The Impact of Family Planning Programme on the Family and Its Life Cycle with Reference to ESCAP Region -Areas of Data Analysis and Studies-

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Ⅰ. Introduction

For many countries in the ESCAP region, the 1950s witnessed the first phase in recent histroy of a vital revolution characterized by mortality reduction. The 1960s marked the second phase of this revolution when concerted efforts were made through the formulation and implementation of appropriate population policies and programmes to reduce fertility either on a national scale or of a broad stratum of the population. Consequently, in some of the ESCAP countries with national family planning programmes, fertility has been declining during the period 1960-1975 though there has been variations in the amount of these declines.[1]

Though these fertility declines are not solely due to programme efforts, it is becoming increasingly evident that national programmes have had a considerable effect on fertility reduction.

For example, in comparing the recent fertility decline in a number of Asian countries with the historical experience in European and other Western countries, a study concluded that the recent fertility decline in Asia appears to be the result largely of the spread of innovation in behaviour (of child-spacing or family limitation) and should not be viewed simply as an adjustment to new socio-economic circumstances.[2]

While there is a need for macro studies to isolate the independent effect of programme effort from other socio-economic influences, it can be assumed that, in the future, a number of other countries in the region with national programmes may experience a different path to lower fertility : (a) as the programme facilitates the availability of more effective and acceptable techniques of birth control, (b) as couples regard "controlled family size" as an acceptable form of behaviour and (c) as they recognize small family size as advantageous within

the context of perceived social and economic circumstances. [3]

This fertility transition, which is occurring in many countries of the ESCAP region should not be viewed simply as a part of demographic transition at the macro level but should be considered as the outcome of family trainsition leading to changes in family size and structure and in the timing and duration of various phase of the life cycle of the family.

In this context, the family planning programmes in the ESCAP region have increasingly become one of the major determinants in not only reducing family size but also in influencing one or more of the five areas of family function : biological, psychological, socio-cultural, economic and educational.

Notwithstanding the noticeable demographic impact of family planning programmes on the family and its function, one of the major shortcomings is the lack of attention being given to the use of the family as the unit of analysis in family planning studies. For example, in spite of the increasingly available data accumulated by surveys and studies during the past decade in many countries of the region, the impact of family planning programmes has usually been studied mainly in terms of change in the individual's knowledge, attitude toward, and practice of contraceptive method (KAP) and to some extent in fertility, the unit of analysis being the individual rather than the family.

It is time to fill these gaps and to assess the impact of family planning programmes not only on fertility, but also on the family, so that answers could be obtained for such questions as (a) what proportion of families practising family planning have actually achieved the desired goal in terms of birth spacing or limitation? (b) to what extent has this changed reproductive behaviour affected family size and other demographic characteristics of the family? and (c) what

are the consequences of reduced family size on the various productive and protective function of the family at different stages of its life cycle?

Taking the above into account, this paper attempts to identify possible areas of analysis, either by utilizing existing data or by generating additional data, in regard to : (a) family planning programme acceptance and family characteristics ; (b) contraceptive use and change in demographic indexes of the family and its life cycle ; and (c) effects of reduced family size on family function.

It is also hoped that this paper could evolve a new orientation of family planning evaluation strategy to enable the realization of a sound family welfare policy toward better "planning of family" to meet the family needs at various stages of the family life cycle. Before proceeding further, some discussion on data availability and problems of definitions in connexion with the aforementioned family studies seems desirable.

II. Data availability and problems of definition

In most family planning programmes, contraceptive services are usually rendered to eligible women who are currently married, living together with husbands in the age group of 15-44 (or 15-49). So as to locate and identify such target individuals, the programme demands field workers to prepare household registers, listing the name, age and other demographic variables of every member in each household located in the community. This practice is also adopted for the purpose of sample design and selection to interview eligible women or couple for KAP and fertility survey. The census taking with little exception, normally begins with household listing. In spite of these increasingly available household or family data within and outside the programme, the programme had usually been monitored and

evaluated on the basis of the individual and not of the family as the unit of analysis.

Using those basic "household statistics" extracted from the service records, survey and census, the households can first be classified by size, type, composition, relationship to head of household, and socio-economic status. Each unit of family in the household can further be identified and classified by size, marital status, stage of family life cycle at registration entry to the programme (family statistics) and the process of family building over time using the information on the fertility history of the couple obtained from respective and perspective surveys (fertility statistics). Furthermore, information on (a) time of first acceptance, (b) method ever used, and (c) follow-up records of pregnancy history are usually available in the family planning clinical records (family planning statistics).

