

# **The Determinants of Fertility Plateau in Egypt and their Policy Implications**

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The report is one of the outputs of the activity “Analysis of Fertility Stagnation in Countries of the Region” coordinated by the Social Research Center (SRC) of the American University in Cairo (AUC) and supported by the United Nations Population Fund (UNFPA), Arab States Regional (ASRO) and Cairo Offices. The report drew on a large number of background papers, presentations as well as expert comments and discussion. These were contributed by Ghada Barsoum, Somaya El-Saadani, Sahar El-Sheneity, Fatma El-Zanaty, Hanan Girgis, Ramadan Hamed, Zeinab Khadr, Hesham Makhoul, Magued Osman, Hoda Rashad, Hussein Sayed, and Hassan Zaky. The UNFPA experts who actively participated in the discussions and attended a series of meetings include Maha El-Adawy, Abdullah El-Zoubi, Magdy Khaled, and Ziad Rifaii. Other members in SRC, who contributed to this activity, include Noha Elkhhorazaty, Mohamed Salem, and Zoya Sameen. All the project’s documentation, including the details of a conference held in December 2011 in the AUC as part of this activity, are available at [http://www.aucegypt.edu/research/src/Pages/PopConf\\_studies.aspx](http://www.aucegypt.edu/research/src/Pages/PopConf_studies.aspx).

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## EXECUTIVE SUMMARY

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The objective of this report is to understand the determinants of the fertility plateau in Egypt and to discuss the policy options that are available if further declines are being targeted. This report provides a summary of the main findings of a research activity conducted by SRC in partnership with UNFPA/ASRO and UNFPA Cairo office. The details of this activity, including the scientific papers, drawn upon to prepare this report, are provided in the resource site of this project that is available at [http://www.aucegypt.edu/research/src/Pages/PopConf\\_studies.aspx](http://www.aucegypt.edu/research/src/Pages/PopConf_studies.aspx).

The framework adopted in this report is guided by a reproductive health paradigm that understands that the rationale for national goals is its contribution to individual wellbeing. The framework prioritizes that every person should have the right and an equitable opportunity to live a healthy, productive, and fulfilling life and that every family should have the freedom of choice to have the number of children desired. The framework also seeks healthy satisfaction of reproductive intentions, and recognizes the importance of informed and responsible choices.

The report is divided into four sections. The first section provides an analysis of fertility profile in Egypt investigating the recent trend and their proximate determinants, the level of fertility desires and their satisfaction, and the unhealthy features of the fertility pattern. The second focuses on the regional variations in fertility levels and trends and key determinants explaining this variation. The third probes the structural determinants governing both fertility desires and the ability of the family planning program to achieve its goal of healthy satisfaction of reproductive intentions. The fourth section discusses the challenges and opportunities associated with both population growth in Egypt and the changing political context and the policy implications of the findings.

Recent fertility trends in Egypt are showing a deceleration of fertility decline and are plateauing around a total fertility rate (TFR) of 3.0 according to the latest 2008 Egypt Demographic and Health Survey. Patterns of fertility behavior in Egypt are not uniform among regions. Urban areas are showing significant stagnation in fertility levels. Rural Lower Egypt is starting to show the same pattern. Rural Upper Egypt, to a large extent, is the only region that still shows decline in fertility levels but with a very slow pace of decline. Analyzing the proximate determinants of fertility indicates a major inhibiting role of contraceptives, while the influence of marriage hardly changed since the late eighties. In terms of proximate determinants at the regional level, clearly the weight of contraception and marriage in shaping fertility level and its trend is quite different for different regions and for different periods. Hence in analyzing past fertility trends, the story of the determinants of fertility decline is different for different geographic regions.

The unexpected stagnating pace of fertility change in urban areas was shown to be mainly due to the fact that urban settings host heterogeneous groups with different and conflicting demographic goals. Within urban settings, some areas in Egypt are considered urban areas while their characteristics are greatly different from the other

characteristics of an urban setup. Clearly, a reduction in socio-economic disparities in urban settings would support a lower fertility levels for such areas.

The data also indicate unhealthy reproductive patterns. Almost 40 percent of the annual live births (2.4 million live births) are of order 4 and above, or are to mothers below age 20 or above age 40 years, or born within a birth interval which is less than two years. This clearly is considered unhealthy patterns of reproductive behavior according to WHO standards. Supporting women to have their births during the age group 20-39 will certainly affect TFR of Egypt. It was calculated that TFR will decline to 2.67 if births of women aged below 20 years and above 40 years were avoided.

The current national fertility level is sustained by two driving forces, a uniform relatively higher desire (higher than the national goal of 2.1 by 2017) as well as missed opportunities for family planning practices. The relatively high desire of fertility (almost 3) is matched by an actual fertility level not very different from it. This average consistency is concealing the fact that for many groups in the society actual and desired fertility do not match. The detailed analysis indicates that in many instances, fertility desires for a lower number of children are not achieved. If unwanted births are avoided, a decline of around 0.31 births is expected and TFR of 2.69 live births will be achieved. If these unwanted births are coupled with the avoidance of births from unhealthy patterns, fertility levels are expected to reach as low as 2.4 which is very close to replacement level.

Clearly, a family planning program that supports women to achieve their fertility desires (avoid unwanted births) and to avoid unhealthy patterns of reproduction would contribute to lower fertility.

Socio-economic development, particularly women empowerment, is known to influence the scope of opportunities available to females and to empower them to achieve their fertility desires as well as support lower fertility desires. Education is among the most commonly identified sources of empowerment among females. In Egypt, the effect of education on fertility preference does not show up unless the level of education reaches secondary level or higher. When it comes to female employment as a main source of empowerment, no evident difference shows for working or non working women with respect to actual fertility, except with certain features of female employment. Women who have ever worked and have low level of education have larger average of children ever born than those who have never worked. When job characteristics are explored, it is found that a higher percent of respondents with low job quality (security) have four or more children compared to those who have never worked before. Secured jobs i.e. permanent jobs or contracted jobs with social security are relatively more associated with lower fertility behavior and desires and more with women who achieve their fertility desires. It is clear that in order for education and employment to impact fertility, they need to be qualified by certain characteristics.

It is evident that ideational changes among young people to accept and seek replacement level family size have not been achieved. Ideals of families above 2 children persist among youth thus slowing the adoption of family planning methods.

The family planning program in Egypt has articulated its mandate, guided by a reproductive health paradigm, states its goals as provision of family planning methods and services, adoption of the reproductive right approach, and advocacy concerned with women's health. This is a very positive feature that needs to be drawn upon to allow the program to achieve its goals. It should be noted, however, that the indicators of performance remain centered around the achievements with reference to the level of TFR and does not include detailed indicators covering the many aspects related to the healthy achievement of reproductive desires.

The family planning program in Egypt clearly has unsatisfied potential role in further reducing fertility. A significant proportion of women stop using contraception after a short period of use although they still do not want to have more children. Also, there is more demand and need, than the satisfied, for contraceptive services especially in rural areas. Meeting these demands will certainly impact current levels of fertility. It is expected that TFR will decline around 20 percent, if unmet need and discontinuation is satisfied.

Exposure to family planning (FP) messages is one of the variables that affect contraceptive use and, hence, fertility levels. This type of exposure decreased during the past years. The past means of exposure are no longer able to reach the population. The local media used to be the most direct way to deliver FP messages, the high domination of satellite television in the common Egyptian home has diminished its effectiveness and thus its consistency.

These past challenges are growing in an environment that has problematic features of organizational and administrative structure in terms of the high level body capable of translating these strategic directions into effective plans and of following up the implementation of such plans. There is frequent restructuring of such a body and changing its affiliation of the population issues between different ministries is impeding such needed efforts. The large number of times such institutional framework has been changed in Egypt was coupled by a change in chairmanship, mandate and administrative position within the hierarchy of the Government. These changes meant frequent revisit of vision, mission and objectives for such a key organ.

The absence of a system for monitoring and evaluation is among the prevailing challenges that are hampering periodic assessment of progress at all levels. This is also highly linked to the establishment of population databases and eliminating the contradiction between data from various sources. The major source of data for assessing the situation were obtained through the implementation of the successive series of the Demographic and Health Surveys that started in 1988 and continued to be carried out regularly up to 2008 under the financial support of USAID. There is a need for ensuring an adequate information system supported by a skilled and systematic analytical effort to

provide timely assessment of the current situation, especially after the pull out of USAID support to the health component as part of Egypt's graduation in that respect.

After the 25th of January revolution in Egypt, there is a great deal of ambiguity regarding the population size and fertility policies. Such an issue is not given the priority it deserves and the right framing. No one rarely talks about the topic, its linkages with the economy and development and how population dynamics is part and parcel of our vision for Egypt. The current level of TFR suggests that the national goal of TFR of 2.1 by 2017 as stated in Egypt population strategy will not be achieved and that, assuming no future changes in both fertility (TFR=3) and mortality levels, the population of Egypt will reach around 150 million in 2050, according to United Nations projections. Egypt's population size will increase regardless of what population scenario we will follow. This fact cannot be avoided. According to the latest figures from vital registration, there are more than two million births annually (almost 2.4 million births) in 2011. This figure has been showing increasing acceleration since 2006. This inevitable population growth and the growing aspirations for improved well being and social justice pose serious and increasing demands on the available resources and their growth potential.

