programs.

Compared to the developed areas of China, Shanxi province has not greatly benefited from the country's economic development.⁷³ The income inequalities between Shanxi's urban and rural areas have greatly widened since the 1980s⁷⁴, with at least 12% of the population living in poverty.⁷⁵ The province is also considered a low achiever in its rural development, with a relatively low average income of 265 USD in 2004, compared with Chinese farmers' national average of 305 USD.⁷⁶ On paper, Shanxi province's family planning program were regulated and implemented by eight local government authorities that reinforced the one child policy and determined the eligibility for a second child. In actuality however, some 46 out of Shanxi's 119⁷⁷ counties were totally exempted from the one child policy due to its extreme poverty, high child mortality and strong local resistance.⁷⁸ This means that rural Shanxi is a low performer in China's population planning program with a TFR ranged between 1.7⁷⁹ and 3.3⁸⁰, a figure substantially higher than China's national average of 1.51.⁸¹

China's local response: Hongtong county of Shanxi province

In contrast with extreme poverties associated with other counties, the Hongtong county of Shanxi province is a prosperous area by local standards.⁸² The county's tourism, commerce and light industries have attracted a considerable number of rural workers, who are now increasingly becoming the major contributor to the economic strength of the local economy.⁸³ In 2003, Hongtong county had a per capita income of 3191 USD, 7%

⁷³ Cheng, J. and Zhang, M. 1998. 'An analysis of regional differences in China and the delayed development of the central and western regions,' *Issues and Studies*, Vol. 34, no. 2, p.38.

⁷⁴ Garcia, B.C. 2004. 'Decentralization and local processes of social development in PRC: The case of education in Shanxi county town,' *Institute for International Studies*, p.4.

⁷⁵ Goodman, D.S.G. 1999. King coal and secretary Hu: Shanxi's third modernisation. In *The political economy of China's provinces*. Hendrischke, H. and Feng, C. (ed). Routledge, p.211.

⁷⁶ Figures are from

<http://report.drc.gov.cn/drcnet/corpus.nsf/0/4953bbc0e620489248256e36000db02c?OpenDocument>

⁷⁷ Shanxi Statistical Year Book 2003. China: Beijing Publisher.

⁷⁸ Information on Shanxi available at Shanxi government's official website: <http://www.shanxigov.cn>

⁷⁹ National Statistical Bureau 2003. *Highlights of data from 2000: The fifth national population census*. Beijing Internal Publication, at report 1.4.

⁸⁰ Shanxi Statistical Year Book 2003.

⁸¹ CIA Fact Book.

⁸² Garcia, 2004, p.4.

⁸³ Hongtong's prosperity is also responsible for higher standards of income, "which in 2002 were 23% higher than the provincial average" of 2595 USD. Overall, Hongtong county has a population of 700,000

higher than the provincial average.⁸⁴ Despite this, the annual educational expenses for academic year 1999 to 2000 ranged between 125 US dollars for private high school to 563 for university foundation studies, to 1250 for Bachelor degrees and 4375 US dollars for Masters and Ph.D. education.⁸⁵ It thus seemed clear that education was no doubt the biggest financial burden for any Hongtong families. Yet Hongtong parents seemed willing to invest as much money as was necessary in order to provide their children with the best education possible. This is because “education is seen as one of the most important ways through which not only the individual but also the whole household can better their socio-economic standing.”⁸⁶

This was a strong reflection of Hongtong’s demographic transition which appears to offer an explanation of population growth through motivational factors, especially the value of children.⁸⁷ In stage two of the demographic transition, children were deemed economically valuable mainly because of families’ need of child labour. However, in economically more developed Hongtong county, agricultural technology can substantially increase a household income regardless of children’s labour contribution.⁸⁸ Nevertheless the opportunity to take full advantage of labour intensive technology introduced through Hongtong’s commercialization of the economy are meaningful only to those with knowledge, skills and the social recognitions achieved through extended education.⁸⁹ This means that the Hongtong parents recognized the fact that the “advantage of educating a child is that the child will earn a higher income as a quality adult [and] therefore be able to provide more generous [financial] security.”⁹⁰ Not surprisingly in 2003, Hongtong county had a TFR of 1.5 children per woman,⁹¹ a figure somewhat lower than Shanxi’s provincial average of 1.7⁹² and much lower than rural Shanxi’s average of 3.3.⁹³ It is thus reasonable to suggest that there is a strong connection between the success of the one child policy and the level of socio-economic development of a specific area in question.

China’s local response: Dalian City

An examination of social status, income and educational levels of low fertility families in the Dalian City of Liaoning province further suggests that China’s shift towards the third stage of the demographic transition is directly associated with the country’s level of

residences with over 60%[#] rural population and in terms of prosperity it ranks 8th among the 24 prefectural and the 199 county economies in the Shanxi province. See Garcia, 2004, p.4

⁸⁴ Shanxi Statistical Year Book 2003.

⁸⁵ Fong, 2004, p.95.

⁸⁶ Garcia, 2004, p.6.

⁸⁷ Nardi, B.A. 1981. ‘Modes of explanation in anthropological population theory: Biological determinism vs. self-regulation in studies of population growth in third world countries,’ *American Anthropologist, New Series*, Vol. 83, no. 1, p.33.

⁸⁸ Zhang, 1999, p.337.

⁸⁹ Zhang, 1999, p.337.

⁹⁰ Eswaran, M. 2002. ‘The empowerment of women, fertility, and child mortality: Towards a theoretical analysis,’ *Journal of Population Economics*, Vol. 15, no. 3, p.444.

⁹¹ Shanxi Statistical Year Book 2003.

⁹² Gu, Wang, Guo, Zhang, 2007, p.140.

⁹³ Shanxi Statistical Year Book 2003.

industrialization.⁹⁴ Since the 1990s, Dalian officials invested heavily in the development of trade, domestic investment, tourism, public transportations⁹⁵ and nicknamed their city the “Hong Kong of the North”.⁹⁶ The city includes three urban districts of Zhongshan, Xigang and Shahekou as well as six rural and semi-rural areas of Kaifa district, Jinzhou district, Zhuanghe village city, Wafangdian village city, Pulandan village city and the Changhai county.⁹⁷ Due to the city’s enormous progress in the industrialization of the economy, Dalian residences are relatively prosperous by Chinese standards.⁹⁸ However its income range varies greatly among its districts⁹⁹, from a low of 230 USD in Changhai county to a high of 12,650 in urban Zhongshan.¹⁰⁰

In comparison with the Changhai county, urban Zhongshan is also a high performer in China’s family planning program. When the one child policy was first introduced to urban Zhongshan in the 1980s, its provincial authorities initially educated a number of family planning workers for the promotion of the fertility regulation programs and for the knowledge of contraceptive use.¹⁰¹ The responsibilities of these social workers were later expanded in the 1990s to conduct face to face fertility planning promotion to all newly married couples in Zhongshan’s marriage registration office.¹⁰² These workers in addition maintained a notebook on women’s contraceptive practice after giving birth to their first child, and organized sterilization and abortion to be operated by authorized and experienced physicians.¹⁰³ In contrast to urban Zhongshan, Changhai county’s policy program was enforced rather leniently where children were deemed as an important source of agricultural labour. While the county’s official position required the couples with excessive birth to pay a financial penalty of 500 USD, the harsh reality of Changhai families, with a per capita income of 230 USD made this policy enforcement almost impossible.¹⁰⁴ What was promoted instead was the acceptance of a two children policy as an adequate level of fertility achievement by Changhai’s local officials.

Overall the examples indicated in the diverse regions of Shanxi and Liaoning provinces strongly indicates that the one child policy tended to be strict among economically developed regions and lenient in rural areas with real hardship.¹⁰⁵ This is shown in the

⁹⁴ Nardi, 1981, p.33.

⁹⁵ Hoffman, L.M. 2000. ‘The art of becoming an urban professional: The state, gender, and the subject-formation in late socialist China,’ *PH.D. Dissertation, University of California, Berkeley*.

⁹⁶ Fong, 2004, p.12.

⁹⁷ Fong, 2004, p.12.

⁹⁸ Xinhua News Agency . <http://news.xinhuanet.com>

⁹⁹ England, 2005, p.34.

¹⁰⁰ Dalian City Archives Office 2006. *Dalian Year Book 2005*. Dalian Publisher.

¹⁰¹ The same policy was also enforced in Heilongjiang province’s Wangkui county since the 1980s. See Kaufman, J. Zhang, Z, Qiao, Z and Zhang, Y. 1989. ‘Family planning policy and practice in China: A study of four rural counties,’ *Population and Development Review*, Vol. 15, no. 4, p.715.

¹⁰² Laquian, A. 1991. Urbanisation in China. In *Population and development planning in China*. Wang, J. and Hull, T.H. (ed). Allen & Unwin, p.241.

¹⁰³ Nie, J.B. 2005. *Behind the silence. Chinese voices on abortion*. Rowman & Littlefield Publishers, Inc, p.44.

¹⁰⁴ Dalian Year Book 2005.

¹⁰⁵ Gu, Wang, Guo, Zhang, 2007, p.139. Also see Kaufman, Zhang, Qian, Zhang, 1989, p.719. This was evident in a fertility survey conducted by Dalian City Archive Office that as of 2005, 53% of the two children families were found in Changhai county, Office that as of 2005, 53% of the two children families

TFR figures of the two areas, which reveal that the implementation of China's family planning program tended to be more relaxed in the country's vast countryside, where the parental desire for child labour clashed sharply with the nation's official discourse that low fertility would bring about modernization. This suggests that the limit of China's demographic transition may have been reached given the country's current level of socio-economic development.

Egypt's national population policy response

Much earlier than China, debates about birth control in Egypt had their roots in the 1930s, when concerns first arose concerning the condition of the peasantry and urban lower classes, the health of mothers and children, and the state of Egyptian economic development.¹⁰⁶ In short, there was a fairly early and genuine fear of overpopulation.¹⁰⁷ Realizing the early Egyptian concern, this section looks at the research question: which policies have been adopted to address population growth in Egypt? It is organised into three parts that attempt to make a contribution to our overall thesis by examining different phases of the Egyptian population policy response in a chronological order. But first, let us begin by examining the early population debates in Egypt.

Wendell Cleland, a sociology professor at the American University in Cairo was credited with having written the first comprehensive study of population issues in Egypt. With a strong Malthusian overtone, Cleland concluded in 1937 that Egypt's population was already growing at a rate that exceeded the country's ability to support itself; Cleland estimated that the country possessed an adequate living space for 12 million people, but already had more than 16 million.¹⁰⁸ This meant that the country's rapid population growth would lead to poverty and poor living conditions among the rural and urban lower classes. In what is now identified as Malthusian preventive checks¹⁰⁹, Cleland recommended: "increasing and conserving natural wealth, including all available arable land--which would involve the [construction] of...high rise housing/high density housing for the middle class so as to return some land to cultivation."¹¹⁰ He argued that much similar to the Chinese practice of the "later", "longer" and "fewer" campaign in the 1970s, Egypt could reduce births by introducing legislation to raise the age of marriage,

were found in Changhai county, a figure substantially higher than urban zhongshan's 2.5%. See Gu, Wang, Guo, Zhang, 2007, p.139. Also see Kaufman, Zhang, Qian, Zhang, 1989, p.719 and Dalian Year Book 2005.

