

Towards Two Child Family as an Ultimate Sustainable Development Policy Goal in Egypt

Dr. Aliaa` Abdel-Raouf Ali Amer
Lecture & Researcher at Cairo Demographic Center
Alia19amer@gmail.com

Abstract

Total population of Egypt about 100 million Persons, (CAPMAS 2017). Egypt is characterized by the presence of large families; the Egyptian story is not unique. Other countries have experienced slow or stalled fertility declines, or even a reversal (e.g. Kenya and Ghana in Africa, and Bangladesh and the Philippines in Asia).

The sustained fertility decline in Egypt began 1960s, during the 1980s and early 1990s, the decline in fertility picked up speed. The last decade, however, witnessed a noticeable slowing in the pace of decline, in 2014 the total fertility rate (TFR) in excess of 3.5 birth per woman according to the latest DHS survey in Egypt.

Replacement level fertility in Egypt in the near future will require reduction in both wanted and unwanted fertility, this required reductions in wanted and unwanted fertility are roughly equal. The segments of the population where fertility is currently relatively high (rural areas, less educated women, poorer households). The reductions in wanted fertility will need to be about twice as large as the reduction in unwanted fertility.

First of all the reductions in wanted and unwanted fertility are required. A second, equally important point is that replacement-level fertility will be difficult to achieve unless most Egyptians accept two childbearing goals.

The demographic regime in Egypt is characterized by universal and relatively early marriages and there are many obstacle to the achievement for this goal the most obstacle repack for the old traditional because the Egyptians wish to have both a son and a daughter, for women perceive much gain from having a large number of children and most acknowledge the advantages of having just two children.

الإتجاه نحو طفلين لكل أسرة وسيلة لتحقيق أهداف التنمية المستدامة في مصر

إعداد

د. علياء عبد الرؤوف علي عامر

ملخص:

قامت مصر بوضع أول سياسة سكانية في عام ١٩٦٦، بهدف الحد من إرتفاع معدل النمو السكاني كهدف نهائي للتنمية، ولتحقيق هذا الهدف، اعتمدت الدولة برنامجاً وطنياً لتنظيم الأسرة يستهدف الأزواج لاستخدام وسائل منع الحمل من أجل خفض مستويات الخصوبة المرتفعة. ومنذ منتصف الثمانينات بدأ مستوى الخصوبة يظهر انخفاضاً مطرداً كبيراً حتى أوائل

التسعينيات. ولسوء الحظ، أظهر العقد الماضي ارتفاعا في مستوى الخصوبة عكس السياسة السكانية المرجوة.

ومن الواضح في ظل هذه الظروف أن بلوغ مستوى الإحلال كهدف من أهداف التنمية المستدامة في عام ٢٠٣٠ لن يتحقق ما لم يحقق السكان اتجاههم إلى طفلين فقط كحجم للأسرة. وفي هذا السياق، تركز هذه الدراسة أساسا على دراسة الاتجاهات الأخيرة لانخفاض الخصوبة من خلال بعض الضوء على مدى تحرك السكان المستهدفين نحو تحقيق مستوى الإحلال كهدف للتنمية المستدامة في مصر.

1. INTRODUCTION

1.1 Research Problem

Egypt formulated its first notional population policy in 1966, aiming at reducing the high rate of population growth as an ultimate goal. To achieve such goal, the country adopted a national family planning program targeting married couples to use contraceptives in order to reduce the high fertility levels. Since the middle of 1980s fertility level started to show considerable steady decline up to early 1990s,. Unfortunately, the last decade has shown a plateau in the fertility level as no considerable decline was observed.

Under such circumstances, it seems that reaching the replacement level as a policy goal in ٢٠٣٠ will not be achieved unless the population has realized 2 child family size.

In this context, the present study focuses mainly on examining recent trends of fertility decline in order to through some light on the extent to which the targeted population is moving to the achievement of replacement level as a policy goal.

1.2 Objectives

The present study attempts to understand fertility transition towards two-child family size or replacement level in Egypt. More specifically, the study will meet the following objectives:

- 1- To examine the recent trend of fertility in Egypt.
- 2- To identify the demographic and socio-economic differentials of the transition towards low fertility level
- 3- To investigate obstacles of achieving replacement fertility level in Egypt in the near future.

1.3 Source of Data and their Limitation

The present study depends mainly on the data provided from the successive Egypt Demographic and Health Surveys (EDHS) of 2000, 2005, 2008, and 2014. In addition, other related surveys and studies on the subject are utilized to understand reasons of installed fertility level experienced in Egypt during the last decade like "The Slow Fertility Transition project" which has been co-funded by USAID, the Mellon Foundation, CIDA, and the Population Council. The main objective of this project was to better understand the current slow pace of fertility decline in Egypt and to identify policies that might facilitate decline to replacement level.