In adopting the family as the unit of analysis in respect of either household statistics, family statistics, and / or fertility statistics, there are conceptual and definitional problems. Since these problems and their possible solutions are elaborated elsewhere,[4] for our purpose, only the following points are emphasized :

(A) The family must be distinguished from household as for most of the countries in this region, "household" and "family" are not identical :

(B) While the classification of type of family or household depends on the objective of the study, it is suggested that the definition and classification recommended by the United Nations or those adopted for the purpose of the census of the country concerned be taken into account so that they are comparable nationally or internationally :

(C) If the study of family planning is undertaken in the context of the family, the concept of the family and particularly of the family life cycle must be explained and defined.

In this respect, the family may be defined in the narrow sense as the family nucleus for several reasons : first, this definition has been recommended by the United Nations ;[5] secondly, the family nucleus can be most easily traced in reality. It can, therefore, easily be used as a starting point to enlarge the definition of family. In terms of family planning, since the family nucleus comprises married couples, it also constitutes the reproductive unit as well, regardless of whether the couple live alone, or in a household with other persons or in an even larger group (e.g. an extended family).[6]

A normal family life cycle is generally conceived as having six phases : (a) formation (from marriage to birth of first child) : (b) extension (from birth of first child to birth of last child) : (c) completed extension (from birth of last child to first child leaving home) : (d) contraction (from first child leaving home of parents to last child leaving home of parents): (e) completed contraction (from last child leaving home of parents to death of first spouse) ; and (f) dissolution (from death of first spouse to death of survivor - - extinction).[7]

However, such a model, which is based on the nuclear family concept, is more applicable to industrialized Western countries than to Asian countries where the nuclear family system is not universal. Although a number of modifications and variations are suggested, especially by Japanese scholares,[8] there is still a need to study its taxonomic problems to fit into Asian setting. Also, there are problems on the lack of longitudinal data to identify each point event characterizing family life cycle. Despite such taxonomic and data problems, continuous efforts should be made to use the basic concept of family life cycle by adopting suitable definitions and classifications in the family related studies, depending on the objectives of the study.

To study the programme impact at family

or micro level, there are conceptually two dif-ferent approaches : the antecedent studies and consequence studies. Antecedent studies are con-cerned with the variables that influence programme acceptance as well as family size decisions of the family. Consequence studies are concerned with the effects or consequences of programme acceptance as well as family size decisions taking such condition as given. A brief review of the recent issues of population index shows that there are a number of antecedent studies (e.g., value of children, sex preference) but only a very li-mited number of consequence studies in the field of both "family planning" and "family".

For the purpose of this paper, emphasis is placed more on consequences of the programme acceptance rather than an antecedent factor lead-ing to programme acceptance. Thus, this paper assumes that the impact of family planning prac-tice can be conveniently looked at, developmen-tally, in terms of a time sequence--from the pre-adoption stage, through acceptance and use of contraception, to the achievement of small family size. At each stage of this sequence, fa-mily planning can influence one or more of the five areas of family function (i.e., biological, psychological, socio-cultural, economic and edu-cational) under different family conditions at different stages of family life cycle. Such inf-luence could be direct or indirect, immediate or longterm as well as positive or negative, as listed in the annex. Although it is a formidable task to sort out the effects of the programme, an attempt has nevertheless been made to suggest some areas of data analysis and studies as follws.

III. Programme Acceptance and Family Characteristics

While a national family planning programme

usually aims at changing couples' reproductive behaviour towards a smaller size of family, such societal objectives do not usually correspond to the reproductive goals of all the families. Thus, acceptance by individual couples is dependent upon their need for adjustment in the reproduc-tive function of the family, through which ins-titution society intends to exercise control over reporduction.

In this connexion, there have been many KAP surveys including the World Fertility Survey undertaken in the region. These surveys include a wide variety of explanatory variables such as socio-economic indicators, sociological and psyc-hological factors in relation to value of children, in an effort to sort out influential conditional, environmental and motivational factors in accep-ting family planning and reducing family size. Those variables, however, are usually cross-tabu-lated in relation to interviewees' characteristics (usually wives) rather than the characteristics of the family to which the couple belongs. In other words, the analyses are concerned largely with the relationship between individual social-cultural factors and the family planning programme outcome or fertility outcome, thus ignoring the family as the mediator and the individual family interaction process with reproductive behaviour.[9]

In fact, a recent study undertaken by ESCAP showed that the family "authority" structure is related to the degree of the husband-wife com-munication, which is, in turn, related to family planning acceptance.[10] Furthermore, there is also sufficient evidence to indicate that the type of family* is closely related to fertility. For exam-ple, in India, one study indicates that women in extended families have less frequent sexual intercourse than those in nuclear families owing to lack of privacy or kinship pressure for obser-

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* The type of family may also be used as a proxy variable to explain the extent of intra-familial communi-cation and / or degree of privacy with regard to family planning.

ving the period of abstinence which is more strictly observed in extended families.[11] While it is usually assumed that the extended family system encourages higher fertility than nuclear family system, a number of empirical studies especially in India sugests that in general women living in extended families have lower cumulative fertility than those in nuclear families.[12]

Thus, to rectify this phenomenon, attempt should be made to analyse those available data to examine the relationship between programme acceptance and the family characteristics (size, type, structure and its life cycle etc.) in terms of (a) the level of the fertility and family planning practice before and after the programme, (b) the degree of husband / wife communication in family planning by type of family,* and (c) the timing of family planning acceptance in relation to the stages of family life cycle.