¹⁰⁶ Fargues, P. 1997. 'State policies and the birth rate in Egypt: From socialism to liberalism,' *Population and Development Review*, Vol. 23, no. 1, p.116.

¹⁰⁷ Ali, K.A. 2003. *Planning the family in Egypt*. Austin: University of Texas, p.38.

¹⁰⁸ Cleland, W. 1937. 'Egypt's population problem,' *L'Egypte Contemporaine* 137. p.67-69.

¹⁰⁹ In what was now identified as the preventive checks, Malthus argued that factors such as human restraint, sex education or late marriage might have the potential to reduce birth rates. However, when these preventive checks failed to be effective or were absent altogether, "typically among the poor", Malthus assumed, the idea of an artificial death rate or positive check, came into play. In this scenario, the only check to population growth would be wars, epidemics, infanticide and ultimately starvation. This starvation resulting from overpopulation would not only increase mortality rates dramatically, but would also force people, through the apparent inevitability of poverty, to have smaller families. See Sen, A. 1997.

"Population, policy: authoritarianism versus cooperation," *Journal of Population Economics*, Vol. 10, No. 1, p.6.

¹¹⁰ Cleland, W. 1939. 'A population plan for Egypt,' *L'Egypte Contemporaine* 195, p.467.

and promote other measures to reward low fertility and penalize high fertility.¹¹¹ In addition, Cleland stated, as early as 1936 that increasing women's labour force participation would delay age at marriage and hence would be a good solution in theory to the reduction of population--although paid female employment was not publicly approved at the time.¹¹²

The strong Malthusian discourse presented in Cleland's work such as the negative consequence of population growth, child mortality, lack of land resources and the need for female employment, were repeatedly debated and discussed among Egyptian intellectuals in universities, public lectures, and conferences.¹¹³ One of these most important debates was conducted at a conference on family planning "held by the Egyptian medical association in April 1937."¹¹⁴ While the conference was not the first time in which government officials and policy makers expressed the desire of improving the general condition of the Egyptian economy, it was one of the first times in which the nation's prosperity became associated with limiting family size.¹¹⁵

However what was at issue among the participants of the 1937 conference was the debates surrounding the relationship between population and development.¹¹⁶ Pointing out the history of European demographic transition,¹¹⁷ Abdel Hamid el-Daly--a population expert from Cairo, outlined an alternative developmental projection for Egypt, in which rapid economic development accompanied by higher levels of industrialization

¹¹¹ Robinson, W. and El-Zanaty, F. 2007. *The evolution of population policies and programs in the Arab Republic of Egypt*. From the global family planning revolution. Robinson, W. and Ross, J. (ed). The World Bank. Washington. DC, p.15.

¹¹² Cleland, W. 1936. *The population problem in Egypt: A study of population trends and conclusion in modern Egypt*. Lancaster, PA: Science Press. p.136.

¹¹³ Huston, P. 1992. *Motherhood by choice: Pioneers in women's health and family planning*. New York: Feminist Press at the City University of New York, p.29.

¹¹⁴ Bier, 2008, p. 57. Also see Salam, S.A. 1937. 'Egypt fatwa on birth control in the 20th century,' *Journal of Egyptian Medical Association*, p.19.

¹¹⁵ Shakry, O. 2002. 'The great social laboratory: Reformers and utopians in 20th century Egypt,' *Ph.D. Thesis*, Princeton University, p.183.

¹¹⁶ Contrary to the Malthusian believe that overpopulation leads to underdevelopment, there are several very sparsely populated countries in Africa, Latin America and also in some parts of Asia, which even if their present rate of growth is above 2% will not reach the density level of advanced world for many years. For example, Kuumba indicates that Africa has a area of 30 million Km square, almost three times as large as Europe. Yet, its population is approximately 50% smaller than that of Europe. However, prior to the advent of imperialism--through which about 100 million people were turned into slaves, Africa's population of 130 million was even bigger than Europe's 80 million. This meant that Malthusian supporters failed to penetrate deeper issues concerning global impact on population expansion and they totally ignored the facts of colonial exploitation. See Kuumba, B. 1999. 'A cross cultural/class/gender critique of contemporary population policy: The impact of globalization,' *Sociological Forum*. Vol. 14, no. 3, p.452.

¹¹⁷ Unlike Egypt, fertility declined in most of the industrialized world from the late 19th century until the 1930s when much of Western Europe experienced, for the first time in history, total fertility below two, with net reproduction rate below replacement level. The result was that below-replacement level fertility would continue to characterize much of Europe. Nimwegan has observed that with Germany reaching a fertility rate of only 1.42, Italy 1.32, Austria 1.39, the United Kingdom 1.66, Russia 1.41, and Japan 1.2 in 2010, these countries have a stable population growth with virtually equal fertility and mortality rates. For the works of Van Nimwegan see: Nimwegan, V. Marika, N. and Beets, G. 2002. 'Late motherhood in the Netherlands. Current trend, attitudes and policies,' *Genus*. Vol. 58, no. 2, p.13.

would require a large working population and “mitigate against the negative effects of population growth.”¹¹⁸ The declining fertility rate through the demographic transition consequently, was a natural outcome of national development that all nations eventually underwent.

Through the state’s provision of the basic essence of ‘modern civilization’--running water, toilets, electric lights, the rate of Egyptian peasant reproduction was expected to drop, further improving standards of living and aiding Egypt’s transformation from a backward agricultural economy to a modern industrialized one, as had happened in Europe 100 years earlier.¹¹⁹

This debate re-emerged in 1952, as Hussein Al-Shafa, the Minister of Social Affairs of the post-revolutionary regime, supported far-reaching policy and program intervention that attempted to address the issue of population increase.¹²⁰ Although, top governmental officials¹²¹ were not opposed to Al-Shafa’s family planning efforts,¹²² they seemed to favour the idea that “development is the best contraceptive.” As President Nasser argued in 1959:

Instead of concentrating on birth control...we would do better to concentrate on how to make use of our own resources. We live in...and make use of only 4% of our country. The rest is neglected and all desert. If we direct our efforts to expanding the area in which we live, instead of reducing the population...we will soon find a solution.¹²³

Despite Nasser’s argument however, such a voice became more marginalized as overpopulation was increasingly perceived as a problem requiring the intervention of the state. This led to the development of the first family planning program in the 1960s, the first phase in Egypt’s planning revolution.

¹¹⁸ Bier, 2008, p.59. And ‘Mushkila kabira fi nadwa kabira: tahdid al-nasl,’ *Hawa*, 20 December 1958. Also El-Daly, A.H. 1953. ‘The birth rate and fertility trends in Egypt,’ *L’Egypte Contemporaine* 44, p.7.

¹¹⁹ Thornton, A. 2005. ‘The developmental paradigm, reading history sideways, and family change,’ *Demography* 38, no. 4, p.449.

¹²⁰ Egypt’s modern political history dates from 1952 and the overthrow of Egyptian monarchy. Hence the new regime was referred to as the post-revolutionary period. See Goldschmidt, A.E. 1990. *Modern Egypt*. Cairo: American University In Cairo Press, p.68.

¹²¹ For example General Mohammed Naguib argued that: the realization of our [national development] hopes will depend on a number of factors, the most important of which is Egypt’s rapidly increasing population...But, birth control by means of contraception is hardly feasible in villages whose homes are lacking in running water...and electricity. A more effective means of controlling births, we feel is to provide the village with the rudiments of modern civilization. See Naguib, M. 1955. *Egypt’s destiny*. London: Victor Gollancz, p.160.

¹²² Rizk, H. 1995. ‘Population policies in Egypt,’ In fifth international conference of planned parenthood, Tokyo, Japan. *London international planned parenthood federation conference paper no.3*, p.27.

¹²³ Shanawamy, H. 1973. Stages in the development of a population control policy. In *Egypt: population problems and prospects*. Omran, A (ed). NC: University of North Carolina Press, p.194.

The First Phase: 1965-1972

In 1965, the government established the Supreme Council for Family Planning as a way to exacerbate the third stage of the demographic transition where there is little or no population growth.¹²⁴ The council's membership included the ministers of health, education, information, waqf (religious leaders), cabinet affairs, social affairs and the President of the Central Agency for Public Mobilization and Statistics.¹²⁵ This marked the first time in which a family planning commission had a budget based in administrative reality.¹²⁶ To ensure fertility eventually reached below replacement level, the population council decided to make full use of existing Ministry of Health and Ministry of Social Affairs facilities. Its staff members were trained to deliver services and to provide contraceptive supplies and viewed family planning efforts as directly associated with other health related improvements already under way.¹²⁷ As a result, a nationwide system of more than 2000 clinics, hospitals and other service delivery points was created virtually overnight. Meanwhile, the use of Ministry of Health facilities seemed to ensure that family planning would be fully incorporated into regular health services, a family planning program most population experts favoured.¹²⁸

By 1968, there were 228 clinics in Cairo, Alexandria, Tanta, Assiyut, Mahalla, and Kafrel-Dawwar alone. The staff members from the Ministry of Health were instructed to perform contraceptive services only to married women with their husband's written consent,¹²⁹ and who had valid health, social, or economic reasons for wanting to limit family size.¹³⁰ Due to Egypt's conservative attitudes, the number of female clients at these clinics was rather limited. Still the increase in the percentage of married women using a method of contraception which, saw Egypt's birth rate fell from 42 per 1000 in the 1950s to 35 per 1000 in the 1960s, *initially* prompted a period of rapid fertility decline,¹³¹ and Egypt seemed to have the momentum needed to achieve full demographic transition.

However, the practical reality that emerged over time was somewhat different. What had actually been created was the appearance of family planning services that existed only on paper, instead of a fully functioning delivery operation. As one observer claimed in 1971:

I was on a World Bank team...I was appalled by the desire to invest more money into government health centres. The ones I

¹²⁴ Robinson, and El-Zanaty, 2007, p.20.

¹²⁵ Robinson, and El-Zanaty, 2007, p.20.

¹²⁶ Fargues, 1997, p.118.

¹²⁷ Robinson, and El-Zanaty, 2007, p.20. Also see Farag, M. 1970. 'The origin and development of family planning in the U.A.R,' In report of Cairo Demographic Centre Annual Meeting. *Cairo: Cairo Demographic Centre*, p.56.

¹²⁸ Robinson, and El-Zanaty, 2007, p.20. Also see Godalla, S. 1968. 'Population problem and family planning in Egypt,' *Paper presented at the Fifth International Conference of Anthological and Ethnographic Sciences*, p.14.

¹²⁹ Bier, 2008, p.62.

¹³⁰ 'Marakiz tanzim al-usra tanqus al-tanzim,' *Al-musawwar News*, 8 June 1962. By Hamdy Lutfy.