1.4 Methodology

The present study depends on both descriptive and analytical approaches. The descriptive part of the study will include calculation of the relative rates and ratios to examine levels and pattern of fertility decline. Cross tabulated proportional distribution tables are also used to identify the major Demographic and Socio- economic differentials of fertility decline in Egypt.

As regards the analytical approach, the study will apply Westoff & Bankole model for estimating TFR¹ if unmet need was satisfied (1966). This model utilizes the high correlation between CPR² and TFR that has been repeatedly been documented across countries. The overall correlation coefficient 0.94 will be applied using the following equation:

$$\text{TFR}_i = 7.1789 - 0.0682(\text{CPR})_i + e_i$$

Where:

TFR_i: is the estimated total fertility rate if unmet need is satisfied.

CPR_i: is estimated contraceptive prevalence rate.

e_i : is error factor rate if unmet need is satisfied for the difference between actual number and estimated number.

1.5 Review of Literature

Many studies examined levels and trends as well as the important determents of fertility in Egypt. Among these studies education urban rural resident, participate in labor force, standard of living when found to be significant determinants of fertility decline. However, the recent years have shown stalled level of fertility. Some studies examined the new direction in such phenomenon.

Salvini (1997) studied the marked decline in fertility in Egypt in the 1980s. He found that the decline from 6 to 4 children per women is clear. He found also that household wealth, education of women; employment status and place of residence and age at first marriage are important factors in fertility transition.

In Egypt the greater family is accessed by significant low education. Education is related to entry into both married life and child bearing. Girls who have completed secondary school are more likely to delay marriage and childbearing, their children trend to be healthier, and their joined to the labor force is relatively higher (UN 1995).

EL-Zanaty (2004) indicated that there is a difference of many years in the median age at first marriage between women who have never attended school and women having got higher education level. When they have their first child, highly educated women are also older than women who never went to school the reduction in wanted fertility will need to be about twice as large as the

1 TFR: "Total Fertility Rate"

2 CPR: "Contraceptive Prevalence Rates"

reductions in unwanted.

Clark (2000) studied the term "son preference "as usually used to refer to the attitude that sons are more important and more valuable than daughters. Extensive literature documents that in countries where the son preference is prevalent there exist a commonly accepted strategy to stop having children – selective birth control. Practicing selective birth control makes for a negative relationship between the proportion of sons and family size.

Mencarini, Salvini, and Vignoli (2005), studied the Urbanization as another central aspect that influences women's reproductive choices: In urban areas, the socio-demographic transition and, more specifically, fertility transition is accelerated.

Giusti and Vignoli 2005, 2006, studied differentials of the region and the urban-rural type of residence particularly if considered jointly in fertility in Egypt. They contributed to the greatest part of variability in contraceptive behavior, as they synthesized many contextual factors related to inequalities in the access to the Structures of family planning.

Dalla Zuanna and Leone (2001) studied the Families who have a preference towards a son are likely to continue having children until they reach the desired number of sons.

Arnold (1997) studied also son preference in Egypt. He found that the Evidence of the son preference is well documented for Egypt regarding fertility behavior, including contraceptive use. (The son preference is often institutionalized, in particular in patriarchal societies (such as Egypt): Male progeny is wanted as males carry on the family line and the family name. Moreover, sons are often thought to enhance the power and prestige of a family. Male are usually favored over women owing to economic considerations: they can help out in the family business.

1.6 Country Background

Egypt occupies the northeast corner of the African continent. It is bounded in the north by Mediterranean Sea, in the south by Sudan, in the east by the Red Sea and in the west by Libya. The surface area of Egypt is approximately one million square kilometres. About 95% of the total area, mainly the Nile valley and the Delta.

Administratively, the country is divided into 27 governorates. Four of these governorates are major 4 urban ones as to: Cairo, Alexandria, Port Said and Suez, 9 governorates are located in Lower Egypt, 9 are located in Upper Egypt, and five are frontier governorates.

Egypt's estimated population reached 100 million in 2016. The population growth rate decreased from 2.8% during the period 1976-1986 to 2.3% in the period 1996-2016, children under 15 years of age constituted 31.2% of the population. People aged 15-59 years were 64.5%, whereas those 60 years and older were 4.3% of the population. The crude death rate dropped from about 9.2 per thousand in 1986 to 6.5 per thousands in 2016. The crude birth rate declined from 38.6 per thousand in 1986 to 30.2 per thousand in 2016. The total fertility rate declined from 5.2 births per women in 1980 to 2.9 birth per women in 2006. Life expectancy at birth rose from 60 years in 1986 to 70.5 in

years in 2016 for males and from 63 years in 1986 to 73.3 in 2016 for females. (CAPMAS, 2017).

1.7 Organisation the Study

This study consists of four sections. The first section is an introductory one. It includes Introduction, research problem, study objectives, sources and limitation of data, methodology, review of literature and country background.

The second section is devoted to examine the recent trends and differentials of fertility decline in Egypt in terms if selected demographic and socio- economic variables.