The current discourse appears to suggest that Egypt population challenges will solve themselves through focusing on socio-economic development. This is clearly not substantiated by the current analysis. It should be noted that the potentials of a well functioning family planning program have not been fully satisfied. The data indicate service challenges in satisfying the current fertility choices of families, in ensuring healthy mothers and children and in meeting the growing aspiration of an increasing population. Socio-economic policies need to target the inequitable distribution of opportunities, need to address gender concerns and need to recognize the interactive relations between population and development. An efficient family planning program and an influential and capable population council are a corner stone of an overall development plan in Egypt.

The report concludes with detailed recommendations for future policy options under three dimensions:

- ***Prioritizing population challenges and full integration within overall development plan emphasizing gender and children values and rights:*** Among the recommendations, the articulation of a clear and unified vision and a consensus around the nature of the population challenges facing Egypt and the approaches to deal with these challenges, the adoption of an overall development approach recognizing reproductive health, gender values, and the importance of children rights especially to education, women provision with potential sources of sustainable empowerment, and the support of a renewed focus on ideational changes especially among youth.
- ***Improved performance of the family planning program:*** this includes building on the current RH approach, enforcing the FP component to ensure the right of families to achieve their informed reproductive desires in a healthy pattern,

expanding FP/RH coverage, improving quality of services, and ensuring integration of FP/RH within primary health care.

- ***An effective National Population Council for population planning:*** Among the recommendations, developing and presenting evidence-based population strategies, adopting a disaggregated approach, sustaining and improving population data, reviewing FP messages, assigning clear roles and responsibilities for all stakeholders, monitoring and evaluating, and updating the population objectives and approaches according to achievements.

## INTRODUCTION

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Recent fertility trends in Egypt are showing a deceleration of fertility decline and are plateauing around a total fertility rate (TFR) of 3.0 according to the latest 2008 Egypt Demographic and Health Survey. The current level of TFR suggests that the national goal of TFR of 2.1 by 2017 as stated in Egypt population strategy (NPC, 2002) will not be achieved and that, assuming no future changes in both fertility (TFR=3) and mortality levels, the population of Egypt will reach around 150 million in 2050, according to United Nations projections (2010).

The objective of this report is to understand the determinants of the fertility plateau and to discuss the policy options that are available if further declines are being targeted. This report provides a summary of the main findings of a research activity conducted by SRC in partnership with UNFPA/ASRO and UNFPA Cairo office. The details of this activity, including the scientific papers, drawn upon to prepare this brief report, are provided in the resource site of this project that is available at [http://www.aucegypt.edu/research/src/Pages/PopConf\\_studies.aspx](http://www.aucegypt.edu/research/src/Pages/PopConf_studies.aspx).

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The report is divided into four sections. The first section provides an overview of this fertility plateau. The second and third attempt to explain why Egypt is passing through this fertility plateau. The fourth section concludes with some final remarks and recommends future policy actions. In more detail, the first provides an analysis of fertility profile in Egypt investigating the recent trend and their proximate determinants, the level of fertility desires and their satisfaction, and the unhealthy features of the

fertility pattern. The second focuses on the regional variations in fertility levels and trends and key determinants explaining this variation. The third probes the structural determinants governing both fertility desires and the ability of the family planning program to achieve its goal of healthy satisfaction of reproductive intentions. The fourth section discusses the challenges and opportunities associated with both population growth in Egypt and the changing political context and the policy implications of the findings. It starts by stating the challenges and the potential fertility decline through the relative contributions to future fertility decline through the improved performance of the family planning programs vis a vis the reduction in the current demand for children. It proceeds to recommend needed actions to strengthen family planning program as well as to support an articulation of a smaller family size.

## **PROFILE OF THE FERTILITY PLATEAU IN EGYPT**

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### ***Fertility trends***

Since 1980, Egypt has been conducting national demographic surveys documenting the fertility change in the country as a whole and by region. According to the latest Demographic and Health Survey in Egypt in 2008, total fertility rate is estimated at around three live births per woman (15-49 years of age). Comparing Egypt with other countries in the region clearly shows that Egypt belongs to the middle group countries. Lebanon and Tunisia have TFRs around two and less. Egypt belongs to the group of countries that have a TFR between 3-4 such as Jordan and Syria. The high fertility group includes countries such as Iraq and Yemen which have TFR greater than 4.

Estimates of total fertility rate from various surveys conducted during the period 1988-2008 show a slow decline since 1995 especially during the period 2005-2008. The data indicates that fertility has declined from 4.4 live births in 1988 to 3.0 live births in 2008, a decline of about 1.4 live births in 20 years. The decline that occurred during the period 1988-2000 (0.9 live births) is more than double what occurred during the period 2000-2008 (0.4 live births).

At the regional level, the pattern of decline was not uniform. Urban governorates started declining during late 1970s-early 1980. Lower Egypt declined starting late 1980s and Upper Egypt around early 1990s. The data clearly shows that, in terms of the recent trend, rural Upper Egypt is taking the lead in the decline while the other regions are causing the fertility plateau but with some variations, as shown in the following Table.

Table 1: Total fertility rates by Region in Egypt, 1988-2008 (EDHS 88- EDHS 08)

Region	1988	1992	1995	2000	2005	2008	Pace of decline 2000-2008
Urban Governorates	3.0	2.7	2.8	2.9	2.5	2.6	0.037
Lower Egypt	4.5	3.7	3.2	3.2	2.9	2.9	0.037
Urban	3.8	2.8	2.7	3.1	2.7	2.6	0.06
Rural	4.7	4.1	3.5	3.3	3.0	3.0	0.037
Upper Egypt	5.4	5.2	4.7	4.2	3.7	3.4	0.10
Urban	4.2	3.6	3.8	3.4	3.1	3.0	0.05
Rural	6.2	6.0	5.2	4.7	3.9	3.6	0.137
Frontier Governorates	NA	NA	4.0	3.8	3.3	3.3	0.17
Total	4.4	3.9	3.6	3.5	3.1	3.0	0.06

El-Zanaty and Way (2009)

Trends of current use of family planning methods during the period 1984-2008 clearly show that the major jump occurred during the period 1984-1992 where the rate increased more than 50 percent from 30.3 percent in 1984 to 47.1 percent in 1992. During the period 1992-2000, the contraceptive prevalence rate increased by almost 19 percent from 47.1 percent in 1992 to 56.1 percent in 2000. However, the national rate has been leveling off during the period 2003-2008 around 59-60 percent. These changes are not uniform across all regions. Rural areas are still moving forward while urban areas are facing a plateau since late 1990s towards the new millennium.

In interpreting the findings of the proximate determinants of fertility by Bongaarts, El-Zanaty (2007) studied the indices during the period 1988-2005 at the country and

regional levels. As it is well known, the lower the value of the index, the higher the percentage reduction in fertility due to that index. In Egypt, the index for contraception declined from 0.606, to 0.504 to 0.378 during 1988, 1995 and 2005 respectively. This indicates a major inhibiting role of contraceptives. On the other hand, the index of marriage hardly changed from 1988 ( $C_m=0.629$ ) to 2005 ( $C_m=0.583$ ). This indicates that the reduction in fertility during the period 1988 - 2005 was mainly due to the use of contraception. In terms of regional pattern, clearly the weight of contraceptives and marriage in shaping fertility level and its trend is quite different for different regions and for different periods, as shown in Table 2. In rural Upper Egypt, the reduction in fertility due to marriage was higher than the reduction due to contraceptive use until 1995, then by 2000 and onwards, the effect of contraceptive use was the greatest.

Table 2: Proximate determinants of fertility in Egypt 1988-2005

Region	1988 Cm	1988 Cc	1995 Cm	1995 Cc	2000 Cm	2000 Cc	2005 Cm	2005 Cc
Urban Governorates	0.477	0.146	0.511	0.382	0.501	0.342	0.487	0.329
Lower Egypt								
Urban	0.593	0.432	0.532	0.372	0.525	0.518	0.541	0.325
Rural	0.681	0.628	0.581	0.440	0.584	0.364	0.623	0.299
Upper Egypt								
Urban	0.608	0.569	0.609	0.490	0.538	0.440	0.546	0.371
Rural	0.748	0.881	0.718	0.768	0.655	0.626	0.648	0.527
Frontier Governorates								
Total	0.629	0.606	0.598	0.504	0.573	0.429	0.583	0.378

El-Zanaty (2007)

A recent comparative study in both Tunisia and Egypt looked at why fertility in Egypt leveled off, while fertility moved towards replacement level in Tunisia (Altigani, 2009). Egypt and Tunisia began their fertility transitions at roughly the same time and at almost identical fertility levels. Despite their similar beginnings, Tunisia's transition succeeded in reaching replacement fertility by 2001, whereas TFR in Egypt has yet to decline below

three live births. In Tunisia, women residing in all regions of the country and women at all levels of educational attainment experienced a rapid and sustained decline in fertility during the course of the transition. In Egypt, the decline started among urban and educated women but then leveled off. In recent time, the decline in fertility was limited to rural women and to women with no schooling.