¹³¹ In the first year of their operation in 1965, clinics prescribed contraception to over 879 women. By 1968, the average number of female clients reached 5000. Bier, 2008, p.62. Also see Pritchen, L.H. 1994. 'The impact of population policies: Reply,' *Population and Development Review*. Vol. 20, no. 3, p.627.

saw were poorly staffed or actually physically locked up. A poor person might go with a broken bone but there was no trust of the government system and very few people would ever go to such a place for preventive medicine. I had seen the result of government program. It was a top down bureaucratic effort that was meaningless to the general population....¹³²

Due to insufficient funding in its medical programs, Egypt's lowered birth rate of 35 per 1000 achieved during the period of President Nasser experienced a 6 point increase in the following decade, under the Presidency of Anwar el-Sadat¹³³ in the 1970s.¹³⁴ It appeared that the persistent ambivalence from government officials may have been responsible for the deficiencies of the first family planning program.¹³⁵ While the government accepted that population was becoming a problem, its development measures were centred around resettling people in new communities, reorganising existing villages, and increasing the productivity of the labour force.¹³⁶ As Mohammed al-Azhar noted a case of positive development in India as an early evidence of policy transfer:

The main reason for Egypt's low standard of living and the general misery among the lower classes is not unrestrained human reproduction...but the misdistribution of wealth and lack of development....The mere introduction of electricity in certain Indian villages has tended to reduce the rate of their increase in population. There is no reason to believe that the introduction of electricity in Egyptian villages will not have the same effect.¹³⁷

Thus many of government's officials, including President Nasser¹³⁸, showed a lack of concern concerning the country's population increase. This lack of urgency was becoming increasingly clear to mid and low level government officials charged with implementing the first phase of population control policy.¹³⁹

¹³² Robinson and Fatma, 2007, p.23.

¹³³ Fargues, 1997, p.119.

¹³⁴ CAPMS (*The Central Agency for Public Mobilization and Statistics*) Statistical year books of Egypt-Changes in the crude birth rate: Egypt 1945-95.

¹³⁵ Robinson and Fatma, 2007, p.23.

¹³⁶ Robinson and Fatma, 2007, p.23. Also see Kantner, J. 1984. 'Seminar on Egypt population policy,' A *Report by International Union for the Scientific Study of the Population*, no. 6, p.23.

¹³⁷ Shanawany, 1973, p.196.

¹³⁸ President Nasser's five year plan showed that Egypt's planners stressed increasing socio-economic development as a strategy for combating population growth. For example, the five year plan from 1965-1970 announced the construction of the New Dam on Nile at Aswan. This meant that the availability of water from this new project have the potential to produce an additional 25% inhabitable land for the nation's agricultural industry, a very optimistic development. Due to these development, Egypt's family planning efforts were put on a hold. See Weeks, J.R. Getis, A. Hill, A. Godalla, S. and Rashed, T. 2004. 'The fertility transition in Egypt: Intra-Urban Patterns in Cairo,' *Annual of the Association of America Geography* 94, p.74-80.

¹³⁹ Robinson and Fatma, 2007, p.24.

The Second Phase: 1973-1984

Some critics have attributed the deficiencies of the first family program to its hopeless simplicity.¹⁴⁰ After all, family planning meant much more than the mere attainment of replacement level fertility. It also entailed: “the material, moral and spiritual planning of life....The family must become a ‘tool’ in the development of society....Every individual in the family must be a ‘soldier in the public service’.”¹⁴¹ Some opponents of the family planning program however, feared that the unrestricted availability of contraception could promote female sexual misconduct outside the bounds of marriage and hence disturbing traditional values. For example, Shakry believed that contraception would undermine public morality and encourage female promiscuity when sold without family consent.¹⁴² This meant that family planning could be “Islamically” problematic because it undermined the social foundation of marriage--raising children, instead living for their own physical pleasures.¹⁴³

Supporters of family planning however, were quick to assert the religious communities¹⁴⁴ that birth control was not about promoting sexual freedom but about ensuring the country’s full demographic transition and hence greater economic improvements for people and the nation.¹⁴⁵ As the Deputy Minister of Social Affairs, Ahmed Khalifa put it: “the national family planning program is an attempt to transform Egypt from a backward impoverished country...to a modern industrialized nation state...”¹⁴⁶ Thus the demographic transition was directly associated with the country’s level of economic development and hence family planning became a way for Egyptian mothers to demonstrate their support and willingness for the inclusion into this national revolutionary project.¹⁴⁷ Regarding fears of female sexual misconduct, Amina Sa’id, the editor of *Hawa News*, argued that corrupt social practice came not from the presence of birth control, but from a particular culture and style of living.¹⁴⁸

Unmarried Western European and American women used contraception because birth control is a socially acceptable practice for white women to take control over their bodies and protect their attractive physical appearance....By comparison, a young and respectful Egyptian woman, as a member of an Islamic society who respected the value of the religious faith,

¹⁴⁰ Robinson and Fatma, 2007, p.24.

¹⁴¹ Abu-zeid, hikmat. Al-dawla wa al-usra bayn’ ahadayn. Proceedings of Mu’ tammar al-usra. Cairo: Ministry of Social Affairs, p.34.

¹⁴² Skakry, O. 1998. *Schooled mothers and structured play: Child rearing in turn of the century Egypt*. From remaking women. Lughad, L (ed). Cairo: American University of Cairo Press, p.17.

¹⁴³ Shanawany, A. 1969. *Islam and family planning*. Translated by Sayed Ismael. Cairo: Al-Ahram Printing House.

¹⁴⁴ Bier, 2008, p.66.

¹⁴⁵ Bier, 2008, p.66.

¹⁴⁶ ‘Tanzim nasklik asbaha wajiban wataniyan,’ *Hawa* 8 February 1964, p.36-37. Young, W. and Seteney, S. 1997. ‘Anthropological approaches to the Arab family: An introduction,’ *Journal of Comparative Family Studies*. Vol. 8, no. 2, p.12.

¹⁴⁷ Bier, 2008, p.65.

¹⁴⁸ Bier, 2008, p.66.

will not be corrupt by their immoral practice.¹⁴⁹

Thus, supporters of birth control claimed that people could not be induced to adopt family planning unless the deeply rooted cultural and psychological suspicions for contraception use were modified. Until the importance of cultural context for policy implementation was highlighted, little success could be accomplished by distributing medical supplies alone.¹⁵⁰ With this premise, a totally new phase motivated by the new policy philosophy--population and development program, was introduced in 1973.¹⁵¹ The new approach made no effort to address the specific shortcomings of the first family planning program. Instead it represented a completely different strategic aim to the issue of family planning. The key points of this program were as follows:

1. Upgrading family planning services.
2. Raising the general standard of living.
3. Expanding functional education.
4. Upgrading the status of women and increasing their participation in the labour force.
5. Mechanizing agriculture and spreading cottage and agricultural-industries.
6. Extending social security.
7. Reducing infant mortality.
8. Informing the public of family planning services.¹⁵²

In 1975, this policy paid particular attention to avoid offending groups and families that were culturally sensitive and adopted a soft sell, low profile approach for the attainment of full demographic transition.¹⁵³ The key was a newly educated cadre of female social workers, who worked to promote family planning programs under the close supervisions of a local village council.¹⁵⁴ Unfortunately, following almost a decade of effort and government funding, the population and development program again failed to persuade the general public that demographic transition would bring about greater economic development. An objective evaluation from Fatima Minya Gouda--a female village field worker presented Samira Mohammed Radwan, the wife of a farmer and mother of 12 sons and one daughter, as a special case study. According to Radwan, she and her husband did not consider family planning services until after they already had a large number of children. When asked why they decided to visit the clinics, Radwan replied the basic goal of our family is not to prevent pregnancy. Instead, our goal is to guarantee “a stable family...which is in a financial position to conceive children who will grow up in

¹⁴⁹ Bier, 2008, p.66. Also see ‘Birth control and national honour,’ Tanzim al-usra wajib watani. *Hawa News*, by Amina Sa’id. 8th February, 1964, Section A3, p.6.

¹⁵⁰ Warwick, D. 1982. *Bitter pills*. New York: Cambridge University Press, p. 55.

¹⁵¹ Besides policy change, in 1973 the name “supreme council for family planning” was changed to “supreme council for population and family planning.” See Freeman, R. and Berelson, B. 1976. ‘The record of family planning program,’ *Studies in Family Planning*. Vol. 9, no. 5, p.73.

¹⁵² Zohry, A. 1997. ‘Population policies and family planning program in Egypt: evolution and performance,’ In: *CDC 26th Annual Seminar on Population Issues in the Middle East, Africa and Asia*, p.4.

¹⁵³ Robinson and El-Zanaty, 2007, p.24.

¹⁵⁴ Robinson and El-Zanaty, 2007, p.24. Also see Lapham, R.J. and Mauldin, W. 1985. ‘Contraceptive prevalence: The influence of organized family planning program,’ *Studies in Family Planning*. Vol. 16, no. 3, p.9.

good health and will someday become educated youth of the Egyptian nation.”¹⁵⁵ Thus, this specific case suggested that using birth control for Radwan was a strategic, often temporary decision influenced by particular health concerns or socio-economic needs rather than by agreement with the wider goal of population and development program--to have a smaller family.¹⁵⁶

The Third Phase: 1985 until the present

In the mid 1960s to early 1980s, when many had criticized the weakness of the Egyptian program, the situation favourably improved from 1985 onwards. The contraceptive prevalence rate--one of the most important indicators in evaluating the success of population policies, increased from only 24% in 1980 to 53.9% in 2007 and fertility rate fell sharply from 5.3 births in 1980 to only 3.01 births per woman in 2010.¹⁵⁷ The history of this achievement suggests that a series of improvements and developments must have occurred that together accelerated the speed of the Egyptian demographic transition, allowing the country to move one step closer to the attainment of below replacement level fertility. How do we explain this upturn for Egyptian public policy towards fertility? Two explanations could be offered when considering the applicability of our demographic instruments to Egypt. First, the improvements in Egyptian family planning service and second, the general condition of the Egyptian economy.

To the first point, although not specifically Malthusian, the concept of preventive checks argued that state sponsored family planning programs such as health clinics and methods of contraception may have the potential to reduce a country's birth rates.¹⁵⁸ This was evident in Egypt that in January 1985, an improved National Population Council was created by a presidential decree to replace the Supreme Council for Population and Family Planning.¹⁵⁹ Its functions remained much the same, *except that this time, there was no scepticism from top government officials* such as President Hosni Mubbarak, who personally interested himself in the program's fortunes and from 1982 onwards, spoke strongly in favour of family planning.¹⁶⁰

One of the most important recommendations of the National Population Council was the establishment of a clinical service improvement organisation, which involved itself in upgrading existing family clinics, setting up new ones, and enhancing the quality of services for service providers at these facilities.¹⁶¹ In 1987, the clinical services improvement project was ultimately planned to extend to some 112 clinics in all the urban areas of 20 governorates, including some for the first time, in the remote areas of

¹⁵⁵ 'The Egyptian fertility survey 1980,' *Central Agency for Public Mobilization and Statistic (CAPMS)*. Published in 1983

¹⁵⁶ Ali, K.A. 2003. *Planning the family in Egypt*. Austin: University of Texas.

¹⁵⁷ The figures come from CIA Fact Book. However the analysis is based on Moreland, S. 2005. *Egypt's demographic transition: Assessing 25 years of family planning*. Futures Group International, p.17.

¹⁵⁸ Nafziger, 2006. p.282.