The third section examines the possibility of achieving the replacement level of fertility under certain assumption of satisfying the existing unmet need.

The fourth section is the final one which deals with conclusion and recommendations.

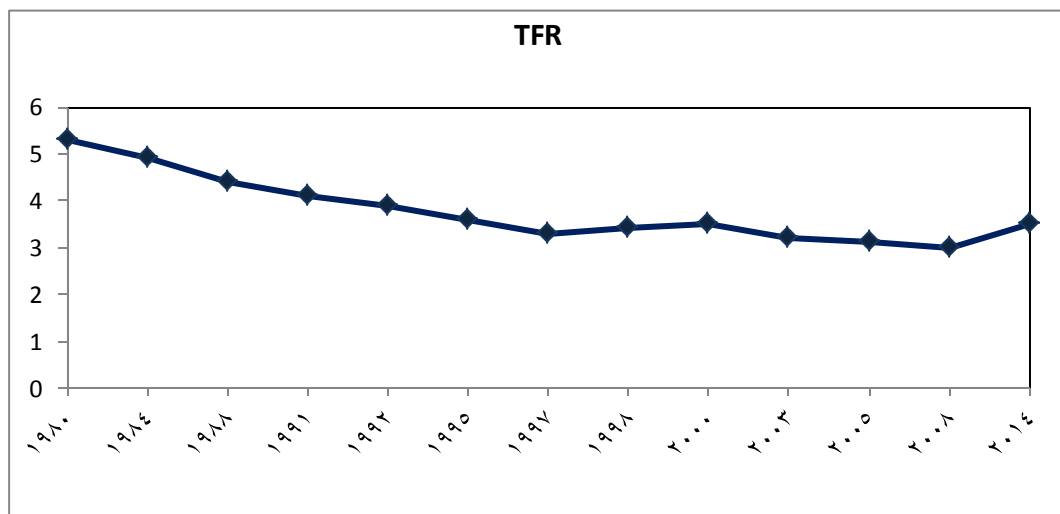
II. RECENT TRENDS AND DIFFERENTIALS OF FERTILITY DECLINE IN EGYPT

2.1 Trends of Fertility Decline in Egypt

Monitoring the change in fertility levels has been one of primary reasons for conducting a series of demographic surveys in Egypt during the last two decades. As in many other developing countries, the prevailing norms in Egypt for a long period appreciated greatly large families especially in rural areas; however the results of successive demographic and health surveys conducted in Egypt have shown a significant declining trend in fertility associated with considerable changes in the reproductive pattern. This has been meanly due to the successful implementation of family planning programs in Egypt.

Figure 1 shows the trend of total fertility rate in Egypt during the last three decade. Total fertility rate dropped from a high level of 5.3 children in 1980 to reach 3.5 births per women in 2000, such a decline of 1.8 births in 20 years. The rate continued to decrease with slower pace to reach 3.1 and 3.0 in 2005, 2008 respectively, however, the result of EDHS 2014 has shown fertility increase as TFR 3.5 children.

Figure (1)
Trend of Total Fertility Rate in Egypt 1980-2014



Source: EDHS 1980-2014

To examine the potentiality of fertility transition towards two child family or replacement, level it is of considerable importance to analyze cumulative fertility levels of currently married women in order to identify the proportions of women who got only up to two children and those who got more than two children.

Table 2.1 shows percentage distribution of the currently married women in child bearing age and in the age of complete family size, according to the number of children ever born 2008 and 2014. The percentage of women at age 15- 49 having 2 or less children is 46 percent in 2008 and increase to almost 48 percent in 2014, while the percentage of women at ages 45-49 having the same number of children is only 16 percent and 12.8 percent in 2008, 2014 previously . These differences reflect the high fertility culture to those women related to order cohort, compared to women of young ones when appreciate smaller family size.

Table (2.1)
Percentage Distribution of the Currently Married Women in Child Bearing Age (15-49) and in the Age of Complete Family Size (45-49) According to the Number of Children Ever Born 2008-2014

CEB	Women in the child bearing Ages (15-49) 2008			Women in the child bearing Ages (15-49) 2014			Women of completed family size aged (45-49)2008			Women of completed family size aged (45-49)2014		
	NO.	%	cumulative	NO.	%	cumulative	NO.	%	cumulative	NO.	%	Cumulative
0	1749	10.6	10.6	1880	8.6	8.6	87	4.0	4.0	104	3.8	3.8
1	2484	15.0	25.6	3097	14.2	22.8	69	3.1	7.1	88	3.3	7.1
2	3422	20.7	46.3	5423	24.9	47.7	205	9.1	16.2	347	12.8	19.9
3	3450	20.9	67.2	5301	24.4	72.1	417	18.4	34.5	596	22.1	42
4	2218	13.4	80.6	3243	14.9	87	387	17.2	51.8	610	22.5	64.5
5	1306	7.9	88.5	1543	7.1	94.1	302	13.2	65.0	424	15.7	80.2
6+	1898	11.5	100.0	1277	5.9	100	789	35.0	100.0	537	19.8	100
Total	16527	100		21764	100		2256	100		2706	100	