Investigation of the determinants of the decline in the TFR over time in both countries has shown that the major force behind the initial decline in the TFR in Tunisia was the rise in age at marriage. The impact of contraception on the TFR became evident beginning in the mid-1980s. In Egypt, the initial decline in the level of the TFR was primarily influenced by nuptiality factors, however, whereas the effect of nuptiality has decreased the decline in the TFR was increasingly influenced by contraceptive use since the 1980s, as shown earlier. The median age at marriage in Tunisia has been consistently higher than that in Egypt, with the difference in estimates ranging between 1.7 years for the cohort born in the mid-to-late 1940s, and five years for the cohort born in 1967–71. The extent of the increase in the median age at marriage of successive birth cohorts is relatively larger in Tunisia than in Egypt. Altigani (2009) found that that Tunisian women spend a greater proportion of their reproductive years as single women and a lesser proportion of those years divorced, separated, or widowed, compared with their Egyptian counterparts. According to Altigani (2009) suggests that while marriage patterns played a significant inhibiting role and significantly contributed to fertility decline in Tunisia, marriage patterns in Egypt allowed its fertility to remain above replacement level. Therefore, attainment of replacement-level fertility in Egypt, unless significant changes occur in nuptiality, is likely to hinge on further declines in marital fertility. Such a decline comes about from reduction in family-size preference as well as from expansion of family planning program coverage and improved efficiency of service delivery and use, resulting in reduction of fertility.

### ***Fertility Desires and their satisfaction***

Desired, unplanned and unwanted births are central indicators for measuring fertility demands and their satisfaction. As detailed in the following, the data for Egypt indicates two driving forces sustaining the current fertility level. A uniform relatively higher

desire (higher than the national goal of 2.1 by 2017) as well as missed opportunities for family planning practices.

In EDHS 2008, women are asked about their desired number of children if they could go back in time when they had no children and could choose exactly the number of children to have in their whole life. The desired number of children for ever-married women 15-49 years of age on average is almost 3 children. It slightly increases among those living in rural areas especially rural Upper Egypt (3.3) and frontier governorates (3.4), those with no education (3.3), and those who are in the lowest wealth quintile (3.3), as shown in Table (3). One can observe some differentials by background characteristics in the expected direction, however the differentials were not as great as one could expect.

Table (3): Mean desired number of children by background characteristics

Background characteristics	Mean desired number of children
<b>Residence</b>	
Urban	2.8
Rural	3.0
<b>Region</b>	
Urban Governorates	2.7
Lower Egypt	2.8
Urban	2.8
Rural	2.9
Upper Egypt	3.2
Urban	2.9
Rural	3.3
Frontier Governorates	3.4
<b>Education</b>	
No education	3.3
Some primary	3.1
Primary complete/some secondary	2.9
Secondary complete/higher	2.7
<b>Work status</b>	
Working for cash	2.8
Not working for cash	3.0
<b>Wealth quintile</b>	
Lowest	3.3
Middle	2.9
Highest	2.7
Total	2.9

El-Zanaty and Way (2009)

Almost 60 percent of the couples desire the same fertility preference between the wife and the husband. In another 20 percent, the husband wants more children than his wife (according to women's reports). In terms of desires to postpone or limit childbearing, just below two-thirds of ever-married women want to limit childbearing. The percentage of those women who want to limit childbearing goes as high as 67 percent in the Urban Governorates and as low as 55 percent in the frontier governorates. It should be noted that contraceptive prevalence rates (CPR= 60%) does not fully capture such a desire.

According to 2008 EDHS, the total unmet need in Egypt is 9.2 percent. The likelihood of having unmet need is highest among women who have no education (11 percent), live in rural areas especially rural Upper Egypt (15.4 percent), belong to the lowest wealth quintile (13 percent). The total use of contraception as mentioned above is 60 percent. The majority of users are limiters, since four in every five users report that they want no more children leaving only one woman in every five users as a spacer. The total demand for family planning is almost 70 percent according to EDHS 2008, thus 87 percent of demand is satisfied.

Almost 14 percent of births that occurred in the five-year period before 2008 EDHS were not wanted. This percentage clearly increases dramatically by the birth order. Almost one third of the births with order 4 and above are not wanted, as shown in the following table. Almost twenty percent of the TFR is not wanted. This percentage goes as high as 28 percent in rural Upper Egypt and as low as 15 percent in the Urban Governorates

Table (4) Fertility planning status according to EDHS 2008

Birth order	Wanted Then	Wanted later	Wanted no more	Missing	Total
1	98.2	1.2	0.1	0.5	100.0
2	89.8	8.9	0.9	0.4	100.0
3	83.4	6.5	9.3	0.8	100.0
4+	61.8	4.9	32.7	0.6	100.0
Total	85.7	5.1	8.7	0.5	100.0

El-Zanaty and Way (2009)

Regarding discontinuation rates, the data confirm a high level of discontinuation for reasons not connected with desires. Women stop using a method within 12 months of starting in almost one-quarter of all episodes of contraceptive use during the five-year period before EDHS 2008. The main reasons contributing to about 50 percent of this discontinuation rate are the presence of side effects (29 percent), for health and inconvenience reasons (10 percent) and method failure (9 percent). These two reasons point to a role that could be played by contraceptive providers to address these shortcomings of contraceptive practice.

### ***Unhealthy features of the reproductive pattern***

Almost 21 percent of the births are of order 4 and over. Almost 18 percent of the births are born after a birth interval which is less than 24 months and almost 14 percent of the births are born to mothers of age less than 20 years or of 40 and over. According to the WHO, this poses great health risks to both the mother and the child.

An important concern is the timing of the first use of contraception among Egyptian women which would avoid births at very young ages. In Egypt, the idea of using contraception before having any children is widely resisted, representing 0.2 percent of ever-married women.

## **SPATIAL ANALYSIS OF FERTILITY PLATEAU**

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It was mentioned earlier that different regions in Egypt are moving differently with respect to their fertility levels. Rural Upper Egypt is currently taking the lead in the decline while the other regions are experiencing fertility plateau. In this section, we investigate each region separately and try to analyze why fertility stalled or is declining in a low pace.

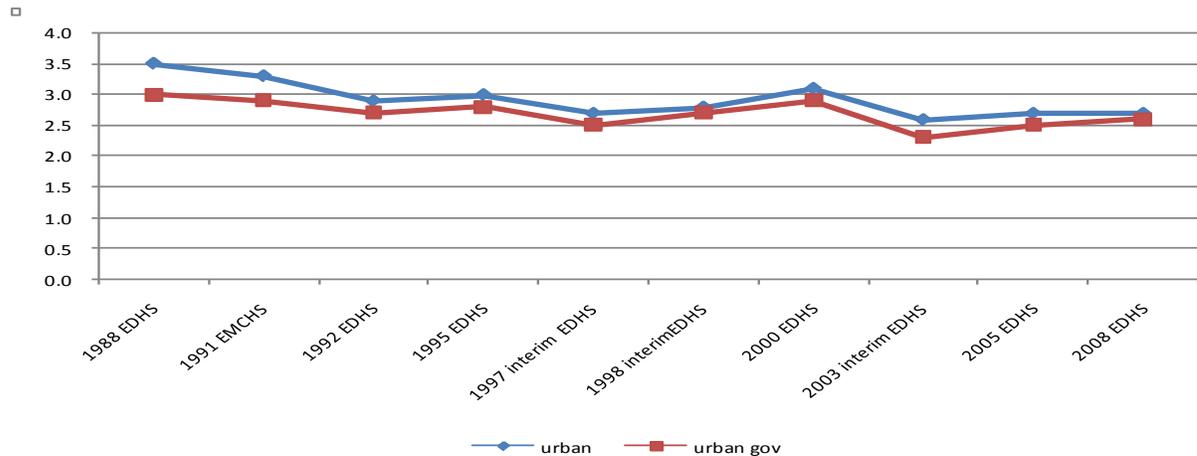
In urban areas, we ask the question why, contrary to expectations, fertility (TFR=2.6) did not complete its transition to replacement? We focus the analysis on the urban configuration and the socio-economic profile of its population. In particular, the focus of the analysis is on the distribution and characteristics of slums/squatter areas and towns as

compared to other urban areas. For rural areas, given that its fertility remains higher than urban areas and that it lends itself to further decline, the analysis focuses more on the role played by services as well as other forces in shaping recent levels and trend.

### ***Why fertility in urban areas is stalling?***

In Egypt, the trend of urban fertility over the last 20 years can clearly reveal the stagnation of fertility in urban context and in particular the urban governorates (Figure 1). Figure 1 shows that while total fertility rate (TFR) for the urban governorates was 3.0 children in 1988, twenty years later, the TFR only declined by less than 0.5 child (TFR=2.6 in 2008).

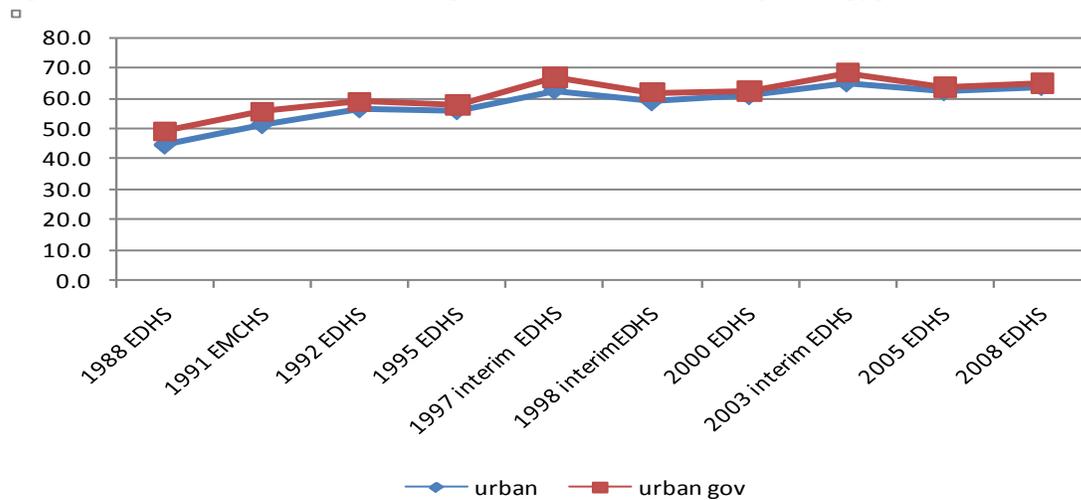
Figure 1 Trends of urban total fertility rates (TFR) in Egypt 1988-2008



El Zanaty and Way (2009)

This stalled fertility decline was also accompanied with leveling off of family planning use over the last 10 years (1997-2008) (Figure 2), fluctuating between 60% to 69% in the urban governorates.