¹⁵⁹ Robinson, and El-Zanaty, 2007, p.26.

¹⁶⁰ Robinson, and El-Zanaty, 2007, p.26. Also see Cutright, P.1983. 'The ingredients of recent fertility decline in developing countries,' *International Family Planning Perspective*. Vol. 9, no. 4, p.8.

¹⁶¹ Mahran, M. 1995. 'The national population council's huge achievement for the past ten years,' *Al Wafd*, p.23.

Upper Egypt. One important clinical improvement came in the form of the IUD (Intrauterine device) Copper-T 38A method of contraception, which had fewer side effects than older methods, was introduced in the mid-1980s, and quickly proved popular with clients.¹⁶² Thus, since these new IUDs were first introduced, the number of IUD units jumped to 4043 in 1995 from its 1986 figure of 2301, and its current number of units was just under 5000 in 2008.¹⁶³

Accompanied by this preventive check was Egypt's general deterioration of living standards. This leads to my second point concerning positive checks. When a nation faces apparent production decline resulting from overpopulation, the Malthusian idea of positive check goes into play, and the people would be forced, through the apparent inevitability of poverty, to have smaller families.¹⁶⁴ This was particularly relevant in Egypt that from the mid-1980s onwards, the standard of living for average Egyptian families was strongly influenced by the country's movement towards economic liberalization. According to El-Deeb's analysis, there was indeed a striking difference between the rate of growth of employment during the years of 1960s under government planned economy, and the rate during the period of greater liberalization in Egypt. For the latter periods of 1975 and beyond, the total employment increase of 12% in Egypt's construction industry for example, increased less than quarter the rate of 86.6% achieved during the earlier years of 1959-1965.¹⁶⁵

Due to Egypt's declining average annual employment rate of 22.1% in 1965 to 9.1% in the construction sector between 1965 and 1985, the state could no longer afford to pay for many channels of social welfare to its citizens which was previously subsidized by the government.¹⁶⁶ Between 1981 to 1992, the share of health expenses in the average family budget increased by 200% in rural areas and 330% in the cities, while the cost of education increased by 230% and 170% respectively.¹⁶⁷ Even with an overall decrease in poverty--the percentage of poor households decreased from 35% to 16.7% from 1990 to 2008, 13 million people still lived below the poverty line. Only 40% of Egypt's permanent working population were insured against work related injuries and diseases, and no more than 16% were entitled to unemployment benefits.¹⁶⁸ The rapid decline in Egypt's birth rate could therefore be explained by these heavier economic burdens,

¹⁶² Jain, A.K. 1989. 'Fertility reduction and quality of family planning services,' *Studies in Family Planning*. Vol. 20, no. 1, p.201.

¹⁶³ Methods of contraception. Unicef World Development Report on Egypt 2009. See http://www.unicef.org/inforbycountry/egypt_statistics.html#46

¹⁶⁴ Sen, A. 1997. 'Population, policy: authoritarianism versus cooperation,' *Journal of Population Economics*, Vol. 10, No. 1, p.6.

¹⁶⁵ El-Deeb, B. 2008. *Population, labour and GDP growth rate gap in Egypt*. Cairo University Press, p.31.

¹⁶⁶ The average annual employment rate of Egypt increased only slightly from 9.1% in 1985 to 11% in 1999, and to 18% in 2008. Still lower than its 1965's level of 22.1%. See Unicef world development report on Egypt 2009.

¹⁶⁷ The data are gathered from the United States Census Bureau 2008. International database Egypt-Increase in employment in Egypt in percentage in the past 50 years. Under table 5h. Liberalization in Egypt. See <http://www.census.gov/ipc/www/idbacc.html>.

¹⁶⁸ Harrigan, J. 2009. 'Economic liberalization, social welfare and Islam in the Middle East,' *School of Oriental and African Studies*, no. 25, p.1.

“weighting on the family.”¹⁶⁹ This clearly indicates that liberation leads to greater inequality and hence leaves room for material redistribution.

A final observation on the country’s program history indicated that Egypt’s family planning policies were never a total success nor were they a total failure. As each phase of the policy program was being introduced and modified between 1965 and 1985, the Egyptian authorities were able to identify the strength and the weakness of the programs being implemented and make gradual improvements in this regard. Since 1985, as a result of improvements in family planning services and new economic burdens weighing on the family, Egypt experienced a much improved contraceptive prevalence rate and its population planning efforts finally started to bear fruit.

Egypt’s provincial policy responses

Beyond those general policy responses to Egypt’s national situation, what specific family planning programs had been adopted in each of Egypt’s local provinces that were characterised by different levels of socio-economic development? The follow section discusses this issue by looking at the research question: how effective are Egypt’s family planning policies? To illustrate the explanations by way of examples, the following analysis details the effectiveness of the Egyptian program in Minya, Cairo and Alexandria.

Egypt’s local response: Minya

Initially it was generally accepted in Egypt that a people’s motivation for fertility self-regulation occurs only after adequate levels of industrialization.¹⁷⁰ Thus a nation’s demographic transition could best be achieved through sophisticated processes of economic development such as urbanisation and education.¹⁷¹ However since the 1980s, population advocates started to redirect their focus from industrialization. In particular it has been argued that through educational indoctrination, people’s attitude towards family planning may be changed without the prior effect of economic development. This is the idea of modernization without development as an alternative approach to the third stage of the demographic transition and below replacement level fertility.¹⁷²

Similar to the provinces of China which have already been discussed, rural Minya is a poorly developed agrarian governorate located in Upper Egypt about 200 kilometers south of Cairo.¹⁷³ According to a 2004 social indicator, 34% of Minya’s inhabitants were living below the poverty line of 242 USD.¹⁷⁴ Its regional development of education and employment was also low by Egyptian standards, such that in 2004 “only 13.5% of rural

¹⁶⁹ Fargues, 1997, p.127.

¹⁷⁰ Nardi, 1981, p.33.

¹⁷¹ Nafziger, 2006. p.282.

¹⁷² Furedi, 1997, p.115.

¹⁷³ Yount, K.M. 2008. Women’s family power and gender preference in Minya, Egypt. In *Family in the Middle East, ideational change in Egypt, Iran, and Tunisia*. Yount, K.M. and Rashad, H. (ed). Routledge Advances in Middle East and Islamic Studies, p.177.

¹⁷⁴ Lewis, L. ‘Social conditions in Egypt according to the millennium development goals,’ Presented by Lowell Lewis onto the European League. Paper available at: http://groups.ucanr.org/uc_and_the_mediterra/files/64073.pdf

women had access to secondary or higher education”¹⁷⁵ and only 11% of these women were working for paid employment.¹⁷⁶

Recognizing its lack of socio-economic development, the Egyptian Population Family Planning Board had widely accepted the modernization with development approach in order to increase contraceptive use and reduce birth rates.¹⁷⁷ The policy emphasis was that Minya’s population reduction program could “best be accomplished through communication about contraception and suggests that attitudes toward the acceptability of contraceptives should be changed...in order to cause fertility to decline.”¹⁷⁸ To this end, week long workshops were organized in Minya “through the collaboration of the Egyptian National Population Council, the Ministry of Health, and 16 local family planning organisations...aimed at promoting general awareness about family planning.”¹⁷⁹ It was generally believed that the inhabitants of rural Egypt were culturally and politically more conservative than their urban counterparts.¹⁸⁰ Thus specific health seminars were conducted in Minya governorate designed to persuade rural husbands to allow and enable their spouses to accepted and use contraceptives. As one researcher described his experience at a small community meeting:

During the week, I accompanied religious leaders and doctors to a nearby village where a lecture was arranged for men on the benefits of fertility control and the conformity of Islam to family planning. The Shaykh, an important person among local leaders of Minya...argued that Islam was not against having a child, but the children should be healthy and educated. He continued to assert that a physically, morally, and intellectually unhealthy nation would be undesirable in Islam.¹⁸¹

The results of these grass level seminars were rather impressive, such that the TFR rates of Upper Egypt in general and Minya governorate in particular, declined from 4.2 children per woman in 2000¹⁸² to 3.2 children per woman in 2008.¹⁸³ This suggests that the reproductive behaviour of married couples from rural Egypt may have been influenced by the information and education organisations that promoted family planning and the use of contraceptives, despite Minya’s lack of modern development.¹⁸⁴ It is thus evident that unlike China where the socio-economic development of a local area has

¹⁷⁵ Lewis, p.2.

¹⁷⁶ United Nations Development Program 2003. *Egypt human development report 2003*. Cairo: Institute of National Planning.

¹⁷⁷ Stycos, M.J. Bindary, A. Avery, R.C. Khalifa, A.M. Sayed, H.A.A. and Way, A. 1982. ‘Contraception and community in Egypt: A preliminary evaluation of the population/development mix,’ *Studies in Family Planning*, Vol. 13, no. 2, p.366.

¹⁷⁸ Egypt 1996, p.25.

¹⁷⁹ Ali, K.A. 2003. ‘Myths, lies, and importance: Structural adjustment and male voice in Egypt,’ *Comparative Studies of South Asia, Africa and the Middle East*, Vol. 23, no. 1, p.325.

¹⁸⁰ Encyclopaedia Britannica, 15th edition. ‘Arabic Republic of Egypt,’ *Macropaedia*, Vol. 6, p.450.

¹⁸¹ Ali, 2003, p.325.

¹⁸² El-Zanaty and Way, Egyptian demographic health survey 2001.

¹⁸³ El-Zanaty and Way, Egyptian demographic health survey 2009.

¹⁸⁴ Becker, G.S. 1991. *A treatise on family*. Cambridge: Harvard University Press.

played an important role in its prospect for full demographic transition, Egypt's educational programs and population policy alone have had a significant impact on people's fertility desire.¹⁸⁵

Egypt's local response: Cairo and Alexandria

This is further evident in the fertility behaviour of more economically developed regions such as Cairo and Alexandria. With populations of 11.8 million and 4.2 million people respectively, Cairo and Alexandria are two of the largest cities in Egypt.¹⁸⁶ According to recent estimates, 75% of Egypt's total industrial establishments in 2003 were mostly concentrated around the Greater Cairo and Alexandria regions that constitute the major income source of the country.¹⁸⁷ Until the late 1990s, the radio and television messages in urban Cairo and Alexandria emphasizing limiting one's family size were broadly educational and lacked any specificity concerning contraceptive use¹⁸⁸ or how family planning could better one's day to day social and economic situations.¹⁸⁹ This meant that many couples were still dominated by the desire to establish high fertility quickly in the early years of their marriage "which resulted in too many closely spaced births with negative consequences for the health of both mothers and their infants."¹⁹⁰

Hence a new State Information Service campaign was introduced in 1998¹⁹¹ to generate a greater awareness of how having a large family could complicate the efforts to rear, care for and educate one's children.¹⁹² Newer methods such as radio spots and popular television programs that provided discussions of specific contraceptive techniques were also employed to modify people's fertility behaviour.¹⁹³ One such an example was Sharif Arafa's 1996 Egyptian movie *Sleeping with Honey*, a story that resolved around a fictional married couple whose uncontrollable reproductive desire eventually led poverty and the husband's criminal convictions. Its intended messages were loud and clear: a couple's desire of establishing high fertility levels in a rapid succession would lead to widespread poverty and the "malfunctioning of human body, [thus] leading to social

¹⁸⁵ This is not to deny that Egypt's general economic condition will certainly also play a role on people's fertility behaviour.