Source: Calculated from EDHS 2008, 2014

Table (2.2) shows the percentage distribution of births of the 12 months preceding the survey according to birth order in Egypt 2008, 2014. The table indicates that about 64 percent in 2008 decreasing to 57 percent in 2014 for the births of the 12 months preceding the survey are of the first and second order. This reflects better attitude towards small family size in terms of current fertility compared to the cumulative fertility presented in table (2.1). However, the table shows that still 36 percent in 2008 and 43 percent in 2014 of the births of the recent year are of higher order 3+. Families of these births should be targeted in the IEC program in order to realize the transition towards the two-child family size on replacement level fertility.

Table (2.2)
Percentage Distribution of Births of the 12 months preceding the survey According to Birth order, EDHS 2008 -2014

Birth Order	2008		2014	
	Percentage	Cumulative Percentage	Percentage	Cumulative Percentage
1	37.9	37.9	28.7	28.7
2	25.7	63.5	28.4	57.1
3	16.1	79.6	22.3	79.5
4	9.0	88.6	12.1	91.5
5	5.2	93.8	4.9	96.4
6+	6.2	100	3.6	100.0
Total	No.	8051	3571	
	%	100	100	

Source: calculated from EDHS 2008, 2014

2.2 Transition from Second to Third Birth, According to Selected Socio Demographic Variables

Table 2.3 presents Percentage Distribution of currently married women who have 2 or less children, and those who have three or more children according to selected demographic and socio-economic characteristic in EDHS 2008, 2014. The table shows that the percentage of women having got 3 or more children is high in rural areas compared to urban, while the percentage of women having got up to only 2 children is higher in urban areas compared to rural. This reflects that urban women tend to get less children compared to rural in both EDHSs.

As regards age at first marriage in 2008 and 2014, the table shows that the percentage of women who have 2 or less children is considerably higher to reach of two-third women married at high ages 26+, compared to only one-third for women married at age less than 20. This indicates that as age at first marriage increases the percentage of women having got two or less children also increases.

As expected, the educational composition of the population is important predictor of fertility change. The table indicated that only one third of women with either no education or those who have primary education have up to two children, while the other two thirds have three or more children. On the contrary, two thirds of those who have university education have up two children while only one third have three or more children in both scurvies.

**Table (2.3)
Percentage Distribution of Currently Married Women Who Have 2 or Less Children and Those Who Have More Children According to Selected Demographic and Socio-Economic Characteristic, EDHS 2008-2014**

Socio-demographic variables	Women having 2 or less (%)	Women having 3+ (%)	Women having 2 or less (%)	Women having 3+ (%)	Total
	2008		2014		
Typo of Place of residence					
Urban	49.9	50.1	51.1	48.9	100.0
Rural	43.6	56.1	46.0	54.0	100.0
Age at first marriage					
Less than 20	37.6	62.4	38.9	61.1	100.0
20-22 year	51.3	48.7	50.7	49.3	100.0
23- 25	57.8	42.2	59.0	41.0	100.0
26 +	69.8	30.2	70.3	29.7	100.0
Women's Educational level					
No education	31.1	68.9	28.9	71.1	100.0
Primary	32.6	67.4	36.6	63.4	100.0
Secondary	56.5	43.5	53.9	46.1	100.0
Higher	68.3	31.7	65.9	34.1	100.0
Employment Status					
Not working	47.0	53.0	48.7	51.3	100.0
Working	42.4	57.6	43.0	57.0	100.0

Wealth Index					
Poorest	37.0	63.0	34.4	65.6	100.0
Poorer	43.0	57.0	41.3	58.7	100.0
Middle	46.6	53.4	50.3	49.7	100.0
Richer	51.3	48.7	53.9	46.1	100.0
Richest	54.6	45.4	57.3	42.7	100.0
Total	46.3	53.7	47.8	52.2	100.0

Source: Calculated from EDHS 2008-2014

The table shows also that, contrary to what may be expected, the percentage of women who have 3 or more children is by higher among women working for cash with a level of 57.6 , 57 percent, compared to 53, 51.3 percent for women, who are not working in 2008 and 2014 previously.

As regards wealth index, it is clear from the table that as the wealth index increases, the percentage of women who have up to 2 children increases in which only 37 percent in 2008 and 34.4 percent in 2014 of the poorest women have 2 or less children compared to 54.6 and 57.3 percent among the richest women in 2008 and 2014 previously. This means that higher properties of rich women seem to be satisfied with 2 child family size.