Figure 2 Trends of current contraceptive use in urban settings in Egypt (1988-2008)



El Zanaty and Way(2009).

Fertility and its determinants in urban settings were rarely investigated in Egypt. Only one study was identified in which intra urban differentials in fertility was explored. Weeks and colleagues (2004) using census data for 1986 and 1996 and geospatial information about Greater Cairo showed that in a small section of the center of the city, fertility levels were below-replacement levels, while the suburbs exhibit higher levels of fertility mounting to 3.5 children per woman. This pattern of fertility was found to be associated with variations in age at marriage among the neighborhoods. These latter variations were found to be strongly associated with the socioeconomic status prevailing in the neighborhoods.

In addition some small studies were carried in some deprived areas in Cairo with the aim of identifying the prevailing general health status in these neighborhoods (for a review of these studies see Khadr et al. 2010). These studies concluded that deprived areas residents usually exhibit slightly worse health, particularly maternal and child health, as well as fertility indicators.

Recently, two studies focused on the study of the underlying factors of the fertility plateau in urban areas, namely Khadr (2011) and Girgis (2011). Khadr (2011) examined the differences in the fertility indicators by the level of physical deprivation in Cairo

neighborhoods and the extent to which these differences can be attributed to a neighborhood effect or to the simple aggregation of poor and uneducated women in the slum deprived areas (net of the neighborhood effect).

Khadr tested her hypotheses within Cairo governorate in Egypt. The areas were classified according to their physical structure into three categories, namely the most deprived, medium or intermediate and the least deprived. Exploration of the women characteristics in these categories revealed some similarity between the first two categories with regard to the levels of social vulnerability defined in terms of low educational attainment and standard of living. In contrast, the residents of the least privileged areas exhibited the highest levels of social vulnerability. Exploring the simple relationship between the neighborhoods' physical deprivation and seven fertility indicators and controlling for age revealed that for all indicators except for contraceptive use, there were significant neighborhood differences between the neighborhoods. The least deprived neighborhoods, expect for wanting more than 2 children, were exhibiting better fertility indicators than the other two categories. Also, the un-intendedness of the last child was significantly lower in the least deprived areas even with controls for other factors and controlling for the current number of living children. This result can be interpreted in terms of the success of the least deprived neighborhood in fulfilling their fertility plans. Residents of those neighborhoods have achieved low levels of fertility and according to the current result; they are less likely to report the last child as unintended.

In terms of testing the hypothesis reference the determinants of the differences between neighborhoods. The analysis revealed that intra-urban differences are mere reflection to the aggregation of less privileged population in certain neighborhoods within these urban centers. Those living in the least deprived neighborhoods exhibit the highest aggregation of secondary educated women as well as high living standard. Within this social success context, women have succeeded in lowering their fertility and effectively implementing the appropriate strategies to fulfill their fertility objective. In contrast, the high aggregation of less than secondary educated women and the prevailing intermediate standard of living in the other two types of neighborhoods still play a significant role in

slowing the fertility decline. It should be noted that the slum areas in urban Greater Cairo constitute around 35 percent and that the TFR of these areas is around 3.1 compared to 1.9 in non-slum Greater Cairo (El-Zanaty and Way, 2004). Thus, in Greater Cairo, part of the fertility stalling can be attributed to the intra-urban differences in socio-economic characteristics.

Looking beyond Greater Cairo, Girgis (2011) focused on differences of urban areas in the administrative units within urban classification. It was found that some areas in Egypt are considered urban areas while their characteristics are greatly different from the characteristics of other urban areas. Those areas include towns and slum areas. Towns are the urban administrative units with population size less than 50 thousand people. Most of the towns are located among rural areas which makes their characteristics closer to the characteristics of rural areas. Females in towns have the lowest education and socio-economic levels, the lowest contraceptive use, the highest unmet need, age at first marriage, ideal number of children, TFR and number of children ever born among all types of urban administrative units. In urban areas, towns constitute about 11% of the total composition of urban areas (Girgis, 2011). Their fertility levels (TFR=3.1) are relatively higher than other urban areas (TFR for Capitals/large cities = 2.6, TFR for small cities=2.8) and very close to the general average in rural areas (TFR=3.2).

Despite having many definitions, slum areas have a main characteristic which is being built far from legislations and discipline. Structure and characteristics of slum areas population differ also from those of the non-slum urban population. The available studies on slum areas show that women in slum areas are less educated and poorer than women in non-slum urban areas. Fertility levels are also higher in slum areas than in non-slum areas.

Clearly, the stalling in urban setting is reflecting the stalling in development indicators whether due to the large intra-urban variations in socio-economic characteristics or due to the administrative definitions adopted. .

### ***Why the decline in fertility is slowing down in rural areas?***

As mentioned earlier, although rural areas are still experiencing some decline in fertility, the rate of decline is slowing down. El-Zanaty (2011) examines fertility trends in rural Egypt both Upper and Lower using EDHS data and attempts to explore the forces behind the slowing down in fertility decline in rural areas.

Fertility levels in rural areas has declined over the past years from 5.4 births per woman at the time of 1988 EDHS to 3.2 births per woman at the time of the 2008 EDHS. However, the decline became slower in Lower Egypt than in Upper Egypt. In rural Upper Egypt, TFR dropped from 6.2 births per woman at the time of 1988 survey to 3.6 births per woman at the 2008 EDHS, while in Rural Lower Egypt TFR declined from 4.7 to 3 births per mother between 1988 and 2008 EDHS with fertility stall between 2005 and 2008 at a level of 3.0 births. El-Zanaty looked at rural Upper Egypt and rural Lower Egypt separately. For rural Lower Egypt, the study found that the stalling in TFR in rural lower Egypt may be due to:

1- Changes in factors related to contraception such as:

- Decrease in contraceptive prevalence during the period 2005-2008 from 66.5 percent to 63.9 percent.
- Increase in unmet need for both limiting and spacing, unmet need rose from 7.1 in 2005 to 7.7 in 2008.
- The discontinuation rate for rural Lower Egypt is around one quarter of users in 2008. The main reason for discontinuation was due to side effects (8.3 percent). Method failure is responsible for discontinuing 2.6 percent of users, while 4.7 percent stopped because they want to become pregnant.
- Decrease in mass media exposure; the study referred to the decrease in mass media role to advocate for use of contraception since the last decade. In 2008, the percent of women who were not exposed to FP messages rose to 32.2 compared with 9.1 in 2005 and 2.6 in 2000.

2- Minor changes in nuptiality as reflected in the mean age at first birth remaining constant.

3- Minor improvement in some socio-economic indicators as reflected in one small change in the percentage of educated husbands and women.

For rural Upper Egypt, TFR decreased in rural Upper Egypt between 2005 and 2008 but with a slow pace (from 3.9 to 3.6). Although, rural Upper Egypt experienced positive trends with respect to an increase in contraceptive use and a decline in unmet need as opposed to rural Lower Egypt. However, these trends are slowing down and this is reflecting on fertility levels. The factors contributing to this slight decrease in TFR are as follows:

1. The proportion of married women

Surprisingly enough, the percentage of married women increased clearly from 52.2 to 65.8 during the period 2005-2008, this increase was accompanied with decrease in TFR slightly by 0.3.

2. Mean age at first marriage

Between 2005 and 2008 mean age at first marriage increased by 0.3 year compared to 0.6 year between 2000 and 2005.

3. Contraception

The percentage of current use of any method increased in 2008 by 3.2 percent from 45.2% in 2005 to 48.4% in 2008, contraceptive use for limiting increased by 2.2 percent. In addition the percentage of women who are exposed to any family planning message decreased sharply from 92% to 64% in 2008. On the other hand, total unmet need is around 15% in 2008.

4. Educational status of husband

There is a negative association between the percentage of educated husband and TFR. When the percentage of educated husband increases, TFR decreases. In 1995 when this percentage had the highest increase, TFR had the highest decrease. Between 2005 and 2008 the percent of educated husbands did not experience any change, TFR decreased by 0.3.

## 5. Wealth quintile

Despite the perception that high fertility is found among families in the lowest wealth quintile, data for rural Egypt showed that rural Egypt has special characteristics. As TFR decreased since 2000 from 4.84 to 3.64 in 2008. TFR in the low wealth quintile increased slightly from 3.82 to 3.97. Moreover in 2008, TFR, for those who belong to the high wealth quintile, exceeded TFR for those among the low wealth quintile.