¹⁸⁶ Badran, M. Jamrah, A. and Gaese, H. 2009. 'assessment of a cost-covering sanitation tariff for Alexandria/Egypt,' Information available at http://www.susana.org/docs_ccbk/susana_download/

¹⁸⁷ El-Ghonemy, R.M. 2003. The standard of living. In *Egypt in the twenty first century. Challenges for development*. El-Ghonemy, R.M. (ed). Routledge Curzon Advances in Middle East and Islamic Studies, p.58.

¹⁸⁸ Bogue, D.J. 1983. *How to evaluate a communication campaign for family planning: A demonstration based on data from the SIS program in Egypt, 1980-1982*. Research report 6, Carolina Population Centre. Chapel Hill, NC: University of North Carolina Press.

¹⁸⁹ Robinson and El-Zanaty, 2007, p.27.

¹⁹⁰ Storey, D. and Kaggwa, E.B. 2009. 'The influence of changes in fertility related norms on contraceptive use in Egypt, 1995-2005,' *Population Review*, Vol. 48, no. 1, p.4.

¹⁹¹ Kemprecos, L. Mackie, W. Hess, R. and Youssef, M. 2002. 'Egypt's private sector project increasing demand for family planning in the private sector, March 1999-June 2002,' *Ministry of Health and Population & The Health Communication Partnership, Cairo Egypt*.

¹⁹² Robinson and El-Zanaty, 2007, p.27.

¹⁹³ Robinson, W.C. and Lewis, G. 2003. 'Cost effective analysis of behaviour change interventions: A proposed new approach and an application to Egypt,' *Journal of Biosocial Science*, Vol. 35, no. 3, p.95-110.

disorder and chaos.”¹⁹⁴

This entertainment based media campaign later on expanded into a vast national network of private pharmacies that provided contraceptive methods to married couples and organised on their behalf, scientific meetings with local and regional experts who explicitly promoted the use of contraceptives.¹⁹⁵ Increased media coverage that emphasized family planning promoted a greater public acceptance for fertility regulation, and the use of contraception in Cairo and Alexandria duly increased from 29% in 1995, to 35% in 2000 and to 63% in 2008.¹⁹⁶

To summarise, this section has argued that a family’s decision for contraceptive use was not necessarily influenced by a household’s economic circumstances.¹⁹⁷ As indicated in Casterline and Roushdy’s investigation shown in figure 6.4, 37% of Cairo household’s reported that their family income was adequate to cover their household needs; while 30% of the Alexandria households expressed a similar opinion, only 17% of the Minya families can live adequately.¹⁹⁸ Yet despite the economic differences between the households, figure 6.5 clearly shows that the fertility differences between Egypt’s urban and rural areas is rather insignificant. For example, the average fertility rates of Upper Egypt in 2008 was 3.4 children per woman, a figure only slightly higher than the less developed Lower Egypt, with an average of 2.9. This was not to deny that the advanced regions of Lower Egypt indeed had the lowest TFR, but the point was that the fertility desires of all Egyptian families were becoming identical regardless of their place of residences or socio-economic status.

Figure 6.4¹⁹⁹

Is your household income adequate to cover the basic family need such as food, health or education?

Income levels	Cairo	Alexandria	Minya
Far enough	12%	9%	6%
Enough	33%	28%	9%
At minimum	37%	30%	17%
Below minimum	10%	15%	31%
Far below minimum	8%	18%	37%

¹⁹⁴ Ali, 2003, p.321.

¹⁹⁵ Storey, Kaggwa, 2009, p.4.

¹⁹⁶ El-Zanaty and Way. Egypt demographic health survey 2009.

¹⁹⁷ Casterline, J.B. and Roushdy, R. 2007. ‘Slow fertility transition in Egypt,’ *Program Associate Population Council, Cairo*, p.30.

¹⁹⁸ Casterline and Roushdy, 2007.

¹⁹⁹ Casterline and Roushdy, 2007. And El-Zanaty and Way. Egypt demographic and health survey 2009. And City Income <http://www.city-data.com/income/income-cairo-west-virginia.html>. Also Yount, 2008, p.177-192.

Figure 6.5²⁰⁰
Egypt's fertility level by residence 2008

Location		Lower Egypt			Upper Egypt	
	Total	Urban	Rural	Total	Urban	Rural
TFR	2.9	2.6	3.0	3.4	3.0	3.6

How do Chinese and Egyptian policies compare?

The above province-specific case studies indicate that in terms of standard of living, Cairo and Alexandria have a level of socio-economic development comparable to that of urban Zhongshan and the Dalian City,²⁰¹ while rural areas in Upper Egypt such as Minya is also similar to Shanxi and Changhai in terms of income levels.²⁰² For example, residents from high standard households in urban Cairo have an average per capita income of 16,862 USD in 2008,²⁰³ a figure comparable to Zhongshan citizens' 12, 650 USD.²⁰⁴ Similar data also indicates that in 2004, 34% of the inhabitants from the governorates of Upper Egypt lived below the poverty line of 242 USD,²⁰⁵ a figure almost identical to rural Shanxi's 265.²⁰⁶ As for these regions' educational achievements, the literacy rate for Egyptian families in 2004 was 63.6% and 29.6%²⁰⁷ for urban and rural governorates respectively, relatively lower than China's 95% and 75% for its urban and rural areas.²⁰⁸

However as evident in Shanxi and Liaoning provinces, China's economically most advanced regions tend to have the highest percentage of the "population falling under the requirement of the one child policy,"²⁰⁹ while in less developed regions, fertility regulation policies is also the "most lenient."²¹⁰ This is evident in figure 6.6, which shows that only 33.7% of China's population fall under the requirement of the one child policy. Slightly over 60% of the semi-rural residences fall under the two children policy requirement. In addition, 5.8% of the low economic households are totally exempted from the one child policy. This clearly suggests that among the three groups of families, the one child policy tends to be most influential among families with the greatest socio-economic achievement.

²⁰⁰ El-Zanaty and Way. Egypt demographic and health survey 2009, p.47.

²⁰¹ Eltigani, 2003, p.44.

²⁰² Brent, M.W. Sesame street runs along the Nile. From <http://www.ictinedtoolkit.org/>

²⁰³ Egypt's income figure are from <http://www.city-data.com/income/income-cairo-west-virginia.html>

²⁰⁴ Zhongshan's figure are from Dalian Year Book 2006.

²⁰⁵ Lewis, p.1-2.

²⁰⁶ Figure on Shanxi are from Garcia, 2004, p.4.

²⁰⁷ Lewis, P.2

²⁰⁸ Chinese Statistical Bureau 2009. *Chinese statistical year book*. Beijing: Jingjiguanli Publisher, p.61.

²⁰⁹ Gu, Wang, Guo, and Zhang, 2007, p.139.

²¹⁰ Gu, Wang, Guo, and Zhang, 2007, p.139.

Figure 6.6²¹¹
Economic households and the one child policy

Category	Policy	Population (millions)	Percentage
Urban high income families	One child	448.25	33.7%
Semi-rural mid income	Two children	802.07	60.3%
Rural low income families	Three children	77.14	5.8%
Total		1327.46	100%

In contrast to China, figure 6.7 shows that despite their economic differences, the TFR figures of the Egyptian families from low income households have experienced a substantial decline “from five children per woman in 1988, to four children in 1995, to 3.6 children in 2000,”²¹² and to 3.4 children in 2008.²¹³ By comparison, the TFR rates of the families from the middle income households have declined less rapidly from four children in 1988, to 3.3 children in 1995, to 3.4²¹⁴ children in 2000 and to 3.2²¹⁵ children in 2008. Similar fertility behaviour is observed for families from high standard households, such that their average birth rates declined from 3.3 children in 1988, to 2.98 in 1995,²¹⁶ to 3.01 in 2000²¹⁷ and to 2.9 in 2008.²¹⁸ The result of this analysis leads to conclusive evidence that in Egypt, the fertility gap between the rich and the poor is slowly diminishing.

Figure 6.7²¹⁹
The fertility level of Egypt’s low mid and high standard households

Year	Low households	Middle households	High households
1988	5.04 TFR	4.03 TFR	3.32 TFR
1992	4.86 TFR	3.60 TFR	3.07 TFR
1995	4.03 TFR	3.30 TFR	2.98 TFR
2000	3.62 TFR	3.38 TFR	3.01 TFR
2008	3.40 TFR	3.20 TFR	2.90 TFR

²¹¹ Gu, Wang, Guo, and Zhang, 2007, p.138. Also CIA Fact Book.

²¹² Eltiganti, 2003, p.49.

²¹³ El-Zanaty and Way, 2009, p.47.

²¹⁴ El-Zanaty, F. and Way, A. 2001. *Egypt demographic and health survey 2000*. Calverton, Maryland USA: Ministry of Health and Population Egypt, National Population Council and Orc Macro.

²¹⁵ El-Zanaty and Way, 2009, p.47.

²¹⁶ Eltiganti, 2003, p.49.

²¹⁷ El-Zanaty and Way, 2000.

²¹⁸ El-Zanaty and Way, 2009.

²¹⁹ Eltiganti, 2003, p.48. And El-Zanaty and Way, 2009, p.49.

Conclusion and discussion

This chapter looked at population planning in China and Egypt. It argued that due to these countries' authoritarian nature, their policy making procedures are not based on participatory development. Instead, all population decisions are made exclusively by China and Egypt's respective national governments. By using the total fertility rate and the demographic transition as its framework, the chapter argued that between the 1950s and the 1980s, China and Egypt experienced fertility ups and downs as new population policies were being introduced and modified for the purpose of economic development and for the third stage of the demographic transition, in which zero population growth is attained. In China, the formulation of family planning programs has experienced three stages of evolution: 1) the early planning stage of 1957; 2) the great famine stage between 1958 and 1976; 3) and the one child policy stage of 1979 to the present. In Egypt, the formulation of family planning also experienced three phases: 1) the family planning awareness stage of 1965; 2) the governmental programmatic stage of 1973; 3) and the information, education and the communication stage of the 1980s to the present.

It is also made clear that to a large extent, the success of China's one child policy depends greatly on the economic conditions of the local areas. This means that the provinces where the one child policy are strictly implemented are likely to be located in urban areas that have experienced adequate economic development, and those regions with more relaxed fertility regulation programs tend to be located in China's remote rural poor areas.²²⁰ By contrast, the analyses of fertility behaviour of three Egyptian household groups strongly suggest that the childbearing references of the families from low income households are increasingly becoming identical to these people from the middle and high standard families. This indicates that the fertility desire for lower birth rates is becoming universal among all Egyptian families, regardless of their socio-economic status.²²¹ The result of these conclusions thus posed two interesting questions: what are the prospects for population growth in China and Egypt? And what can China and Egypt learn from each other?

²²⁰ Gu, Wang, Guo, Zhang, 2007, p.137.

²²¹ Eltiganti, 2003, p.55.