In a number of countries in the region with national population programmes, however, there has been a rapid change in family pattern with industrialization, urbanization and modernization.[13]

An important area for investigation is whether family planning acceptance has increased proportionately with the increase of nuclear families. Such an analysis would also help to throw light on the extent to which fertility has declined in amount because of such socio-economic factors as industrialization and urbanization.

Ⅳ. Contraceptive Use and Change in Demographic Indices of the Family and its Life Cycle

As the family planning programme becomes effectively operational and the programme extensively diffused among urban and rural families, and poor and rich, family planning practice and use will become internalized as a part of family life. This continuous use of contraceptives and other types of fertility-related behaviour will reflect the duration of the family-building process and the no-child-bearing period which will in turn affect the timing and duration of the while family life cycle (from marriage to its dissolution).

For example, and important phenomenon observed in developed countries, incuding Japan where "fertility control" has become a way of family life among married couples, is that the family life cycle has undergone a generational change through (a) earlier or later age at marriage, (b) shorter child-bearing period, (c) early stopping of child-bearing, and (d) prolonging "empty nest" period and prolonging life expecftancy.

In this connexion, it may be relevant to refer to some findings of a study in Japan. By linking the data collected from a series of fertility surveys since 1950, Aoki[14] constructed various demographic period indicators based on some important point events as shown in table 1, and made the following observations in relation to family planning :

(a) There is a need for premarital guidance to teenagers as the duration of the fecund period before marriage among females has been prolonged considerably due to the early age of menarche and the later age at marriage ;

(b) There is a need for doubling efforts to provide better contraceptive guidance and techniques to married women in their thirties as their fecund period without birth has been prolonged due to : (i) early age at stopping child-bearing, (ii) delay of age at memopause, (iii) longer working

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* The type of family may also be used as a proxy variable to explain the extent of intra-familial communication and / or degree of privacy with regard to family planning.

Table 1. Median age of Japanese women at selected stages of the family life cycle

Point event	1935	1972
Birth	0	0
Menarche	14.7	12.2
Graduation from school	14.5	18.5
First marriage	20.8	23.1
Age of husband at marriage	24.8	26.2
From menarche to marriage	(6.1)	(10.9)
Birth of first child	23.2	25.3
Birth of last child	35.5	27.9
Start of schooling of last child	42.0	34.4
Graduation of last child from university	59.0	50.4
Menopause	44.5	51.6
From birth of last child to menopause	(9.0)	(2.3)
Husband's retirement	52.0	51.9
Marriage of last child	58.3	52.5
Death of husband	42.9	67.4
Death of herself	49.6	75.9

Source : Hisao Aoki, "Report of the sixth fertility survey in 972 (No. 13) : a provisional study on life cycle of the Japanese females", *Annual Reports of the Institute of Population Problems* (Tokyo, Institute of Population Problems, Ministry of Health and Welfare), No. 19, pp. 35 – 37 (in Japanese with English summary).

life of the wife (23.7 years).

Using the series of fertility data, Aoki[15] also studied the yearly change of total marital fertility, timing of birth, pattern of birth distribution and as well as the duration of life cycle as shown in table 2. It is significant to note that :

(a) The total marital fertility of Japanese couples was reduced from 5.1 in 1940 to 2.1 in 1972 ;

(b) The pattern of birth distribution indicates that most families (74 per cent) had only two children ; 93 per cent of nuclear families were found to have less than three births in 1972 as compared with 26 per

cent in 1940 ;

(c) Timing of birth and birth interval indicates that in 1940 the child-bearing period was about 15 years, stopping at wife's age of 36, averaging one birth every three years. However, the 1972 survey indicates that there was a phenomenon of "bunched" births having child-bearing period of only 5 years with a shorter birth interval of 2.5 years, stopping birth at wife's age of 28.

In such a change to the family life cycle, fertility control rather than mortality is the determining factor. In those developing countries where the demographic transition is underway, such phenomena are bound to happen sooner or later.