## 6. Quality of health services

Many women in Egypt discontinue contraceptive use within one year of initiating a method. The one- year probability of discontinuing the use of family planning decreased to reach 25.9 for total Egypt, however, for Rural Upper Egypt around one third of users discontinue within one year of initiating the method. The main reason for discontinuation is due to side effects (12.4 percent). Method failure is responsible for discontinuing 3 percent of users, while 4.5 percent stopped because they want to become pregnant.

## **STRUCTURAL DETERMINANTS OF FERTILITY PLATEAU**

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In this section, the report attempts to explore the structural factors that may contribute to current fertility desires (around 3 children) and also the family planning service factors that could support women to achieve their reproductive desires. Fertility desires and levels are usually much lower for women who are working and/or in higher socio-economic groups. Similarly, youth are expected to portray lower desires from their parents. On the other hand, Egypt data clearly indicates a high level of missed potentials of the family planning program. Hence, the analysis attempted to probe the organizational features of the institutions responsible for the performance of the family planning program.

### ***Can work and female empowerment help women achieve their fertility desires in Egypt?***

The question raised here is whether current female work status and empowerment support a lower fertility desires as well as lower fertility levels. A study by Zaky (2004) studied the relationship between fertility transition and female rational choices in Egypt using the

data of EDHS 1995. The study concluded that the idea of wife's opportunity cost and rational choices related to fertility desires is not substantial in Egypt during the 1990s. The dynamics behind female employment and future fertility desires is not yet that of opportunity cost and value of the wife's time, and how much she may lose by having children. This may explain why actual and desired fertility has been declining but at rates which are getting smaller across time. One should not expect dramatic decline in fertility desires, close to the levels of post-transitional societies in the absence of the dynamics of rational choice explanations.

In a more recent study (El-Sheneity, 2011), the relationship between women's potential sources of empowerment with special focus on education and employment and their fertility choices in terms of the total number of children ever born were explored using both EDHS 2008 and ELMPS 2006 data. The study indicated that the effect of education on fertility preference does not show up unless the level of education reaches secondary level or higher; percent of respondents having four or more children drops considerably when this level of education is reached while those having two or three children increase. The drop in the average number of children ever born is evident when education reaches secondary level in all regions. Upper Egypt has the steepest slope in terms of the average number of children ever born which means that educating girls in this region has a larger effect on the drop in fertility than the other regions. An evident drop occurs for women having primary education compared to those who do not have any education.

When it comes to female employment, no evident difference shows for working or non working women. Furthermore, respondents who have ever worked and have low level of education have larger average of children ever born than those who have never worked. When job characteristics are explored, it is found that a higher percent of respondents with low job quality (security) have four or more children compared to those who have never worked before. Job quality is measured in terms of whether the job is permanent, inside an establishment, sector of employment, having a contract and social security. Almost equal preferences for having two and three children exist. The average number of

children ever born for those with low job quality is higher than the average for those who have never worked for almost all levels of education.

In general, except for demographic variables like age and age at first marriage, the preference between having two or three children is almost the same across all respondents' characteristics including region of residence, education, wealth index and job characteristics. Choice of having fewer than four children is significantly related to having secondary education or higher with such relation stronger in rural Egypt. Having jobs with low security (quality) is associated with higher risks of having four or more children. These jobs do not force women to compromise the number of children with their employment but rather provide an extra source of income to help provide for their children and also have more children. These jobs are mainly occupied by less educated women in agriculture and the services sectors. Respondent with low level of education and low job characteristics have higher average number of children than those who have never worked and at the same level of education.

### ***Who are the achievers of their fertility desires?***

The questions raised here are who are the achievers of their fertility desires and in particular whether achievers of their two-child desires are different with respect to their socio-economic and demographic characteristics. At the current fertility level, an Egyptian woman continuously married from age 15 could expect three children over a 30-year reproductive life, nearly one child above the replacement level (2.1), as mentioned above. EDHS 2008 shows that for women of every age group the mean desired number of children is persistently above two children. It's between 2.5 and 3 children for young cohorts and reaches about 4 children among women at the end of their reproductive career. Furthermore, a small percentage of women are choosing to have two children (36.5% and 29.2% among all women and women aged 40-49, respectively) and not all these women were able to achieve two children (23.2% and 11.7%, respectively).

When studying the level of consistency among women who, contrary to the average norm, have desired two children and the profile of those who succeeded in fulfilling their desires, results (El-Saadani, 2011) reveal that the achievement of the desired two children

is low among women at the end of their reproductive career. On average, one third of this group who preferred two children during their entire life achieved so. In contrast, ninety five percent of their peers who preferred more than two children achieved so.

The ability of women who desire 2 children to achieve the number they desire is much weaker for women with low socio-economic characteristics and for women experiencing a child death. Ability to maintain two children is very weak, notably, among women who suffered from one (22%) or two or more child deaths (10.5%), residents of rural Upper Egypt (10.9%), the poor (17.8%), the illiterates (20.4%), and the housewives (27.1%). Son preference is not a strong hindrance of achieving the target as about fifty percent of those their ideal is two living children have two daughters. Results demonstrate that duration of marriage (and its implication of duration of exposure to child bearing as well as its correlate with age at first marriage) is a strong differentiating factor in fertility behavior.

Although the correlates with the different demographic and socio-economic factors go with the expected direction, still above the majority of advantaged groups; the urban residents (59.9%), the highly educated (51.2%), the richest (54.9%), and those who have successful child survival (61.5%) failed to realize their two child target.

Women who successfully achieved their intended fertility of two children 'achievers of 2' or 'achievers' are highly selective with regard to most of the demographic, socio-economic and reproductive health factors that influence fertility. They are marrying, on average, at older ages. While in Egypt delaying marriage, especially after age 30 is not welcomed, considerable proportion of the achievers married at age above 30. They have short duration of marriage before reaching the end of their reproductive career. They are enjoying successful child survival much more than their peers, and they do not have strong son preference.

Achievers have favorable socio-economic characteristics; they are highly educated, have high rate of participation in the labor market, and have high standard of living and are

living in urbanized areas. Furthermore, they are marrying to better off husbands in terms of the level of occupational skills and level of education.

Achievers with regard to their reproductive health behavior have, generally, slightly better indicator than total women. However, they are notably better in regard to two indicators; place of child birth and husband's desire for more children. None of the achievers delivered their babies at their homes and fewer husbands desire more than two children. These two findings are much related to the achievers' level of education in general and level of health education in particular and to their economic standard of living as well as to their husbands' level of education and skills.

Two additional important interrelated findings are in order. 1) A great percent of the achievers (77.8%) encourage their daughters/sons to have two children, still, close to one quarter of them would like their daughters/son to have more than two children. And 2) It does not matter a great deal for nearly half of them if they had one additional child.

In Egypt, four major factors play important role in its transitional stage of attitude development: a) the prevailing norm about what is the large family? On the one hand, childlessness and raising singleton is strongly rejected. Hence couples are to choose from minimum two or more children. On the other hand, still the prevailing normative family size does not view three children and even four children as a large family, b) the normative pressure to have a boy child, c) fear of child death considerably contribute to preferring more than two children and d) the perception of low costs of childrearing. Moving from two to three children does not dilute remarkably the resources necessary for maintaining an adequate standard of living for the family, especially at the childhood period of their children..

There are four related factors that strongly contribute to lower fertility; 1) rising age at marriage and hereby shortening duration of exposure to childbearing, 2) expanding educational opportunities up to secondary or higher level of education for the individuals will contribute to rising age at marriage for girls and rising the cost of childrearing. By

education, children will be withdrawn from the labor market and become economically dependent on their parents. 3) increasing women's participation in the formal labor market by which the costs of motherhood women will be high. And 4) rising standard of living coupled with improving quality of health services will increase child survival by which families are in no need to have extra children to compensate for child loss.

### ***What are the perceptions of youth towards marriage and fertility?***

A discussion of population issues with focus on youth is relevant and most timely. Youth have been at the center of the political scene in 2011, championing what has been acclaimed at the Arab Spring for democratic change. This group is shaped by the current stage of Egypt's fertility transition, being the largest in size compared to cohorts that are younger and older. The weight demonstrated in the sheer size of this group is to be attributed to demographic changes in Egypt in the recent decades. Youth current perceptions clearly shape the future fertility levels in Egypt and determine whether Egypt can achieve its demographic goals.

Barsoum (2011) looked at three dimensions for youth, namely desired number of children, age at marriage among youth, and use of family planning among young couples.

- Desired number of children

The road to fertility replacement is marked by the adoption of young couples of the concept of having two-child family. ElZeini (2008) notes that replacement fertility is a relatively new concept in Egypt both as a policy approach and as a reality. In terms of policy approach, population planning messages portrayed the picture of a family with three children as the divide between "small" and "large" families. In reality, the two-child ideal is not the norm. Among EDHS respondents at the end of their reproductive life (aged 45–49 years), about 10% reported having only two children (El-Zanaty and Way, 2009). Results from a specialized study on stalled fertility shows that the proportion of respondents who grew up in a two-child family is less than 4% (El-Zeini, 2008). However, lack of widespread adoption of a two-child family ideal has been described as the main obstacle to achieving replacement fertility in Egypt (Casterline and Roushdy, 2007).

Looking at the desired number of children across age groups among married women in fertility age, the EDHS data shows that younger women generally desire fewer children than older women. In EDHS 2008, the mean ideal number of children (MINC) was 2.9 for ever-married women. Only 39% of ever-married women wanted a two-child family, while 27% considered a three-child family ideal. Among married young women in the age group 15-19, MINC was 2.7, compared to 3.4 among older women in the age group 45-49.