Table 2.4 presents the percentage distribution of currently married women who have 2 or less children, and those who have 3 or more children according to contraceptive practice and desire for more children in Egypt 2008-2014. The table shows that the majority of non-users (60& 53 percent) have 2 or less children Compared to (40 & 47) percent having 3 or more children in 2008 and 2014 respectively. The non-use of contraceptives among women with 2 or less children means that they still desire to get more children. In the same time the low percentage (36 percent) of users of modern methods who have two or less children indicates also high potentiality to get the third child. On the other hand, 64 percent of women who already got 3 or more children are using contraceptive in both EDHSs.

Table (2.4)

Percentage Distribution of Currently Married Women who have 2 or Less Children, and those who have 3 or more Children according to Contraceptive Practice and Desire for more Children, 2008-2014

Socio-demographic variables	٢٠٠٨			٢٠١٤		
	Women having 2 or less (%)	Women having 3+ (%)	Total	Women having 2 or less (%)	Women having 3+ (%)	Total
Current use Method Type						
No method	59.7	40.3	100.0	53.2	46.8	100.0
Traditional method	٤٤.٧	٥٥.٣	100.0	44.5	55.5	100.0
Modern method	3٥.٩	6٤.١	١٠٠.0	36.4	63.6	١٠٠.0
Intention to use						
Use later	72.7	27.3	100.0	61.7	38.3	100.0
Unsure about use	73.0	27.0	100.0	54.4	45.6	100.0
Does not intend	40.7	59.3	100.0	39.2	60.8	١٠٠.0

Total	59.8	40.2	100.0	53.3	46.7	100.0
Desire for More Children						
Wants soon	60.0	40.0	100.0	77.6	22.4	100.0
Wants later	49.9	50.1	100.0	82.4	17.6	100.0
Wants no more	2.8	97.2	100.0	27.1	72.9	100.0
Total	53.0	47.0	100.0	42.8	57.2	100.0
Total	46.3	53.7	100.0	47.1	52.9	100.0

Source: EDHS 2008, 2014

With regard to intention to use contraception among non-users, the table indicates that the majority of women who wanted to use later or unsure, have 2 or less children with a level of 73 & 61 percent, comparing to only 40.7 & 39 percent among those who don't intend to use in 2008 & 2014 respectively. This reflects a positive means after they got another child.

As regards the desire for more children, the table indicates that the desire for another child soon is low among women who have 3 or more children (40 percent) in 2008 decline to (22 percent) in 2014. Furthermore, only 2.8 percent of women who want no more children have 2 or less children in 2008 compared to rise in this ratio to 27 percent in 2014, this reflecting the trends of families in Egypt to accept small family size but still far, (when 97 & 73 percent) of them have 3 or more children respectively.

All these directions indicate that the attitude of currently married women in Egypt is still far from achieving small family size norm.

Analyzing the sex of children among currently married women who have only two children in the EDHS 2008 and 2014 it was found that 42 percent got (both sexes) one boy and one girl, while 25.3 percent got two boys and the remaining 32.7 percent got two girls. In the context of the phenomenon of birth preference mentioned in the review of literature, thus trends may indicate also a potential tendency towards having a third child in order to satisfy their reproductive intentions of a child of the other sex.

III. ACHIEVING REPLACEMENT LEVEL FERTILITY THROUGH SATISFYING THE UNMEET NEED FOR FAMILY PLANNING

3.1 Estimation of Potential Level of Contraceptive Prevalence if Unmeet Need was satisfied

One of the important programmatic questions in family planning is how to satisfy the unmet need of family planning particularly when it stands at high levels, in order to achieve the policy goals of fertility decline. The levels of unmet need for family planning in the late 1980s and early 1990s were approaching 28 percent, which means that more than one fourth of currently married women were not using any method of contraception while they wanted to space or terminate their childbearing. The recent data from EDHS 2008 indicate that the level of unmet need for family planning has decline considerably to about 9 percent and increase to reach 12.6 in 2014. This section is devoted to test whether Egypt can reach the replacement level of fertility if the unmet need for family planning was satisfied. The controversial question of

potential fertility decline that would result from satisfying the unmet need for contraception is of fundamental importance for population policy (Westof & Bankle,1996).

In this part of the study levels of contraceptive prevalence will be examined through the reference period of the study parallel with the trend of the unmet need to estimate the potential contraceptive prevalence rate if the unmet need was satisfied, then an estimation of TFR that would be achieved under the assumption of satisfying the unmet need.

In an earlier study, Abdel-Maksoud (1999) utilized the EDHS data of 1988 and 1992 to estimate the potential contraceptive prevalence if the unmet need for family planning was satisfied. He assumed three models of satisfaction due to the high level of unmet need at that time (27.8 percent) as recommended by Westof & Bankole (1996). However as a result of the considerable decline observed for the unmet need in Egypt for the recent years it appears satisfactory to apply one assumption model only as the maximum model considering that all the unmet need would be satisfied.