Chapter 6

Conclusion: Demographic Prospects in China and Egypt and the scope for policy Transfer

Introduction

The ongoing fertility transition in China and Egypt indicate that socio-economic development, educational programs and population planning policies had a substantial influence on these countries' lowered fertility rates. In China fertility declined more than 50% from 34 births per 1000 in 1979¹ to 12.17 births per 1000 in 2010.² In Egypt, a similar trend of fertility decline is also recorded: birth rates declined from 48.6 births per 1000 in 1955³ to 25.02 per 1000 in 2010.⁴ In considering the future fertility developments of these two countries, a likely scenario is that China's fertility rate will continue falling over the upcoming two decades and eventually reach a zero population growth rate. Egypt's already lowered fertility rate of 3.0 children per woman will also decline even further and achieve replacement level fertility-whereby each couple will only produce two children in the population, in the foreseeable future.

To conclude our discussion with an overview of prospects in our two case studies, this chapter is organised into three sections. The first section looks at the demographic prospect of China and Egypt in terms of the demographic transition and their countries' age structures. The second section focus on the research question: can China and Egypt learn anything from each other? This is followed by the third section which looks at policy recommendations and transfer. In particular it argues that policies such as China's "later", "longer" and "fewer" campaign might be promoted in the interest of Egypt's population planning. On the other hand, Egypt's information, communication and education services could be introduced in China's vast rural areas to emphasise the economic importance of family planning to national development.

Future prospects: China

According to a recent fertility projection, China's population growth is expected to surpass its current figure of 1.3 billion over the next two decades and increase to 1.37 billion by 2025 and 1.42 billion by 2030.⁵ After that, the population is expected to experience a rapid decline from its highest fertility estimate of 1.44 billion in 2040 to 1.39 billion in 2050.⁶ This population forecast is expected to decrease even further from 1.39 billion in 2050 to 1.02 billion in 2080 and by the end of the century China's population is forecast to experience an additional 17% reduction and reach 850 million.⁷

¹ Yuan, H.T. Zhang, T. Ping, Y. Li, J. and Liang, Z. 1992. 'China's demographic dilemmas,' *Population Bulletin. A Publication of the Population Reference Bureau, Inc*, p.7.

² CIA Fact Book.

³ The figure is from <http://esa.un.org/unpp/>

⁴ CIA Fact Book.

⁵ Chen, W. and Liu, J.J. 2009. 'Future population trends in China: 2005-2050,' *Monash University: The Centre of Policy Studies. General Paper*, p.10.

⁶ Chen and Liu, p.10.

⁷ Lutz, W. Scherbov, S. Cao, G.Y. Ren, Q. and Zheng, X. 2007. 'China's uncertain demographic present

This indication suggests that between 2010 and 2035 China will have an annual population increase of more than eight million people every year for the next 25 years, before reaching the third stage of demographic transition and achieving zero population growth.⁸ If China maintains its fertility rate below replacement level for the next 50 years, its population will enter a prolonged decline.⁹

China's State Family Planning Commission for example, forecast that its working population aged between 15 and 64 will increase from 975 million in 2010¹⁰ to 1.01 billion in 2025¹¹, falling to 980 million by 2026¹², before reaching its lowest point of 898 million by 2070.¹³ At the same time, the portion of China's elderly population aged between 65 and over is expected to increase from 114 million in 2010¹⁴ to about 300 million in 2040,¹⁵ with an annual growth rate of 0.4%.¹⁶ This means that by 2035 China's elderly total of 235 million¹⁷ will exceed the size of the child population aged between zero and 15, whose population size is expected to increase from 220 million in 2010¹⁸ to 260 million in 2020, before declining to 230 million by 2030.¹⁹ The general prospect for China's fertility transition is shown in figure 7.0; after 2040, China's population is expected to stabilize at 1.44 billion, "the point of which it will begin to fall greatly"²⁰ as a result of below replacement level fertility.

Prospect for demographic transition in China

As of 2010, China has reached the stage of the demographic transition where the country's elderly population is expected to grow faster than the country's child population.²¹ For example, a projection by the *China Statistics Yearbook 2001* indicates that the country's population aged 60 and above is expected to increase from 8.6% in 2010²² to 22.31% in 2025.²³ The changes are less noticeable in economies such as the United Kingdom and the United States that have completed their demographic transition where the percentage of population increase is general matched by a similar rate of labour employment. The problem is that, given China's current status as a third world country the People's Republic is not expected to reach a level of population development

and future,' *Vienna Year Book of Population Research*, p.53.

⁸ Chen and Liu, 2009, p.11.

⁹ England, 2005, p.22-23.

¹⁰ CIA Fact Book.

¹¹ Figure is from Population Projection of the State Family Planning Commission of the People's Republic of China. <http://www.chinapop.gov.cn>.

¹² Chen and Liu, 2009, p.12.

¹³ England, 2005, p.22.

¹⁴ CIA Fact Book.

¹⁵ Chen and Liu, 2009, p.12.

¹⁶ Data from China Department of Population Information and Research Centre.

<http://www.cpirc.org.cn/index.htm>

¹⁷ Chen and Liu, 2009, p.11-12.

¹⁸ CIA Fact Book.

¹⁹ Chen and Liu, 2009, p.11-12.

²⁰ Lutz, Scherbov, Cao, Ren, and Zheng, 2007, p.53.

²¹ Dowling and Valenzuela, 2004, p.188.

²² CIA Fact Book.

²³ China statistics yearbook 2001. Beijing: National Bureau of Statistics of China. China Statistics Press.

comparable to the developed countries mentioned above.²⁴ This requires planning for old age security. At 8.6%, China's population is still relatively young compared with the industrialized countries where the elderly category is over 20% in the United Kingdom and 16% in the United States.²⁵ Nevertheless these advanced countries already possess highly developed social security systems for the support of the elderly. Because China's demographic transition occurs in a country that still faces poverty and where a fragmented social security system is often unreliable; the elderly population rely almost entirely on their offspring for old age security.²⁶ This would no doubt influence the parental desire for nuclear families and hence weaken China's prospects for full demographic transition.

Figure 7.0²⁷
The prospects of China's fertility transition 2010-2100

Year	Total Population in Billions
2010	1.33 Billion
2020	1.36 Billion
2030	1.42 Billion
2040	1.44 Billion
2050	1.39 Billion
2060	1.18 Billion
2070	1.10 Billion
2080	1.02 Billion
2090	0.95 Billion
2100	0.85 Billion

Future prospects: Egypt

As things currently stand, Egypt's total fertility rate of 3.0 births per woman²⁸ is above the replacement level TFR of 2.1,²⁹ meaning that the country's population is expected to increase from 80 million in 2010³⁰ to 95 million in 2025.³¹ By 2030, the population will

²⁴ Dowling and Valenzuela, 2004, p.190.

²⁵ United Nations Population Division 2002. World population prospects: The 2002 revision. New York: United Nations.

²⁶ England, 2005, p.45.

²⁷ Lutz, Scherbov, Cao, Ren, and Zheng, 2007, p.59.

²⁸ CIA Fact Book.

²⁹ Casterline, J.B. and Roushdy, R. 2006. 'Achieving replacement level fertility in Egypt: Challenges and potential opportunities,' *Pennsylvania State University, Population Council*, p.2.

³⁰ CIA Fact Book.

³¹ Egypt: Population Projections of Countries and their Coastal Regions from http://www.planbleu.org/publications/demo_uk_egy.pdf

be somewhere between 100 and 110 million and is expected to reach 115 million by 2035³², before stabilizing at 121 million by 2050.³³ Throughout the early 2000s, Egypt's birth rate remained 50% higher than that of China's with a total fertility of 3.0. But this figure is expected to decline by 30% over the ensuing three decades to just over two births per couple by 2040.³⁴ Even after the country reaches its stated target of 2.1 children per woman, Egypt's population is expected to continue growing for a number of years due to its population momentum, which occurs when a large number of women reach reproductive age.³⁵ Hence, the total population size of Egypt may still experience a substantial increase of 20.3 births per 1000 over the next 100 years³⁶, despite its expected fertility decline.

It is also expected that the annual increase of the working population aged between 15 and 64 will rise considerably over the next ten years from 49 million in 2010³⁷ to 60.7 million in 2020.³⁸ This more than 20% increase of the working age population will no doubt lead to intense competition in the labour market which may have consequences for Egypt's rate of unemployment. Aging will be another significant issue. While Egypt's current figure indicates that there are more than 3.5 million or 4.4%³⁹ of the population who are aged between 65 and over in 2010, this figure is expected to almost double by 2017 and reach 8%⁴⁰ of the country's population total. This means that the percentage of the child population between zero and 15 years old is expected to decline from 32.8% in 2010⁴¹ to slightly more than 23% in 2025⁴² as a result of the increase of the elderly population.

Prospect of demographic transition in Egypt

The general prospect of Egypt's demographic transition is shown in figure 7.1. Overall, the country's fertility rate is expected to reach replacement level by 2040 and the declining birth rate is expected to be accompanied by a declining population growth rate from 1.9% in 2010 to 0.6% in 2050. By that time, the average Egyptian couple of reproductive age should produce only two children, their replacement in the population.⁴³ Despite this positive expectation however, Egypt's population will continue to grow for the next 100 years due to its young age structure.⁴⁴ Egypt's elderly population is expected

³² Awad, A. and Zohry, A. 2005. 'The end of Egypt population growth in the 21st century: Challenges and aspirations,' *The 35th Annual Conference on Population and Development Issues*, p.4.

³³ Goujon, A. Alkitlcat, H. Lutz, W. and Prommer, I. 2007. 'Population and human capital growth in Egypt: Projections for governorates to 2050,' *International Institute for Applied Systems Analysis Schloss Platz. Interim Report*, p.43.

³⁴ Awad and Zohry, 2005, p.5.

³⁵ Awad and Zohry, 2005, p.6.

³⁶ Egypt: Population Projections of Countries and their Coastal Regions from http://www.planbleu.org/publications/demo_uk_egy.pdf

³⁷ CIA Fact Book.

³⁸ The figure is based on the projection made by <http://esa.un.org/unpp/>

³⁹ CIA Fact Book.

⁴⁰ Awad and Zohry, 2005, p.12.

⁴¹ CIA Fact Book.

⁴² Egypt: Population Projections of Countries and their Coastal Regions from http://www.planbleu.org/publications/demo_uk_egy.pdf

⁴³ Nafziger, 2006, p.284.

⁴⁴ Award and Zohry, 2005, p.6.

to increase from 4.4% in 2010 to 9.3% in 2025.⁴⁵ Despite this Cairo's population is still young compared to China, whose percentage of the elderly is expected to increase from 8.6% to 22.31% in the same time period. This means that Egypt still has a high percentage of population below or in the reproductive age. Thus what can be fairly assumed is that Egypt will not reach the third stage of the demographic transition until 2100, five decades after the attainment of replacement level fertility.⁴⁶

Figure 7.1⁴⁷

The prospect of Egypt's fertility transition over the next 40 years

Year	Total Fertility Rate	Population Growth Rate
2010	3.0	1.9%
2015	2.7	1.7%
2020	2.5	1.5%
2025	2.4	1.3%
2030	2.2	1.2%
2035	2.2	1.0%
2040	2.1	0.9%
2045	2.0	0.8%
2050	1.9	0.6%

What can China learn from Egypt?