Data from the 2009 Survey of Young People in Egypt (SYPE) show that young people's ideal number of children is higher than the replacement level. Among the unmarried (15-29), the MINC is 2.7 among male young people and 2.6 among females. Among those married, the MINC is 2.8 among males and 2.9 among females

The above differentiation in the desired number of children between married and unmarried young people aged 25-29 is deliberate. For married couples, the answer to the question on the ideal number of children is often mediated by the actual number of children. The EDHS 2008 notes that the ideal number of children tends to be fairly closely associated with the actual number of children a woman has had. For this reason, SYPE respondents who were married had consistently higher mean ideal number of children than unmarried young people. The mean ideal number of children for married males is 2.8 compared to 2.7 for unmarried males. For married females, the mean ideal number of children is 3.0 compared to 2.5 among unmarried young females. These results can also be interpreted in relation to the prevalence of early marriage, given the fact that this is an age-censored sample focusing on youth. Those who marry early tend to be less educated and hence tend to prefer larger families as noted earlier.

The data shows a number of patterns with relation to the preferred number of children. One major observation is that the education level decreases the preferred number of children. Among unmarried male youth, while the mean ideal number of children is 2.8 for those who are illiterate, it decreases to 2.6 for those with university education.

Among unmarried females, while the mean ideal number of children is 2.9 for those who are illiterate, it decreases to 2.5 for those with university education.

Regional disparity in mean ideal number of children persists. Young people living in rural Upper Egypt had the highest mean ideal number of children. Among unmarried males, the mean ideal number of children in rural Upper Egypt is 2.9, only surpassed by those in Frontier governorates (3.2). Conversely, it is 2.5 for unmarried youth living in urban governorates. For unmarried females, the mean ideal number of children in Frontier Governorates and rural Upper Egypt are 2.8 and 2.9 respectively, compared to 2.3 in urban governorates.

- Age at Marriage among Youth

Family formation is an important life transition to adulthood for young people. Young people's ability to form new families is a sign of their social and economic integration in the Middle East (Singerman, 2009). The high cost of marriage, primarily housing costs, and lack of economic stability for working young people, have been major reasons for delaying at marriage (ibid.). This has been particularly the case for urban youth. While the extended family tradition survives in rural areas, young people in urban areas have to cover the costs of housing to start new families. Delayed marriage, particularly among urban men, continues to be one of the major signs of youth exclusion in Egypt (Assaad and Barsoum, 2009).

Marriage is also a major determinant of fertility in Egypt. Recent data from a youth survey shows that that marriage means motherhood in Egypt. Among the 2,496 married females aged 15-29 interviewed in survey, all but one had at least one child (Population Council, 2010). Family size increases with age, as young women have greater exposure to the "risk" of childbearing the longer that they are married. Among married females aged 15-21, 63% have one child and 29% have two. Among married females 22-29, 21% have one child, 36% have two children, and 25% have three children (ibid.).

Delayed marriage, particularly the delay of age at first marriage for young women in rural areas who tend to marry during their teen years, has often been described as a

developmental blessing. Age at marriage determines the duration of exposure to the risk of pregnancy. Thus, trends in age at first marriage can help explain changes in fertility levels in Egypt. Marriage is almost universal among young women in Egypt. According to SYPE data, by age 24, about 40% of females are married. By age 29, 81% of females are married. The EDHS shows that the median age at first marriage among urban women age 25-49 was 22.2 years, around three years higher than the median age at first marriage among rural women (19.4 years).

Despite the overall trend of a rise in the average age of marriage in the Egypt, early marriage is still prevalent in certain pockets in the Egyptian society, particularly in rural areas. According to the 2008 EDHS, the median age at first marriage in rural areas is very low, reaching the age 18.3 among women in rural Upper Egypt, the region with lowest human development indicators in Egypt. Early marriage is closely tied to early childbearing. It has been confirmed by many studies that younger married women do not start using contraception until after the first child. The Egyptian Demographic and health Survey of 2008 shows a staggering 93% of women who believed that family planning should start after having the first child. Early marriage is also closely tied to higher fertility. By the age of 25, Egyptian women have already experienced one-third of their births (1.1 children). In rural Upper Egypt, where early marriage is most practiced, the TFR is 3.6 births per woman according to EDHS 2008.

Research has long established the relationship between early marriage and girls' access to formal education. Adolescent marriages concur with school dropout. In most cases, girls who marry early are school dropouts or have never entered school. This perpetuates a cycle of generational poverty, with limited access to education, more children, and limited means to support these children. In 2008, Egypt amended its Child Law whereby the minimum age at marriage for women has been raised from 16 to 18. Nevertheless, age misreporting is a common strategy for parents to marry off their daughters at a younger age. The absence of birth registration and legal documents allow for this misreporting to continue.

- Use of Family Planning among Young Married Couples

Data from a youth-focused survey on knowledge of family planning methods confirm that young couples are universally knowledgeable of family planning methods. About 95% of young people aged 15-29, regardless of their marital status, reported having some source of information about family planning. Radio and television were the main source identified (by 78.5%), followed by health care providers (25.1%) and parents (11.5%). This shows that family planning promotion programs have been successful in sending out the message on family planning methods.

However, data on current use of family planning shows a prevalence of only 60% among married women in fertility age. This level of prevalence is inversely correlated with age. Younger women are less likely to use family planning methods than older women. EDHS data shows that among married women ages 15-19, the prevalence of family planning use is at 23.4%, increasing to 44.6% among married women ages 20-24.

Data on ever-use of contraception among married female respondents aged 15-29 in the youth survey shows that about 75% of them have used some form of contraception, with IUDs being the most commonly used method. These results on young females correspond with results from the EDHS, although results on married women aged 15-49 show higher prevalence of IUDs compared to other methods. As discussed earlier, women who work for cash show the highest prevalence in current use of contraception. The prevalence rate among these women is 68% compared to 59% among women not working for cash (ElZanaty and Way, 2009:73). Education also increases the level of use of family planning methods, with 58% of women without education using these methods compared to 62% of women with some education (ibid.).

Closely linked to use of family planning methods is the level of fertility awareness as relates to knowledge about the ovulatory cycle and when a woman is most likely to become pregnant. The EDHS (2008:63) shows that understanding of the ovulatory cycle is limited among Egyptian women, with only one-fifth of the ever-married women age 15-49 interviewed in the EDHS able to answer that a woman has a greater probability of becoming pregnant if she has sexualintercourse halfway between two periods. The survey

also showed that more than four in ten respondents either were unable to say when a woman is most at risk of pregnancy or believed that a woman's risk is the same throughout the ovulatory cycle. Writing about issues of sexuality among Arab youth, Shepherd and DeJong (2005) highlight youth's limited access to knowledge of reproductive and sexual health issues. Despite increased access to education and the growing availability of websites on these issues, the culture of shame surrounding issues of sexuality and reproductive health prevents young people from getting the answers they need. This, combined with a lack of access to reproductive health services, has left young Egyptians at the risk of many physical and psychological health problems. Using data from the survey of young people in Egypt, Barsoum and El-Feki (2010) show that lack of knowledge among young people in Egypt is reflected by young women's memory of their reaction to menarche, with almost two thirds reporting that their first reaction was shock and fear.

### ***What are the characteristics of the organizational framework responsible for fertility?***

Efforts to have a governmental body responsible for handling the population situation can be traced back to the fifties when the Committee for Population Matters was established to assess the population situation and provide recommendation for the government. Such directions, however, were terminated and the committee was dissolved when the government decided to pull out completely from any involvement with the population situation.

The first government organizational framework was established in 1965 as "the Supreme Council for Family Planning". The Council was chaired by the Prime Minister and included as members all Ministers concerned with population. The technical Secretariat "Executive Board for Family Planning" was entrusted with managing the national family planning program with clear mandate aiming to reduce natural increase rate from 25.4 per thousand in 1966 to about 21 per thousand by 1970 resulting in a total population of about 33 millions by that date. The program was independently carried out although fully dependent on the Ministry of Health facilities and those of NGOs.

The national program was later affected by the 1967 war and its subsequent circumstances that led to a complete stop of the activities up to 1969, when a Ministerial Committee was established to assess major activities and recommend future directions. The Supreme Council and its Secretariat were reactivated after introducing some basic changes:

- Establishing an Executive Committee for the Supreme Council to be chaired by the Minister of Health,
- FP services were introduced within all Ministry of Health facilities that worked according to special time table in the afternoon,
- Allocating government financial resources (one million pound) for the Supreme Council activities,
- Establishing the Nile Center for Information within the context of the “General Agency for Information”,
- Creating a working group, within the Ministry of Planning” to integrate population dimension within development planning.

The goal for the national program was to reduce the CBR by one per thousand annually to reach the level of 30 per thousand in 1978.

During the period 1965- 2011 the organizational framework for the population challenge changed several times to reflect either changes in mandate, chairmanship and membership or administrative level within the hierarchy of the country. The High-level population council was reformulated 11 times as follows:

- 1) The supreme council for FP, 1965, chaired by the Prime Minister,
- 2) The Supreme council for family planning, 1972, chaired by the deputy prime minister,
- 3) The supreme council for family planning and population, 1974, chaired by the deputy prime minister,

- 4) The supreme council for family planning and population, 1977, chaired by the vice-president,
- 5) The national population Council, 1985, chaired by the President until endorsing the National Population Policy,
- 6) The national population council, 1986, chaired by the Prime Minister,
- 7) The national population council, 1996, chaired by the Prime Minister,
- 8) The national population council, 2002, chaired by the Minister for health and population,
- 9) The national population council, 2007, chaired by the Prime Minister,
- 10) The national population council, 2009, chaired by the Minister for family and population,
- 11) The national population council, 2011, chaired by the Minister for health and population.