Table 3.1 shows those levels of contraceptive prevalence rate and the unmet need for family planning among currently married women in the reproductive age as well as the estimation of the assumed contraceptive prevalence rate if the existing unmet need satisfied by regions the period 2000-2014. The table indicates that Egypt has achieved a minimal level of unmet need during the recent period as it increase from 11.2 percent in 2000 to reach 12.6 percent in 2014.

increased in the last three years from 59.2 in 2005 percent to only 60.3 percent in 2008.The potential contraceptive prevalence rate that would be achieved if unmet need was satisfied reaches a level of about 70 percent in both 2005 & 2008 and 71 percent in 2014.

As regards the regional variations, the lowest level of potential CPR was observed in Frontier governorates region and rural Upper Egypt Regions followed by urban Upper Egypt Region. Other regions have shown a close level between 71% and 74 %.

From this table, it became clear consensus idea research with results that have been extracted, therefore; lower the level of fertility upon the assumption that all women to use contraception.

Table (3.1)
Levels of Contraceptive Prevalence Rates, Unmet Need and Potential
Contraceptive Prevalence Rates if
Unmet need was satisfied 2000-2014

Region	2000			2005			2008			2014		
	Unmet need	CPR	Exp .	Unmet need	CP R	Exp .	Unmet need	CP R	Exp.	Unmet need	CP R	Exp .
Urban governorate	7.2	62.7	69.9	8.5	63.9	72.4	5.9	65.2	71.1	11.1	62.6	73.7
Lower Egypt	8.8	62.4	71.2	7.1	65.9	73.0	7.4	64.3	71.7	10.4	63.8	74.2
Urban Lower Egypt	8.8	64.9	73.7	7.3	64.1	71.4	6.4	65.5	71.9	10.9	62.5	73.4
Rural Lower Egypt	8.8	61.4	70.2	7.1	66.5	73.6	7.7	63.9	71.6	10.3	64.1	74.4
Upper Egypt	16.1	45.1	61.2	14.6	49.9	64.5	13.1	52.7	65.8	16	50.3	66.3
Urban Upper Egypt	10.7	55.4	66.1	9.5	60.0	69.5	8.0	62.4	70.4	13.5	58.9	72.4
Rural Upper Egypt	18.7	40.2	58.9	17.1	45.2	62.3	15.4	48.4	63.8	17	46.7	63.7
Frontier Governorates	14.5	43.0	57.5	9.1	50.7	59.8	10.0	52.3	62.3	11	55	66
Total	11.2	56.1	67.3	10.3	59.2	69.5	9.2	60.3	69.5	12.6	58.5	71.1

Source: Calculated from EDHS 2014

3.2 Estimation of Potential Fertility level through Satisfying the Unmet Need for Family Planning

Assuming that all unmet need can be satisfied, which represents mainly the maximum level of CPR according to this model, table (3.2) presents the CPR with Satisfied unmet need, actual TFRs and estimated TFRs if unmet need is satisfied. The table shows that the average overall prevalence rate of contraception increased from 67.3 percent in 2000 to about 70 percent in 2005 & 2008 and 71 in 2014.

This table shows that the highest increase in the CPR with satisfied unmet need is observed in lower urban Egypt as it reached 73.7 percent, followed by urban governorates with a level of 69.9 percent in 2000. The lowest increase was observed in frontier governorates of about 57.5 percent. It is interesting to note that the same observation is valid in 2005 to 2014 as it reached 71.4, 71.9 and 73.4 percent in lower urban Egypt in 2005, 2008, and 2014 while the frontier governorates were 59.8, 62.3 and 66.0 percent respectively.

As it was expected, the data in the table indicate that there were persistent rising trends in all regions between 2000 and 2014. The highest increases were in Rural Upper Egypt, which accounted for 58.9 percent in 2000 compared to 66.0 percent in 2014 (7.1 percentage points increase).

The lowest increases were observed in urban governorates where they represented 69.9 in 2000 compared to 73.7 in 2014 percent (3.8 percentage point increase).

After having estimates of the potential use of family planning under the maximum assumptions and the amount of unmet need that might be satisfied, the remaining task is to derive the TFRs that would be reached by those levels of use, to do so, the mentioned high correlation between CPR and TFR that has repeatedly been documented across countries is utilized here The following regression equation (westoff & bankole, 1966).

$$\mathbf{TFR_i=7.1789-0.0682(CPR)_i + e_i}$$

Substitution of the potential prevalence estimates for CPR in the above equation will give the TFRs that would be prevailing if the unmet need for contraception was satisfied.

Table (3.2) presents the reduction in fertility that would be realized by satisfying unmet need using the estimate model. In 2000 the highest reduction in fertility would be in rural Upper Egypt, where it would be reduced from 4.66 live births per woman to 3.2, compared to decline from 4.1 to 2.8 in 2014. The lowest reduction would be in urban governorates from 2.98 to 2.4 in 2000 and from 2.5 to 2.2 in 2014. The overall reduction for whole Egypt in 2000 would be higher than 2005, 2008 and 2014 where in 2000 it declined from 3.53 live births to 2.6 per woman to reach 2.4 in 2005 , 2008 and 2.3 in 2014.

