

CHAPTER TWO

LITERATURE REVIEW, CONCEPTUAL FRAMEWORK, AND METHODOLOGY

Family planning programs are carried out within a variety of social and economic contexts, and their effects coincide with those of other influences on contraceptive use and fertility (Lapham & Mauldin, 1985).

This Chapter comprises three Sections. Section 1 presents a review of the related literature. Section 2 presents the conceptual framework. The methodology of the study is described in Section 3.

2.1 REVIEW OF THE RELATED LITERATURE:

The first undertaking to measure family planning program inputs independently of outputs was made by Lapham and Mauldin (1972). They developed 15 input measures including policy measures, performance of the national family planning program, and evaluation. These measures were applied to 20 countries by Freedman and Berelson (1976) in a comprehensive review of family planning programs, and to 96 countries by Mauldin and Berelson (1978) in their study of the conditions of fertility decline. Later in 1982 a questionnaire study by Mauldin and Lapham produced information for an expanded set of 30 scores on 100 countries, which they used in a series of analyses and publications (Lapham & Mauldin, 1984 and 1985; Mauldin and Lapham, 1985).

The measures that were developed by Lapham and Mauldin for countries about 1982 have been employed by a number of analysts for a variety of populations. Jain (1989) used the measures in his study of the effects of an improved method mix, and Entwisle, Mason and Hermalin (1986) used them with World Fertility Survey data in their multilevel inquiry into the determinants of contraceptive use.

The 30 scores, measured across 100 countries, provide a 30 by 100 matrix. Entwisle (1989), applying confirmatory factor analysis to the matrix, found eight underlying dimensions to the 30 scores, which she compared to a four groupings of the scores by Lapham and Mauldin. These diversions are derived on Chapter Six.

During the 1970s, the United Nations Population Division, in cooperation with the International Union for the Scientific Study of Population (IUSSP), stimulated numerous analyses of program effort, which used various methods (UN, 1978(1), 1981, and 1985). Manual IX (UN, 1978(2)) presents these methods and illustrates their application. Most multiple regression analyses across national unions have shown separate effects on fertility by program effort and by favorable social settings, and a strong joint effect.

The most recent calculation for the demographic impact of family planning programs for the entire developing world is that by Bongaarts, Mauldin, and Philips (1990). They found that the large international effort to implement family planning programs has been quite successful in attaining many of its objectives. By making contraceptives more readily available and by encouraging smaller families, public and private sector efforts have increased the use of contraception. They concluded that well-designed programs can have a substantial impact on fertility and population growth.

A new study by Bongaarts (1993) provided country-level estimates of the family planning program effort in developing countries. The study aimed at estimating the number of births averted as the result of family planning programs. The net program effort was estimated to be a 1.39 births decline in TFR per woman, similar to the results obtained by Bongaarts, Mauldin, and Philips (1990). This finding implies that public and private sector family planning programs have been responsible for fully half of the fertility decline from 6.4 to 3.9 births per woman between the pretransition period and the late 1980s. The net number of births averted as the result of this program-induced fertility reduction is an estimated 43 million per year in the previous two decades.

With respect to Egypt, many studies examined the determinants of contraceptive use at the individual level analysis using the available set of data of the Egyptian Fertility Survey 1980, the Egyptian Demographic and Health Survey 1988, and the Egyptian Maternal and Health Survey 1991 (El-Deeb & Casterline, 1988, Yahia, 1993; Dallal, 1994). Few studies examined the determinants of contraceptive use at an aggregate level analysis.

Egypt Fertility Care Society (EFCS), 1990 carried out a study which examined several factors related to management aspects in the provision of family planning services, and how they affect quality of service provided to Egyptian couples. Five governorates were selected for the study: Menya and Assuit in Upper Egypt, Alexandria and Dakahlia in Lower Egypt, and Cairo. Three health districts were selected at random from the health administration units in each governorate. At each district, two health units were randomly selected, one ranking as the most successful in delivery of family planning services and other from the least successful ones. Units are considered successful or unsuccessful depending on their achieved number of family planning acceptors from the target number set by Ministry Of Health (MOH). The study examined the system of family planning service delivery run by MOH. Thirty units of MOH clinics were selected (15 successful and 15 unsuccessful units).

The results of the study strongly suggested a relationship between the characteristics of the community served by the health unit and the success or failure of the unit in recruiting contraceptive users. A good number of unsuccessful units were observed to be situated in localities of low socio-economic status, where a high rate of female illiteracy and higher proportion of infant and child mortality prevail, as well as strong traditional beliefs that favor large family norms.