The main responsibilities for such high-level council are to approve proposed policies, develop comprehensive integrated population plans, in collaboration with all stakeholders, coordination as well as monitoring and evaluation. At certain time the functions were expanded to have executing power for pilot experimental projects such as the population and development project, while at other points its role was narrowed to mainly research and data collection.

The Council has local branches in all governorates to support customized population activities at local level and ensure decentralization of population plan implementation.

The performance of this high-council is affected by many factors that determine its role in connection with other stakeholders. Among these are the level of political support, the priority given the population situation, ability to mobilize resources as well as the leadership personality and background.

At the same time, in two occasions a special Cabinet Minister was appointed to shoulder the responsibility of the population situation. The first, the Minister for population and family affairs was nominated during the period 1993-1996, during which the International Conference on Population and Development was held in Cairo in 1994 (ICPD). Besides, it contributed to creating supportive environment for the national program. The second occasion took place in 2009 where a Minister for Family and Population was appointed and assigned the responsibility for chairing the NPC. However, its role and responsibility was largely debated and the Prime Minister continued to chair the meetings of the Council with the presence of the Executive Committee.

This long list of organizational structure clearly indicates the lack of stability, the absence of continuous political support and a clear vision about both the population challenge and the institutional framework required for the successful handling and establishing effective working relationship with various stakeholders (Sayed, 2011). It also reflects the periodic seasonality that characterized the official political government position toward the population challenge. Strategic planning, defining roles and responsibilities of all stakeholders, coordination between various programs to ensure their integration, the ability to assess the contribution of various programs in reaching national goals as well as periodic monitoring and evaluation should be spelled out within the mandate of such organs to ensure its effectiveness.

## **CONCLUDING REMARKS AND POLICY OPTIONS**

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Egypt's population size will increase regardless of what population scenario we will follow. This fact cannot be avoided. From 80 million in early 2010s, the population will increase inevitably. The population is projected to exceed one hundred million in the next two decades. In 2030, the population size is projected to range between 97 to 110.3 million. The increase will be around 17- 30 million. By 2050, the population size is projected to reach 151 million if the current fertility levels (around 3) remained unchanged. Under the most optimistic but unrealistic scenario of reaching replacement level by 2017 and then leveling off, the population will reach almost 111.1 million in

2050, a difference of about 40 million which is almost Egypt's population size in 1976. This difference is equivalent to the 2011 population size of Canada, Algeria, Morocco, surpasses the population size of Malaysia, and twice that of Netherlands.

According to the latest figures from vital registration, there are more than two million births annually (almost 2.4 million births) in 2011. This figure is almost double that of Japan and more than that of Japan and Germany together (population size in both countries is 210 million) and 50-70 percent more than the numbers in Turkey (73 million) and Iran (78 million). This figure has been showing increasing acceleration since 2006.

In terms of human development, Egypt ranks 113 with a human development index of 0.644 in 2011 (UNDP, 2011). More than one-quarter of the population is illiterate and this puts Egypt among the top ten countries with respect to illiteracy. The situation is worse for Egypt's female and Upper Egypt populations, with almost 40 percent of females over the age of 10 years-old being illiterate. Egypt faces problems of poverty where about 25 percent of the population is below the poverty line of L.E. 3000 per year according to the estimates of CAPMAS from the 2010/2011 income and expenditure survey. Egypt faces problems of inequities especially health inequities that can be traced back to the health system. A recent study (Zaky and Abdel-Mowla, 2011) analyzed health outcome inequities in Egypt and examined the link between these inequities and the healthcare system inequities. It was found that health outcome inequities pose a challenge for Egypt. Analyzing both determinants and symptoms of health inequities in Egypt demonstrates that Upper Egypt is the most disadvantaged area while urban governorates are the most advantaged governorates. The current health system does not help reduce such inequities; on the contrary it leads to increase them.

Less than one-third of the population is under 15 years of age, 65 percent in the working ages 15-64, and just below 4 percent is 65 and above. This reflects that almost one person in the dependency ages (less than 15 and 65 and above) is dependent on almost two individuals in the working ages (15-64). In terms of age consideration alone, this is not a high dependency ratio. However, this calculated dependency ratio does not

consider issues such as unemployment that is currently estimated to be around 10-15 percent. It also does not consider female very low participation in the labor market as well as the recognized high levels of underemployment. These challenges clearly indicate different dependency status. Nevertheless, the changing age structure implies that Egypt will be very soon within the demographic window of opportunity. This window requires policy initiatives to capture its benefits (Nassar, Zaky, Abdel-Mowla, 2006).

The inevitable population growth and the growing aspirations for improved well being and social justice pose serious demands on the available resources and their growth potential. One example of resource pressure is the per capita water share. Owing to the continuous increase in population size and the constant Egypt's share of water, the per capita share of water in Egypt is currently far below the water poverty line of 1000 cubic meters of water per year and will reach by 2020 almost half that water poverty line and by 2030 will reach below half that poverty line.

Another challenge is that the size of the population 15-64 years of age would increase from 50 million (63.4%) in 2010 to about 60 and 80 million by 2025 and 2050 successively, which will be reflected on the size of the labor force, the number of newly required opportunities for work and annual budget for investment. The average annual budget in 2050 to accommodate new entrants to the labor market would range between 8-29 billion pounds depending on when Egypt will reach replacement in level. If replacement level is reached by 2017, the annual budget to accommodate new entrants will reach almost 8 billion pounds by 2050. If replacement level is reached by 2032, the number will be 18 billion pounds. If no replacement is achieved, the number will be 29 billion pounds. These scenarios are based on the assumption that the cost of creating a new job is about 30,000 L.E. according to Sayed (2012).

Moving the discussion from macro consideration to individual level perspectives. It is clear that for many groups in the society actual and desired fertility do not match although on the average level they do. It is true that on average the desired number of 3

is not very different from the actual fertility level. However, the detailed analysis indicates that in many instances, fertility desires are not achieved. Almost 14 percent of births that occurred in the five-year period before 2008 EDHS were not wanted. This percentage clearly increases dramatically by birth order. Almost one third of the births with order 4 and above are not wanted. Almost twenty percent of actual fertility is not wanted. The percentage of unwanted fertility goes as high as 28 percent in rural Upper Egypt and as low as 15 percent in the Urban Governorates. If these unwanted births are avoided via an improved performance of the family planning program to help women achieve their fertility desires, a decline of around 0.31 births is expected and TFR of 2.69 live births will be achieved.

Considering the health features of the reproductive pattern, we note that almost 40 percent of the annual live births (2.4 million live births) are of order 4 and above, or are to mothers below age 20 or above age 40 years, or born within a birth interval which is less than two years. This clearly is considered unhealthy patterns of reproductive behavior according to WHO standards. Supporting women to have their births during the age group 20-39 will certainly affect TFR of Egypt. It was calculated that TFR will decline to 2.67 if births of women aged below 20 years and above 40 years were avoided. If these births are coupled with the unwanted births and avoided through an improved performance of the family planning program, fertility levels are expected to reach as low as 2.4 which is very close to replacement level.

The family planning program in Egypt has articulated its mandate, guided by a reproductive health paradigm, states its goals as provision of family planning methods and services, adoption of the reproductive right approach, and advocacy concerned with women's health. This is a very positive feature that needs to be drawn upon to allow the program to achieve its goals. It should be noted, however, that the indicators of performance remain centered around the achievements with reference to the level of TFR and does not include detailed indicators covering the many aspects related to the healthy achievement of reproductive desires. Furthermore, the actions adopted are supply and vertical in nature. They do not adopt an inter-sectoral gender dynamics and social

determinants. In addition, the constraints limiting the efficiency of the National Population Council do not provide the needed supportive environment for improved performance of family planning services. Such an environment requires the effective translation of the broad population strategy -which includes both socio-economic and gender dimension- as well as an evidence-based planning.

As indicated earlier, the potential of improved family planning services, while not insignificant, remains smaller than the targeted level of TFR of 2.1. For such a level to be achieved, a change in desire would need to take place. The first candidates for such a change in desires are clearly the urban residents and the educated/employed females.

The family planning program in Egypt clearly has unsatisfied potential role in further reducing fertility. As indicated earlier, a significant proportion of women stop using contraception after a short period of use although they still do not want to have more children. Also, there is more demand and need, than the satisfied, for contraceptive services especially in rural areas. Almost one quarter of users discontinue during the first twelve months of use. The main reasons contributing to about 50 percent of this discontinuation rate are the presence of side effects/health reasons followed by method failure. The total unmet need in Egypt is 9.2 percent. The likelihood of having unmet need is highest among women who have no education, live in rural areas especially rural Upper Egypt, belong to the lowest wealth quintile. Meeting these demands will certainly impact current levels of fertility. It is expected that TFR will decline around 20 percent, if unmet need and discontinuation is satisfied.

Exposure to family planning (FP) messages is one of the variables that affect contraceptive use and, hence, fertility levels. This type of exposure decreased during the past years. The past means of exposure are no longer able to reach the population. The local media used to be the most direct way to deliver FP messages, the high domination of satellite television in the common Egyptian home has diminished its effectiveness and thus its consistency.