In conclusion, the data presented in the table show that, after the unmet need would be satisfied under the estimate assumption in 2000, the region which was close to the replacement level of TFR would be urban governorates (2.2 live births per woman). But rural Upper Egypt was still very far from the replacement where TFR would be 4.1 live births in 2014. As regards TFR that would be reduced after the estimated model is adopted in 2014, it would become close to the replacement, with TFR of 2.4 live births per woman. This means that it still important for decision – maker and planner to pay more efforts to convince Egyptian couples to accept the two child family size in order to accomplished the national fertility goals.

Table (3.2)
CPR with Satisfied Unmet Need, Actual TFRs and Estimated TFRs if Unmet Need is satisfied, 2000-2014

Region	2000			2005			2008			2014		
	CPR with Satisfied Unmet need	Actual TFR	TFR if Need is satisfied	CPR with Satisfied Unmet need	Actual TFR	TFR if Need is satisfied	CPR with Satisfied Unmet need	Actual TFR	TFR if Need is satisfied	CPR with Satisfied Unmet need	Actual TFR	TFR if Need is satisfied
Urban governorates	69.9	2.98	2.4	72.4	2.5	2.2	71.1	2.6	2.3	73.7	2.5	2.2
Lower Egypt	71.2	3.24	2.3	73.0	2.9	2.2	71.7	2.9	2.3	74.2	3.4	2.1
Urban Lower Egypt	73.7	3.5	2.1	71.4	2.7	2.3	71.9	2.6	2.3	73.4	3.0	2.2
Rural Lower Egypt	70.2	3.31	2.4	73.6	3.0	2.1	71.6	3.0	2.3	74.4	3.6	2.1
Upper Egypt	61.2	4.24	3.01	64.5	3.7	2.8	65.8	3.4	2.7	66.3	3.8	2.7
Urban Upper Egypt	66.1	3.39	2.7	69.5	3.1	2.4	70.4	3.0	2.4	72.4	3.2	2.2
Rural Upper Egypt	58.9	4.66	3.2	62.3	3.9	2.9	63.8	3.6	2.9	63.7	4.1	2.8
Frontier Governorates	57.5	3.80	3.2	59.8	3.3	3.1	62.3	3.3	2.9	66	3.9	2.7
Total	67.3	3.53	2.6	69.5	3.1	2.4	69.5	3.0	2.4	71.1	3.5	2.3

Source: EDHS 200, 2005, 2008, 2014

IV: CONCLUSION AND RECOMMENDATIONS

This study focuses mainly on transition towards two child family as an Ultimate population Policy, Goal in Egypt in order to ensure the sustainability of fertility decline to the replacement level. The main concluding remarks and recommendations are as follows:

4.1 Conclusion

- After a long history of high fertility in Egypt, an actual and persistent decline in its level has been observed during the 1980s and 1990s. Total fertility rate dropped from a high level of 5.3 children in 1980 to reach 3 births per women in 2000, such a decline of 2.3 births in 28 years.
- The percentage of women at child bearing age 15- 49 having 2 or less children is 46 percent, while the percentage of women at ages of completed family size 45-49 having the same number of children is only 16 percent. This means that there still high potential increase in fertility among women who did not yet completed their reproductive span to get more than two children.
- The percentage of births of the 12 months preceding the survey of the first and second order reached 64 percent, which reflects better attitude towards small family size for current fertility but still 36 percent of the births of the last year are of higher order 3+.
- Demographic and socio-economic differentials of fertility decline reflect considerable differences in the percent ages of women with small family size of 2 or less children by type urban rural residence. The percentage of women having got 3 or more children is still high in rural areas compared to urban, while the percentage of women having got up to only 2 children is higher in urban areas compared to rural.
- The age at first marriage indicates that the percentage of women who

have 2 or less children is considerably higher of about two-thirds among women who married at high ages 26+, compared to only one-third for women married at age less than 20. This indicates that as age at first marriage increases the percentage of women having got two or less children also increases.

- The educational composition of the population is important predictor of fertility change. Only one third of women with either no education or those who have primary education have got up to two children, while the other two thirds have three or more children. On the contrary, two thirds of those women who have university education have got up two children while only one third of them have got three or more children.
- As regards participation in labor force, it is surprising that the replacement family size it shows for this factor that the percentage of women who have 3 or more children is higher among women working for cash with a level of 57.6 percent, compared to 53 percent for women not working.
- As regards wealth index, the study indicated that as the wealth index increases, the percentage of women who have up to 2 children increases in which only more than one third of the poorest women have 2 or less children compared to nearly 55 percent among the rich women. This means that higher proportion of rich women seem to be satisfied with 2 child family size.
- As regards contraceptive practice and Desire for more children. The majority of non-users have 2 or less children Compared to those who having 3 or more children. The non-use of contraceptives among women with 2 or less children means that they still desire to get more children. In the same time the low percentage (36 percent) of users of modern methods who have two or less children indicates also high potentiality to get the third child.
- One positive sign among nonusers of contraceptives who intend to use in the future is that two-third have only 2 or less children. In the same time women who have 3 or more children and want no more children represent 97 percent, while only 3 percent think about more child.