Since the economic reform of China in 1979, the idea that fertility reduction would promote modernisation emerged as a sophisticated cultural model of development that enabled couples to pursue other life essentials besides childrearing.⁴⁸ Couples' fertility preferences from advanced regions of China then became influenced by consumerism and the perception that raising children was simply too expensive⁴⁹ promoted urban families not only to desire fewer children, but also no children.⁵⁰ The problem was, however, that such a fertility preference of having only one or no children gained ascendancy only in China's urban environment--areas that experienced rapid changes in socio-economic development. The fact of the matter is that the present condition in China's vast rural population bears little resemblance to the situation of its economically developed industrial counterparts that are "now practicing minimal reproduction and

⁴⁵ Egypt information projection from <http://www.planbleu.org/publications/demo.uk.egy.pdf>

⁴⁶ Nafziger, 2006, p.284.

⁴⁷ Figures are from United Nations Population Projection see <http://esa.un.org/unpp/>

⁴⁸ Yuan, Zhang, Ping, Li and Liang, 1992, p.39.

⁴⁹ Caldwell, J.C. and Schindlmayr, T. 2003. 'Explanations of the fertility crisis in modern societies: A research for commonalities,' *Population Studies*, Vol. 57, no. 3, p.256.

⁵⁰ Yuan, Zhang, Ping, Li and Liang, 1992, p.39.

childlessness.”⁵¹ This resulted in below replacement level fertility in some areas, and above average birth rates in others. Here lies the strategic limitation of China’s fertility transition.

In sharp contrast to China, figure 7.2 indicates that the increase in the practice of birth planning among the families from low standard households is a major reason for Egypt’s observed outcome of fertility decline. The figure shows that in 1988 only 21.9% of the low income families were practicing family planning, a figure substantially lower than high standard households’ 51.9%. By 2008 the percentage of low income households practicing family planning increased dramatically to 55.2%, almost identical to the middle standard households’ 58.6% and slightly lower than high standard households’ 63.9%. This evidence was presented in our discussion of the Egyptian provinces of Minya, Cairo and Alexandria, mentioned in chapter five.

According to Casterline and Roushdy’s research, this achievement is largely due to Egypt’s information, communication and education programs that gradually modified people’s fertility behaviour.⁵² The result of their survey is shown in figure 7.3 that “each of the nine advantages of having [fewer children] finds agreement from 95% or more of the respondents.”⁵³ In addition, 27% of the respondents recognized the fact that couples with fewer children can rear their offspring more properly, and listed this particular incentive as the most important advantage of having smaller families.⁵⁴ Slowly and surely, couples are made increasingly aware of their parental responsibilities as educators and providers and they recognize the fact that families with fewer children can invest more in these children. It is currently uncertain whether rural Chinese parents realized this quantity-quality trade off, hence an Egyptian style educational program could be introduced to rural China and help couples to limit childbearing.

Figure 7.2⁵⁵
Percentages of contraceptive use in low, middle and high income Egyptian households

⁵¹ Yuan, Zhang, Ping, Li and Liang, 1992, p.39.

⁵² Asdar, 2003, p.326.

⁵³ Casterline and Roushdy, 2007, p.22-23.

⁵⁴ Casterline and Roushdy, 2007, p.22-23.

⁵⁵ Source Elitganti, 2003, p.54. And El-Zanaty and Way, 2009. Chapter 5.

1988, 1995, 2000, 2008

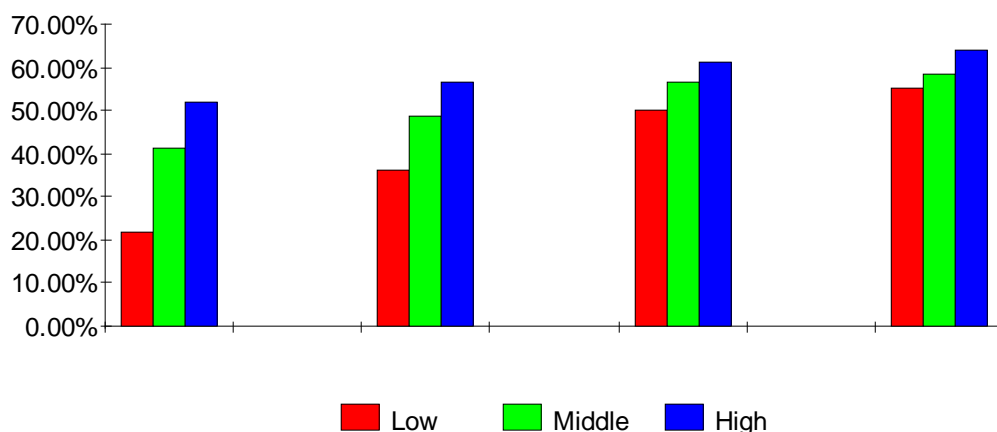


Figure 7.3⁵⁶
Nine advantages of having fewer children

Advantageous	Percentage agreeing	Most important advantageous
A less crowded household	96%	1%
Better living conditions	99%	19%
The children can be raised more properly	98%	27%
The children can receive better education	99%	23%
Less stressful to mother's health	98%	13%
The children are healthier when there are few	98%	8%
It is easier for the women	97%	1%
Reducing the population explosion in Egypt	97%	1%
The family is happier	97%	7%
Number of participates	3293	

What can Egypt learn from China?

The speed of demographic transition in Egypt may be facilitated if a fraction of Egyptian women have also volunteered for a Chinese style “later, longer and fewer” campaign. Achieving this goal will have a substantial impact on the reductions of both wanted and unwanted fertility in Egypt.⁵⁷ According to a demographic survey conducted by Storey and Kagwa in 2009, the proportion of Egyptian women using a modern method of

⁵⁶ Casterline and Roushdy, 2007, p.23.

⁵⁷ Casterline and Roushdy, 2007, p.2.

contraceptive before having their second child increased from 41% in 1995 to 50% in 2000 and to 70% in 2005.⁵⁸ By 2010 Egypt had established a TFR of 3.0 births per woman, a significant decline from the 1995 figure of 4.2.⁵⁹ Nevertheless, it is clear that to speed up the process of fertility transition to a level comparable to urban China, the promotion of contraceptives alone will not be sufficient. For example, Egypt's 2010 TFR total calculated on the basis of the Egyptian demographic health survey⁶⁰ has a planned fertility rate of 2.5 births per woman. This means that the promotion of better contraception could only have the potential to eliminate the unplanned accidental fertility of 0.7 births per woman, meaning that Egypt's desired birth rate of 2.5 is still higher than the replacement level fertility of 2.1.⁶¹ In other words, eliminating unwanted fertility alone will not be sufficient, and Egypt's desired birth rate must be at least lower than 2.0 in order to reach the replacement level TFR.

How would China's family planning program facilitate the Egyptian effort to reduce its birth rate below the replacement level? Policy wise, Egypt could imitate China's 1971 later, longer and fewer campaign introduced by the Beijing State Council Directive aimed at raising the age of marriage; this could lengthen the birth interval, and encourage couples to have no more than two children.⁶² The Beijing policy made three recommendations:

1. Required legal age for marriage should be increased to 23 for women and 25 for men.⁶³
2. Couples should have longer birth intervals between each baby, preferably three to five years.⁶⁴
3. Couples should be responsible parents and having fewer children and two birth per family was the recommended target.⁶⁵

The policy proved to be successful. At the beginning of the 1970s, only 5-10% of Chinese families, mostly urbanites, were using a method of contraceptive with a high fertility rate of 6.0 children per woman.⁶⁶ By the early 1980s however, this figure had increased tremendously, reaching a contraceptive prevalence rate of 70%,⁶⁷ an achievement comparable to Egyptian standards in 2005. At the same time, births to

⁵⁸ Storey, D.J. and Kaggwa, E.B. 2009. 'The influence of changes in fertility related norms on contraceptive use in Egypt, 1995-2005,' *Population Review*, Vol. 48, no. 1, p.9.

⁵⁹ The figure is from <http://esa.un.org/unpp/>

⁶⁰ El-Zanaty and Way, 2009.

⁶¹ Casterline and Roushdy, 2006, p.2.

⁶² Chen, P.C. 1984. 'Birth planning and fertility transition,' *Annals of the American Academy of Political and Social Science*, Vol. 476, p.128.

⁶³ Han, H.Y. 1972. *Questions and answers about planned childbirths*. Beijing: The People's Publisher, p.1-10.

⁶⁴ Chiang, W.S. 1975. *Family planning writing group: family planning*. Beijing: The People's Publisher, chapter 2.

⁶⁵ Lin, C.C. and Hsia, C.Y. 1973. *Questions and answers about the basic health of rural women*. Beijing: The People's Health Publisher, p.32-33.

⁶⁶ Chen, 1984, p.132.

⁶⁷ Nortman, D. and Hofstetter, E. 1981. 'Population and family planning programs: A compendium of data through 1981,' *New York: Population Council*, p.95.

women in peak reproductive age decreased substantially by 50% from 290 births per 1000 in 1971 to 140 births per 1000 in 1981.⁶⁸ In 1971, China's TFR was 3.3 and 6.4 births per woman⁶⁹ for its urban and rural residences respectively, a fertility figure considerably higher than the Egyptian total of 3.0 in 2010.⁷⁰ Merely ten years later however, it dropped by 65% and reached 1.5 children per woman in urban areas and 2.51 children for its rural regions. This gives China a national fertility average of 2.24 births per couple, a figure that could be leniently considered as replacement level fertility.⁷¹ In the light of above evidence, it seems clear that China's "fewer" policy may have the potential to further the Egyptian desires to reach placement level fertility. At the same time, an Egyptian style information, communication and education program may also have the ability to change the parental desire towards low fertility in China's rural regions. Based on the analysis above, the thesis concludes with the following policy recommendations.

Policy recommendations: China

The state of China can be divided into three geo-economic zones: the wealthy coastal regions, the mid-income central areas, and the low income rural world.⁷² While the fertility desires of China's high and mid income regions are generally influenced by the one child policy, the majority people living in rural areas are under less severe restrictions. This is partially due to the fact that there is no government sponsored retirement program in rural regions;⁷³ as a result, rural children are more likely than their urban counterparts to end up as their parents' primary source of social security in old age. This indicates that rural Chinese couples make family planning decisions based on the financial expectations of how having a second or third child might influence the economic well-being of their families and their retirement plan of old age and not on the state's expressed viewpoint of the relationship between population size and modernization at the national level.⁷⁴

Consequently the study recommends the urgent development of a rudimentary social security system and basic welfare schemes for the support of the elderly. This would alleviate rural children's economic value for retirement planning.⁷⁵ Once this is achieved, an Egyptian style fertility education program that promotes contraceptive use and children's quantity-quality trade off could be implemented in China's rural community to reinforce the strong message between lower fertility and further economic growth. China's fertility transition may thus be facilitated by

1. the development of a social security program for its rural regions.
2. the implementation of an Egyptian information, communication and education

⁶⁸ Chen, 1984, p.133.

⁶⁹ Chen, 1984, p.133.

⁷⁰ CIA Fact Book.

⁷¹ Chen, 1984, p.133.