Loza and Potter (1990) carried out a study using a series of focus groups discussion (FGD) with current and past users of oral contraceptives (OC) as well as interviews with family planning providers, and they examined factors affecting use of OC and how the services system affects that use. Six geographical areas from four governorates in Lower and Upper Egypt were selected to represent four rural areas and two urban areas. A total of 96 women participated in 12 FGD on oral

contraceptives: 50 women were current users and 46 were past users of OC. The discussion groups provided information on the pattern of pill use, motivation, fears and problems as well as about the delivery system from the perspective of past and current users.

Family planning providers were selected from each site where the focus groups were held. Thirty four family planning service providers were interviewed. They included physicians, nurses, social workers, outreach workers, and pharmacists from MOH clinics, Family Planning Association clinics, pharmacies, private clinics as well as one community-based service project provider. Unit information sheet and provider interview schedule were employed to gather information about family planning method offered at the unit, its costs, family planning staff, service hours, personal characteristics of family planning service provider, their experience and training, provider role in family planning services, provider's knowledge of correct use of OC, advantages and disadvantages of OC, reasons of incorrect use and discontinuation and ways to improve family planning services.

The results showed the importance of the quality of family planning providers and good counselling service and information given to the clients about the side effects of the method to achieve client's satisfaction and recruiting new acceptors of oral contraceptives.

Nawar (1992) carried out a field study to examine the quality of family planning services. A sample of 120 units were selected from 9 Egyptian governorates, 90 of these units belonging to the Ministry of Health (MOH), 25 to the Egyptian Family Planning Association, as well as 5 Clinical Service Improved Units (CSI).

Three questionnaires were designed for this study. The first questionnaire sought information on the structure of family planning units. The second one was designed to be administered to the center's clients. The third questionnaire was addressed to a sample of non-users of MOH, EFPA and CSI centers who are residing in the area served by the center surveyed. For each center, one questionnaire of the

first type was completed, 10 of the second type and 12 of the third type. The questionnaires included several measures and indicators to assess the quality of family planning services.

The findings of this study can be classified under two main points:(1) quality of service from provider's perspective, which reflect varying levels for the quality indicators. For example, the choice of methods indicator was reasonably met, while information given to the clients indicator was not satisfactory in many aspects. Also, the study indicated that the mechanisms to encourage continuing use was also amongst the quality indicators with low performance. (2) quality of services from client perspectives indicated that long waiting time and no comfortable waiting place, the cleanness of the unit, the availability of other family planning services and the treatment by provider and the availability of counselling services were the main factors for quality.

One of the most important studies is that of Sayed, El-Zanaty, and Guhl (1993). This work was carried out by the Cairo Demographic Center's,1992 was entitled "Quality of Family Planning in Egypt, 1992". This study examined the determinants of contraceptive prevalence in eighteen communities in Egypt. The study was restricted to rural areas, especially in Upper Egypt with only three urban areas. The study used both qualitative and quantitative information to examine how differences in the quality of service in the sample communities affects contraceptive use when the level of socioeconomic development of the communities is taken into account. The analysis showed that social setting is significantly related to contraceptive prevalence. In addition, several aspects of the quality and quantity of family planning services are related to contraceptive use when the level of socioeconomic development is controlled.

Makhlouf & Zaghloul (1994), carried out a study in 1993 to evaluate the performance of Clinical Service Improvement Units (CSI) - under the Egyptian Family Planning Association - and to test the continuation rate of contraceptive use for the clients of these centers. The study was carried out in two phases, the first was an office study from the records of clients in the service units, and the second was a field

Table (2.1)
Comparison of Studies on Quality of Family Planning
Services and Program Effort indicators in Egypt

Dimension	EFCS 1990	Loza & Potter 1990	Nawar 1992	Sayed, et.al, 1993	Makhlouf & Zaghloul 1994
* Data collection:					
Qualitative	x	x		x	
Quantitative	x	x	x	x	x
* Type of FP service provider:					
MOH	x	x	x	x	
MOSA		x	x	x	
CSI					x
Private physician		x		x	
Pharmacy		x		x	
* Staff interviewed:					
Director				x	x
Doctor	x	x	x	x	x
Nurse/Hakima	x	x		x	x
Social Worker/Counselor	x	x		x	x
Raida Rifia				x	
Pharmacist		x		x	
* Number of female interviewed:	820	96	2628	1673	2263
* Type of female user:					
Pill	x				
All methods	x	x	x	x	x
* Selection of female users:					
Random Household				x	
Clinic Exit			x		
Clinic Records			x		x
Proximity to meeting place		x			
* Number of male users				267	
* Unit of analysis:					
Individual					x
FP unit	x	x	x		x
Community:	x			x	