4.2 Recommendations

- Replacement-level fertility will be difficult to achieve unless most Egyptians accept two children as their childbearing goal. Policies and programs that persuade couples of the desirability of a two-child goal should be developed and strengthened. What is required are policies and programs that reinforce women's and men's positive attitudes towards small families (maximum two children), and highlight the costs of childbearing and parents' responsibility for the future well-being of their children. It is also important to promote gender equality and to show that boys and girls are equally good and could have similar benefits to parents.
- Efforts to strengthen commitment to a two-child norm might stress the advantages of two children namely that in two-child families the children can be raised more properly and have better schooling, the household can have a higher standard of living, and there will be less stress on women's health.
- Satisfying the unmet need for the family planning is the most appropriate means for achieving future decline in fertility levels to approach the

replacement level. Special program IEC should be designed to target and motivation couples in the unmet need for contraceptives to use such methods.

- More operations research on unmet need may give a better understanding of the dynamics of the process of fertility and family planning decision – making in Egypt and, in particular, of identifying the principal barriers to the use of family planning by Egyptian women. The family planning program in Egypt is expected to use this information to design interventions to assist women in need of family planning to overcome barriers to the use of contraceptive methods.

REFERENCES

1. Arnold F. (1997). "Gender preferences for children". Demographic and Health Surveys Comparative Studies No.23.
2. Clark S. (2000). "Son preference and sex composition of children: Evidence from India". Demography, 37 (1): 95-108.
3. CAPMAS, 2007, Statistical year book 2007, Cairo.
4. CAPMAS, 2008 Indicators of Final Results of 2006 Populations and Housing Census, Cairo.
5. Clark S. (2000). "Son preference and sex composition of children: Evidence from India". Demography, 37 (1): 95-108.
6. Dalla Zuanna G, Leone T. (2001). "A gender preference measure: the sex ratio at last birth". Genus, 57(1) : 33-56.
7. Daniele Vignoli. research Article Fertility change in Egypt From second to third birth
8. El-Zanaty, Fatma and Way. 2000 Cairo, Egypt Demographic and Health Survey 2000. Cairo, Egypt: Ministry of Health and Population, National Population Council, El- Zanaty association, and ORC Macro.
9. El-Zanaty, Fatma and Way. 2005 Cairo, Egypt Demographic and Health Survey 2005. Cairo, Egypt: Ministry of Health and Population, National Population Council, El- Zanaty association, and ORC Macro.
10. El-Zanaty, Fatma and Way. 2008 Cairo, Egypt Demographic and Health Survey 2008. Cairo, Egypt: Ministry of Health and Population, National Population Council, El- Zanaty association, and ORC Macro.
11. Giusti C, Vignoli D. (2005). Ricorso alla contraccezione in Egitto: tra scelte individualied eterogeneita' regionali. WP 2005/14, Florence: Florence University
12. Giusti C, Vignoli D. (2006), "Determinants of contraceptive use in Egypt: a multilevel approach". Statistical Methods and Application, 15(1): 89-106.
13. J.Casterline, J.B. and L.O. el-Zeini. 2005. "Fertility decline in Egypt: current status, future prospects." Paper presented at the Annual Meetings of the Population Association of America,
14. Philadelphia, 31 March – 2 April.
15. John B. Casterline, Rania Roushdy, Pennsylvania State University Population Council, chieving Replacement-Level Fertility in Egypt: Challenges and Potential Opportunities
16. Mencarini L, Salvini S and Vignoli D. (2005). La fecondità nella Riva Sud

del Mediterraneo: realtà urbana e rurale a confronto. Quaderni del Dipartimento di Statistica 2005/01. Firenze: Florence University Press. (translated to English).

17. Mohamed Abdel-maksoud, 1999 Regional Kap-Gab or the Unmet Need for Family Planning: The Future Challenger for Fertility Decline in Egypt
18. Salvini S. (1997). Contraccezione e pianificazione familiare. Trasformazioni sociali e controllo della popolazione nei paesi in via di sviluppo. Bologna : Il Mulino.
19. Westoff, C. and Bankole, A. 1996. 'The potential demographic significance of unmet need.' International Family Planning Perspectives 22(1): 16-20.
<http://www.e-prints.unifi.it/archive/00000815>

<http://www.demographic-research.org/Volumes/Vol15/18/>