⁷² Chaudhuri and Ravallion, 2007. Uneven growth in China and India, p.181.

⁷³ England, 2005, p.96.

⁷⁴ Thornton, Binstock, Yount, Shavazi, Ghimire and Xie, 2010, p.22.

⁷⁵ Qiao, X. 2001. 'From decline of fertility to transition of age structure: Aging and its policy implication in China,' *Genus* 17, no. 1, p.77-78.

program that seeks to change parental desires towards smaller family size.

Policy recommendations: Egypt

Egypt's desire to achieve replacement level fertility will similarly be difficult to accomplish, unless most Egyptian families accept a two children norm as their desired fertility goal. To this end, the thesis recommends that priority should be given to the design and the implementation of policies and programs that strengthen and reinforce a couple's positive attitude towards the commitment and the desirability of a two children family.⁷⁶ What is required is the introduction of an economic reward and punishment system similar to China's 1971 "later, longer and fewer" campaign.⁷⁷ The basic assumption of this policy is that economic rewards should be given to Egyptian couples who accept the government's authorized minimum age for marriage, preferably 23 for women and 25 for men and having at least a three year interval between each birth and with no more than two living children.⁷⁸ Families that fulfilled these criteria should be made eligible for the application of a family planning certificate, "which entitles the holders and their [children] to various economic and [social] benefits."⁷⁹ Based on the past Chinese practice, the thesis makes the following recommendations for consideration:

1. The holders of a proposed family planning certificate should receive a certain amount of monthly stipend until their children are 15 years old.
2. No coercive practices are recommended. However, if the certificate holders violated the two children per family condition by having a third child, all government provided monthly stipends must be repaid as a form of financial punishment.
3. Women who volunteered for the insertion of an IUD (Intrauterine contraceptive device) upon the birth of their second child would be entitled to extra weeks of government funded maternity leave and subsidized medical treatment should be provided for women from two children families.⁸⁰

How appropriate are our recommendations to Egypt's national context? In chapter four we noted that Professor Cleland of the American University in Cairo stated as early as 1936 that Egypt could reduce births by introducing legislation to raise the age of marriage, and promoting family planning programs to reward low fertility and penalize high birth rates.⁸¹ This recommendation inspired a series of legislation aimed at controlling population growth through family planning and delaying the age at marriage.⁸² Figure 7.4 indicates that since 1947, there is a tendency towards late marriage. The percentage of never married women aged between 20 and 24 increased from 20% in 1947 to 56% in 1998, before declining to 46.2% in 2008. This evidence indicates that

⁷⁶ Casterline and Roushdy, 2006, p.13.

⁷⁷ Chen, M. 1979. 'To realize the four modernizations, it is necessary to control population increase in a planned way: birth planning in China,' *International Family Planning Perspectives*, Vol. 5, no. 3, p.92-101.

⁷⁸ Chen, 1984, p.130.

⁷⁹ Chen, 1984, p.135.

⁸⁰ Chen, 1984, p.135-136.

⁸¹ Robinson, W. and El-Zanaty, F. 2007. *The evolution of population policies and programs in the Arabic Republic of Egypt*. From the global family planning revolution. Robinson, W. and Ross, J. (ed). The World Bank. Washington. DC. p.15.

⁸² Ali, K.A. 2002. *Planning the family in Egypt: New bodies, new selves*. Austin: University of Texas Press.

Cleland’s argument is similar to China’s “later”, “longer” and “fewer” campaign in a major regard and hence this suggests that our recommendation is appropriate and acceptable.

Figure 7.4⁸³
Percentage of never married women

Age	1947	1976	1998	2008
15-19	59%	78%	89%	86.6%
20-24	20%	39%	56%	46.2%

Islam and family planning

It is also expected that some Egyptians may question the economic justification for the “later”, “longer” and “fewer” campaign on the grounds that it contradicts the Islamic beliefs of “tawakkul” and “rizq” (reliance on God and provision by God).⁸⁴ Nevertheless, Egypt is also the home to Al-Azhar Mosque and the Al-Azhar University, centres of Islamic teaching and interpretation. In the past, these institutions had regularly dispatched fatwas (religious leaders) in favour of family planning, the fatwas which Egypt had used in its successful campaigns aimed at reducing fertility. Inspired by Dr Abdel Omran’s argument, there may be several justifiable reasons under Islam for the introduction of a Chinese style policy:

- Avoid the economic hardships of parents for caring for a large family, which might compel parents exhausting themselves to earn a living.
- Allow for the education, proper rearing, and religious training of children, which are more manageable with fewer children.
- Avoid health risks to the mother that would result from repeated pregnancies, short birth intervals, or young age.⁸⁵

Conclusion and discussion

This thesis identified a series of research questions on the theme on population and development in China and Egypt.

- What are the particular details of population growth in China and Egypt?
- What is driving population growth in China and Egypt?
- Which policies have been adopted to address population growth in China and Egypt? How effective are these policies?
- What are the prospects for population growth in China and Egypt? What are the consequences of that?

⁸³ International database-Egypt. See <http://www.census.gov/ipc/www/idbacc.html> Also see El-Zanaty and Way, 2009, p.97.

⁸⁴ ‘Progress toward the millennium development goals in the Middle-East and north Africa.’ see <http://www.prb.org>

⁸⁵ Omran, A. 1992. Family planning in the legacy of Islam. London: routledge.

- In light of answers above, what can these countries, China and Egypt, learn from each other as they try to manage rapid population growth?
- What policy prescriptions might be made?

In chapter two, we have identified the total fertility rate, the demographic transition and the Malthusian population trap as our conceptual framework for population and development. Using these concepts to answer our first two questions, it is well established in the historical section of chapter four that China and Egypt faced a population crisis that was seen to hindering national development since the 19th century. For China, the Manchu invasion of 1644 was a time of great suffering and China lost as many as 40 million people. What followed this initial horror, however, was a time of extraordinary prosperity that increased China's population from 50 million in 1680 to 300 million in 1780. This six-fold increase in population placed enormous strain on the country's prospects for economic development. This is an issue that continued to be on the top of the political agenda in the 21st century China.

Much similar to China, the 19th century was also a time of population expansion for Egypt. Initially Egypt's population was generally estimated at five to ten million people. Muhammad Ali's firm and ambitious reign in the 19th century produced a remarkable period of economic development and tripled Egypt's population from 2.5 million in 1800 to 9.7 million in 1897 and again to 15.9 million in 1937. This was the year that marked the beginning of the Egypt's self-awareness stage of population planning.

Chapter five looked at the next question concerning population policies. It argued that in China the decades of the 1970s and the 1980s were a time of fertility ups and downs as population control policies were being introduced, modified and reaffirmed.⁸⁶ In March 1984, China's Family Planning Commission issued a report to the leadership of the Communist Party, calling for a more flexible birth control policy.⁸⁷ The modification came to be known as "opening small holes and closing big gaps."⁸⁸ In essence, the opening holes policy suggested that exemptions from the one child policy should be allowed for rural families with real difficulties, or with only one daughter "to bear a second child."⁸⁹ Further modifications to the one child policy had been left to the hands of each province, whose local authorities were given more freedom to determine its own population target in accordance with the local socio-economic conditions. Overall, China's population programs attempts to be flexible, fair and responsive⁹⁰ to the diversity of the demographic and socio-economic conditions across the country.⁹¹

A final observation concerning Egypt's population program suggests that the country's

⁸⁶ Ting, T.F. 2004. 'Shifts in reproductive pattern in China,' *Population and Environment*, Vol. 25, no. 4, p.311.

⁸⁷ Gu, Wang, Guo, Zhang, 2007, p.131.

⁸⁸ Greenhalgh, S. 1986. 'Shifts in China's population policy, 1984-1986: Views from the central, provincial and local levels,' *Population and Development Review*, Vol, 12, no. 3, p.491-515.

⁸⁹ Ting, 2004, p.311.

⁹⁰ Wang, H. 1991. Population planning in China. In *Population and development planning in China*. Wang, J. and Hull, T.H. (ed). Allen & Unwin, p.69.

⁹¹ Gu, Wang, Guo, Zhang, 2007, p.131

stated policy objective of reducing population growth has made gradual progress. Since the introduction of its first family planning program in 1965, Egypt's estimated contraceptive prevalence rate has increased from 5% in 1960 to 10% in 1970 and to 26% in 1975.⁹² Although it declined slightly during the second phase of the family planning program in 1980 to 24%, it reached 37.8% in 1988 and rising again to 47.1% in 1992 and to 56% in 2001.⁹³ More recently, data from the *Egyptian demographic health survey 2009* indicates that more than 70% of the married women were believed to be practising family planning and the knowledge of a modern method of contraception is almost universally known to all Egyptian families.⁹⁴

Despite their considerable progress in fertility transition however, China and Egypt continue to face many challenges. This brings us to our final set of questions concerning prospects and policy recommendations identified in chapter six. For China, the government of the People's Republic initially recognized that their country's rapid population growth was increasingly becoming an obstacle to healthy socio-economic development and it took strong measures, including abortion, sterilization, a one child policy and other incentives to prevent a population explosion. These efforts, together with the country's subsequent rapid socio-economic development wrought by China's economic reform of the 1980s, produced a below replacement level fertility comparable to the demographic achievement of such advanced countries as the United Kingdom, Germany or the United States. What is at issue, however, is China's need to reduce, narrow and eventually eliminate the country's persistently high fertility performances of its rural regions. Families from less developed rural areas are generally exempted from the one child policy, and their TFR is believed to be many times higher than the residents of the urban regions. Overcoming these issues will require substantial population planning, economic development and the support for old age security. In particular, it is recommended that the Egyptian information, communication and education programs, which have been relatively successful in producing a universally low fertility desire for all Egyptian families, could serve as an instructive example for China's observed fertility gap.

At the same time, "while consistent increase in contraceptive use"⁹⁵ brought by Egypt's family planning programs have somewhat reduced Egypt's population growth rate, Egyptian women still have an above replacement level fertility of 3.0 births per family. Egypt's desire for smaller family size could best be accomplished through a later, longer and fewer campaign inspired by the Chinese example. This could be done through the introduction of an economic rewarding system that provides tangible economic rewards for families that aspire for below replacement level fertility. "Development and modernization alone [thus] may not lower fertility. Nor is it likely that government

⁹² Robinson and El-Zanaty, 2007, p.29.

⁹³ El-Zanaty, Sayed, Zaky, and Wang 1993. Also El-Zanaty, F. and Way, A. 2001. *Egypt demographic and health survey 2000. Calverton, Maryland: Ministry of Health and Population in Egypt, National Population Council and ORC Macro.*

⁹⁴ El-Zanaty and Way, 2009.

⁹⁵ Eltigani, E.E. 2000. 'Changes in family building patterns in Egypt and Morocco: A comparative analysis,' *International Family Planning Perspective*, Vol. 26, no. 2, p.77.

policies alone can slow or stop the growth of the Chinese [and Egyptian] population.”⁹⁶
Instead of suggesting that “development is the best contraceptive”, this thesis argues that a “development plus contraceptive” model leads to a more satisfactory demographic future for everyone.

⁹⁶ Yuan, Zhang, Ping, Li, Liang, 1992, p.40.

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