survey which covered 12 governorates: Alexandria from urban governorates, Kalyoubia, Dakahlia, Gharbia, Kafrel-Shiekh, and Sharkia from Lower Egypt, Giza, Beni-Suif, Menya, Assuit, Souhag, and Qena from Upper Egypt. The sample covered the activities of 20 units providing family planning services. 2263 women were successfully interviewed. The primary results showed that clinics with (1) well trained female doctor; (2) suitable place for waiting in the clinic; (3) information given to the client; and (4) longer time of work with two shifts are more successful than other clinics.

From the studies mentioned above, one can notice that five studies related to the quality of family planning services and program effort have recently been completed in Egypt (EFCS,1990; Loza & Potter, 1990; Nawar, 1992; Sayed et. al., 1993; Makhoulf & Zaghloul, 1994). These studies differ on a number of dimensions as shown in Table (2.1). Despite the differences in methodology, sample size and selection, and focus, these studies have identified a number of factors that appear to be related to the quality of family planning and the program effort in Egypt. These factors include inadequacies in the following items: (1) provider training, experience, and family planning knowledge; (2) client counseling; (3) medical screening; (4) IE&C activities; (5) physical and medical facilities; (6) regular supply of contraceptives; (7) record-keeping, planning and evaluation; and (8) privacy in counseling and in medical procedures.

However the present study depends on retrospective data , rather than survey data, in the evaluation and measurement of the socioeconomic setting and the program effort indicators it includes all the Egyptian governorates (except frontiers) and it considers the governorate as a unit of analysis. This make it easy to compare among governorates and to evaluate governorate policies toward population and family planning activities.

2.2 CONCEPTUAL FRAMEWORK:

A comprehensive description of the determinants of fertility behavior and contraceptive use is beyond the scope of this study. There are, however, several extensive summaries of this literature to which the reader is referred: United Nations (1973), Freedman (1975), Easterlin (1978), and the Panel on Fertility Determinants,

National Academy of Sciences (1983).

Lapham and Mauldin (1985) rearranged a model of fertility determinants depending on the previous models highlighting the issues of the socioeconomic setting and the program effort components (See Figure (2.1)).

Clearly, social, cultural, and economic factors affect fertility through the influence of demand and supply on the motivation to accept and use fertility regulation. Moreover, these, social, cultural, and economic conditions affect family planning program activities.