These past challenges are growing in an environment that has problematic features of organizational and administrative structure in terms of the high level body capable of translating these strategic directions into effective plans and of following up the implementation of such plans. There is frequent restructuring of such a body and changing its affiliation of the population issues between different ministries is impeding such needed efforts. The large number of times such institutional framework has been changed in Egypt was coupled by a change in chairmanship, mandate and administrative position within the hierarchy of the Government. These changes meant frequent revisit of vision, mission and objectives for such a key organ.

The absence of a system for monitoring and evaluation is among the prevailing challenges that are hampering periodic assessment of progress at all levels. This is also highly linked to the establishment of population databases and eliminating the contradiction between data from various sources. The major source of data for assessing the situation were obtained through the implementation of the successive series of the Demographic and Health Surveys that started in 1988 and continued to be carried out regularly up to 2008 under the financial support of USAID. There is a need for ensuring an adequate information system supported by a skilled and systematic analytical effort to provide timely assessment of the current situation, especially after the pull out of USAID support to the health component as part of Egypt's graduation in that respect.

Patterns of fertility behavior in Egypt is not uniform among regions. Fertility trends are different among the regions in Egypt. Urban areas are showing significant stagnation in fertility levels. Rural Lower Egypt is starting to show the same pattern. Rural Upper Egypt, to a large extent, is the only region that still shows decline in fertility levels but with a very slow pace of decline.

The stagnating pace of fertility change in urban areas was shown to be mainly due to the fact that urban settings host heterogeneous groups with different and conflicting demographic goals. Within urban settings, some areas in Egypt are considered urban areas while their characteristics are greatly different from the other characteristics of an

urban setup. These areas include towns and slum areas. This clearly indicates that urban stagnation is reflecting this intra-urban differences and is greatly influenced by the aggregation of less privileged population in certain neighborhoods. Those living in the least deprived neighborhoods exhibit the highest aggregation of secondary educated women as well as high living standard. Within this social success context, women have succeeded in lowering their fertility and effectively implementing the appropriate strategies to fulfill their fertility objective. In contrast, the high aggregation of less than secondary educated women and the prevailing intermediate standard of living in the most deprived neighborhoods still play a significant role in slowing the fertility decline. This clearly calls for differentiated policies based on disaggregated analysis taking into consideration regional disparities.

Education is among the most commonly identified sources of empowerment among females. Effect of education on fertility preference does not show up unless the level of education reaches secondary level or higher; percent of women having four or more children drops considerably when this level of education is reached while those having two or three children increase. When it comes to female employment as a main source of empowerment, no evident difference shows for working or non working women with respect to actual fertility, except with certain features of female employment. Women who have ever worked and have low level of education have larger average of children ever born than those who have never worked. When job characteristics are explored, it is found that a higher percent of respondents with low job quality (security) have four or more children compared to those who have never worked before. Choices of having fewer than four children is significantly related to having secondary education or higher. Having jobs with low security (quality) is associated with higher risks of having four or more children. These jobs do not encourage women to compromise the number of children with their employment but rather provide an extra source of income to help provide for their children and also have more children. These jobs are mainly occupied by less educated women in agriculture and the services sectors. On the other hand, secured jobs i.e. permanent jobs or contracted jobs with social security are relatively more associated with lower fertility behavior and desires and more with women who

achieve their fertility desires. It is clear that in order for education and employment to impact fertility, they need to be qualified by certain characteristics. These characteristics are known to influence the scope of opportunities available to females and to empower them to achieve their fertility desires as well as support lower fertility desires.

It is evident that ideational changes among young people to accept and seek replacement level family size have not been achieved. Ideals of families above 2 children persist among youth thus slowing the adoption of family planning methods. Regional disparity in mean ideal number of children persists. Young people living in rural Upper Egypt have the highest mean ideal number of children. Religious based interpretations are negatively affecting desires/practices. While FP practice is socially acceptable as reflected by the ever use of about 70 percent, the religious acceptability remains problematic. FP practice is not acceptable according to some religious points of views while acceptable by others. This disagreement probably influences reproductive desires and behavior among Egyptian families.

Women who successfully achieved their intended fertility of two children 'achievers of 2' are highly selective with regard to most of the demographic, socio-economic and reproductive health factors that influence fertility. They marry, on average, at later age. In Egypt delaying marriage, especially after age 30 is not the norm and is still not welcomed, however considerable proportion of the achievers married at age above 30 (shorter reproductive span). They are enjoying much higher rates of child survival more than their peers, and they do not have strong son preference. Achievers have favorable socio-economic characteristics; they are highly educated, have high rate of participation in the labor market, and have high standard of living and are living in urbanized areas. Furthermore, they are marrying to better off husbands in terms of the level of occupational skills and level of education. They are notably better with regard to two indicators; place of child birth and husband's desire for more children. None of the achievers delivered their babies at their homes and fewer husbands desire more than two children.

Egypt findings clearly support a socio development model targeting the existing inequities among geographic and social groups as well as transformative and ideational gender changes.

All these features pose the need for evidence based planning that integrates population dynamics with overall development including women empowerment policies. Such an integration would allow the articulation of population policies and goals addressing the population situation in its entirety, namely distribution, characteristics and size given the available natural resources. It should be emphasized that the end goals of such a policy are the individual well being that incorporates a human rights perspective respecting individual informed choices and seeking healthy reproduction.

After the 25th of January revolution in Egypt, there is a great deal of ambiguity regarding the population size and fertility policies. Such an issue is not given the priority it deserves and the right framing. No one rarely talks about the topic, its linkages with the economy and development and how population dynamics is part and parcel of our vision for Egypt. The current discourse appears to suggest that Egypt population challenges will solve themselves through focusing on socio-economic development. This is clearly not substantiated by the current analysis. The data indicate service challenges in satisfying the current fertility choices of families, in ensuring healthy mothers and children and in meeting the growing aspiration of an increasing population. Socio-economic policies need to target the inequitable distribution of opportunities, need to address gender concerns and need to recognize the interactive relations between population and development. An efficient family planning program and an influential and capable population council are a corner stone of human development in Egypt.

Given the findings of this report, the following future policy options are recommended:

***Prioritizing population challenges and full integration within overall development plan emphasizing gender and children values and rights***

- Creating broader community consensus about the population situation of Egypt and accordingly the goals that are to be adopted. This includes the articulation of a clear and unified vision and a consensus around the nature of the population challenges facing Egypt and the approaches to deal with these challenges.
- Renewing the political will and commitment to ensure the full integration of the population dimension into development plan and availability of resources (human and financial) as well as creating an enabling/supportive environment.
- Developing relevant agreed upon strategies and programs to cope with the defined population challenges and allocating required resources.
- Adopting an overall development approach recognizing reproductive health, gender values, and the importance of children rights especially to education. Such developmental framework includes improved education access, equality and quality, and raising labor market efficiency. This would foster the nation's human capital, boost productivity in all key sectors, allow more equitable resource distribution and enable higher levels of innovation and creativity, and ultimately will help Egyptians fulfill their demographic goals. This also would be in line with Egypt's commitment to global development agenda beyond 2015.
- Ensuring women provision with potential sources of sustainable empowerment; namely higher education and more secured employment opportunities will certainly help them achieve their informed reproductive desires and support lower desires.
- Supporting a renewed focus on ideational changes, particularly among youth, is highly needed and the continuing engagement with religious leaders.

### ***Improved performance of the family planning program***

- Building on the current reproductive health approach and enforcing the family planning component to ensure the right of women and families to achieve their informed reproductive desires in a healthy pattern.
- Expanding coverage through increasing number of health units that provide FP/RH services especially in rural Upper Egypt. Focusing on strengthening service delivery at the local levels.
- Improving the quality of services provided in the health units through improving management, supervision and feedback indicating the level of satisfaction of users as well as ensuring effective counseling on family planning/reproductive program.

Moreover, quality services would require:

- Ensuring the provision of FP/RH services by a female health provider, preferably the existence of females in each unit.
- Improving the skills and capabilities, via training courses, of all service providers working in health units that provide RH services to enable them to serve women with better quality.
- Diversifying the Method-Mix available in health units, especially in rural area, to respond to the various needs of users. Advertising for safe methods is very important to ease the fear of side effects and to correct misconceptions about contraceptive methods.
- Ensuring the full integration of FP/RH within primary health care to cover all currently missed opportunities such as antenatal and postnatal care and times of children vaccination.

### ***An effective National Population Council for population planning***

- Developing and presenting evidence-based population strategies built around potential goals/objectives for Egypt's population.
- Emphasizing decentralization of population plan and adopting a disaggregated approach to customize programs to local conditions, enhance abilities to deal with different population challenges in different geographical areas, and prioritize

under-served populations and regions. Accordingly, this would enhance potential success.

- Sustaining and improving national and sub-national data on population issues and analyzing their underlying social determinants of health at local levels.
- Reviewing family planning messages, especially in rural areas, to ensure that:
  - One message/vision is enforced and ensures efficient implementation by all relevant stakeholders
  - Messages are designed to convince couples of the importance and benefits of the small family and the health consequences of early, late or repeated childbearing on mother and birth.
- Assigning clear roles and responsibilities for all stakeholders to instrumentally contribute to changing the current stalling situation.
- Monitoring and evaluating using quality performance indicators to evaluate process and impact in the field and at local levels.
- Updating the population objectives and approaches according to the progress achieved.

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