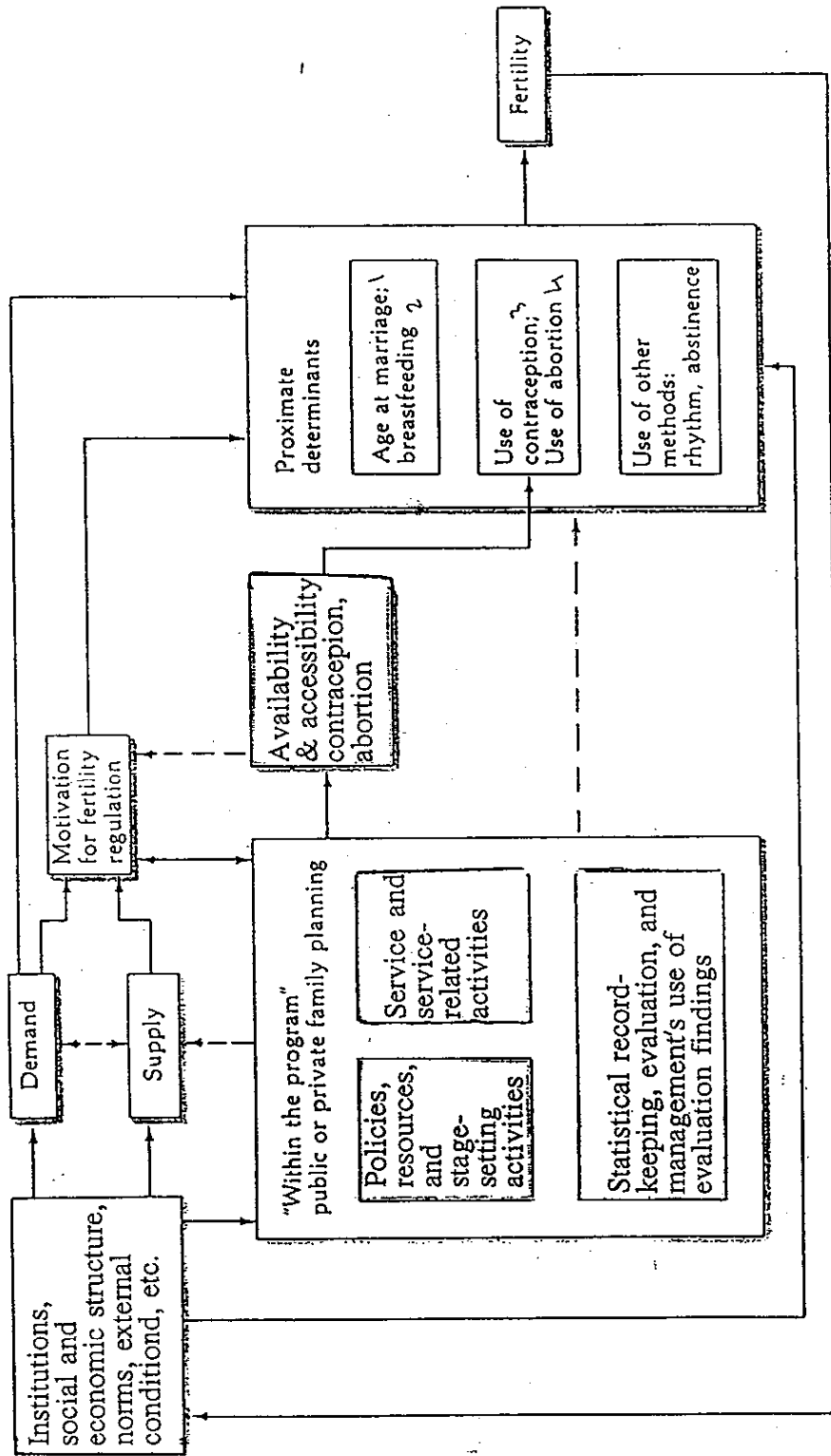
Because a full investigation of the relationships specified in this framework runs up against data limitations in many countries, Lapham and Mauldin developed a simplified version of the framework (See Figure (2.2)). How does one get from Figure 2.1 to 2.2?. Since everything works through the proximate determinants in Figure 1.2, let us assume that the effect of age at marriage and breastfeeding are invariant and abortion is nil (Bongaarts and Potter, 1983). Then the model is simplified to one in which there is a fixed relationship between use of contraceptives, operationally defined as contraceptive prevalence, and fertility. Then the simplified version that presented in Figure 2.2 is consistent with Figure (2.1): Socioeconomic Setting (SES) explains a substantial part of contraceptive prevalence, but not all. If program effort (PE) is also considered, the "explaining power" increases significantly. It is hypothesized that "program effort" its self is influenced by socioeconomic setting, that is, program effort is hypothesized to have an effect on prevalence only in the context of socioeconomic setting.

The central theoretical question is to show that the Lapham and Mauldin analyses based on the nation/country as a unit of analysis can be applied Egypt using governorate as a unit of analysis.

2.3 METHODOLOGY AND ANALYSIS:

In addition to using simple statistical and mathematical measures, the Simple and Multiple Regression and Path Analysis techniques are employed. Concerning

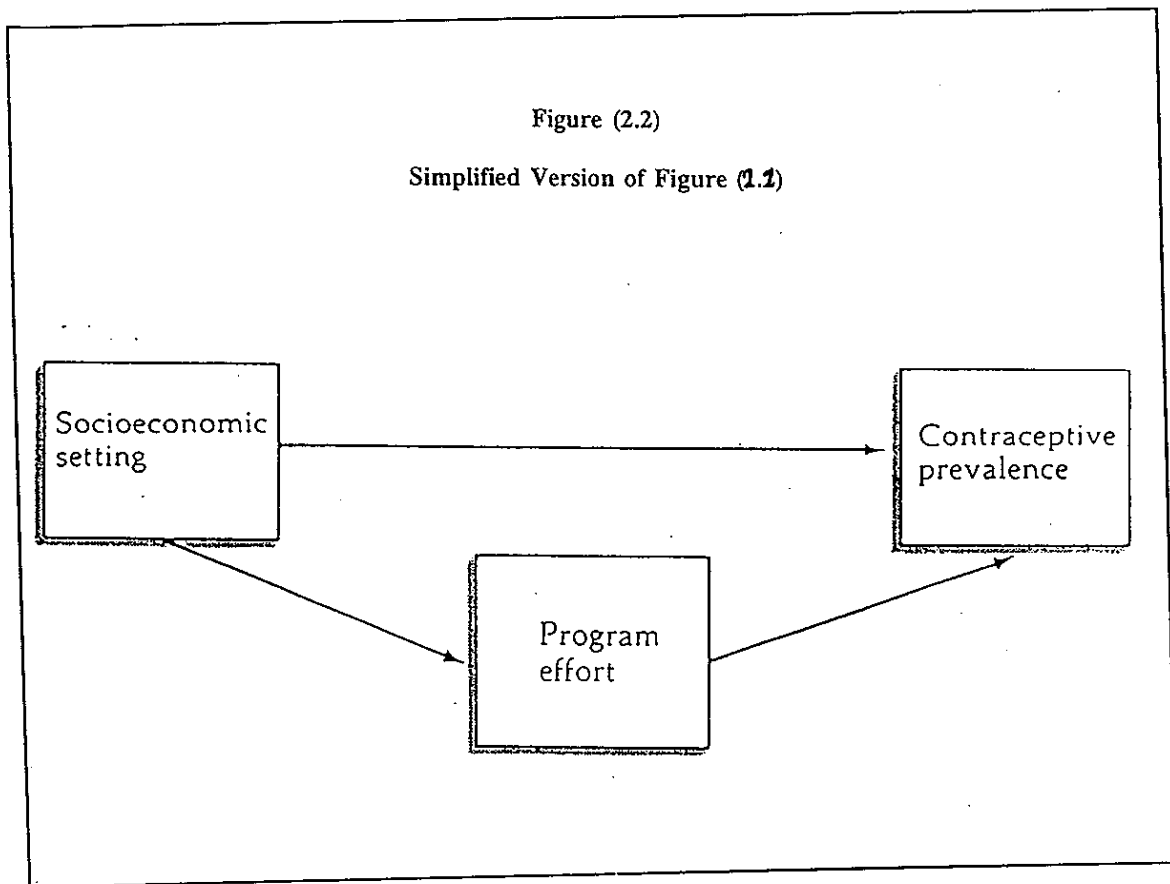
Figure (2.1)
A Framework for Understanding the Role of Socioeconomic Setting And Program Effort in the Conditions of Fertility Decline



Note: Arrows represent Hypothesized direction of effect. Dotted lines suggest small effects.

Figure (2.2)

Simplified Version of Figure (1.1)



regression, the following regression equations are fitted and examined:

$$\text{CPR}_i = a + b \text{SES}_i + e \quad (2.1)$$

$$\text{CPR}_i = a + b \text{PE}_i + e \quad (2.2)$$

$$\text{CPR}_i = a + b_1 \text{SES}_i + b_2 \text{PE}_i + b_3 \text{SES}_i * \text{PE}_i + e \quad (2.3)$$

where:

- CPR** = Contraceptive Prevalence Rate;
- SES** = Socioeconomic Setting index;
- PE** = Program Effort index;
- SES*PE** = The interaction between Socioeconomic Setting and Program Effort Index;
- e** = error term;and
- i** = denotes governorate.

Equation no. (2.1) measures the gross effect of the SES on contraceptive prevalence rate, while equation no. (2.2) measures the gross effect of the PE on contraceptive prevalence rate. The net effect of SES and PE is measured by equation no. (2.3).

To quantify the relationship described in Figure (2.2), Path Analysis is used. The path equations can be written as follows:

$$PE = p_{21} SES + p_{2u} X_u \quad (2.4)$$

$$CPR = p_{01.2} SES + p_{02.1} PE + p_{0v} X_v \quad (2.5)$$

where p_{21} , p_{2u} , $p_{01.2}$, $p_{02.1}$, and p_{0v} are the path coefficients to explanatory variables, and X_u and X_v are the unexplained variations.

The method of analysis faces some problems with respect to data manipulation, the first problem is: treating governorates as units of analysis masks within governorate (Urban/Rural) differences in socioeconomic status, program effort, and in contraceptive prevalence but it is better than using regions as units of analysis because using region as unit of analysis masks inter governorates differences. To overcome this problem, percent urban was used as a variable in the construction of the socioeconomic setting index. The second problem is the selection of the socioeconomic and program effort variables. Many combinations of the variables were treated to select the highly correlated combination with the contraceptive prevalence rate.