Therefore, in order to analyse the historical change of the family life cycle, household and family data obtained at the census should be aerioucally recoded and tabulated so that such trends can be monitored, especially after family planning programmes have been effectively implemented for a considerable period. However, since data for such a long-term trend analysis is lacking in many developing countries, the alternative methodologies such as parity progression ratios by marriage cohorts[16] and age-parity-marriage adjusted net joint reproduction rate[17] would also be applied.

In this process, it is important to effect a linkage between family planning data and other available demographic data to identify the average time of occurrence of point events (such as wife's age at marriage, birth of first child or last child and death of sopuse) from which demographic period indexes (such as birth interval by birth order, open interval and duration of marriage) could be derived. This monitoring exercise could be undertaken in those developing countries where the family planning programme becomes more mature and sophisticated in data collection, learning from the experiences of the

Table 2. Fertility Trends of Japanese Couple

	First Survey (1940)	Second Survey (1952)	Fourth Survey (1962)	Sixth Survey (1972)
1 . Number of Birth (percentage)				
0	5. 8	5. 2	2. 8	1. 1
1 − 3	20. 0	49. 6	83. 1	92. 0
4 − 6	44. 5	35. 7	14. 0	6. 9
7 +	29. 7	9. 5	0. 1	−
Total	100. 0	100. 0	100. 0	100. 0
2 . Total Marital Fertility	5. 14	3. 61	2. 30	2. 12
3 . Timing of Birth* (percentage)				
5 years after marriage	30	38	65	64
10 "	57	68	93	90
15 "	80	86	98	97
20 "	96	95	99	98
4 . Age at Marriage (years)				
Husband	24. 8	−	−	26. 2
Wife	20. 8	−	−	23. 1
5 . Child-bearing period (years)	14. 7	−	−	4. 8
6 . Average Birth Interval (years)	2. 9	−	−	2. 4
7 . Wife's Age at Stopping Child-bearing (years)	35. 5	−	−	27. 9

Source : Hisao Aoki, "Report of the sixth fertility survey in 1972 (no. 13) : a provisional study on life cycle
of the Japaness females, *Annual Reports of the Institute of Population Problems*(Tokyo, Institute
of Population Problems, Ministry of Health and Welfare), No. 19. pp. 35 − 37 (in Japaness with
English summary).

* The last parity number as 100.

developed countries.

V . Effects of Reduced Size of Family on Family Function

One of the basic assumptions in promoting family planning is that family planning practice results in a small size of family and that in turn leads to the improved health and welfare of the family. At the early stage of family planning programmes in the ESCAP region, there was a need for emphasizing the economic and social consequences of high fertility at national level. Today, as the programmes have been more mature, and more families have achieved smal-

ler family size, data are needed for making con-sequence studies including the assessment of the effects of the reduced size of family on family function.

In making a consequence study, two approac-hes can be used, parity analysis or life-cycle analysis. In essence, parity analysis attempts to study differences in terms of the status of health, nutrition, education, consumption pattern and savings among families of various income groups with varying number of children (or fa-mily sizes, parity, birth order or birth interval),[18] it involves sorting of data and tabulating them according to family size, The resulting tabulations are examined for a relationship between family

Table 3. Average household size by monthly per capita expenditure class, India, 1964 – 1965

Monthly per capita expenditure (Rs)	Average household size	
	Urban	Rural
0 – 8	5. 10	5. 86
8 – 11	6. 42	5. 95
11 – 13	6. 49	5. 85
13 – 15	6. 12	5. 89
15 – 18	6. 14	5. 69
18 – 21	5. 67	5. 45
21 – 24	5. 62	5. 24
24 – 28	5. 49	5. 24
28 – 34	4. 91	4. 93
34 – 43	4. 51	4. 52
43 – 55	3. 72	4. 28
55 – 75	3. 26	3. 59
75 and above	2. 73	3. 48
All households	4. 75	5. 22

Source : Government India, *The National Sample Survey, Nineteenth Round, Number 189,* (New Delhi), table 1, p. 6.

size and the level of the selected variable.

It is possible to undertake this type of analysis in the region utilizing various sources of data such as censuses, large and small surveys in family planning, health, nutrition, household expenditures, food consumption, nutrition, etc. For example, table 3, which is derived from an Indian national sample survey,[19] indicates negative correlation between family size and per capita consumption. In the field of health, Wray's article published in Rapid Population Growth[20] well sets the stage for knowledge about health consequences of large family size.

However, one criticism of this parity analysis is that it often lacks control over other relevant (or third) variables. Another is the difficulty to explain the direction of causation. One study design to overcome this problem is to make parity analysis by the use of panel sample, if there is any. For example, some countries in the region

are conducting annually family expenditure surveys using urban and rural panel samples. However, it does not include any questions related to family planning and health status of the sampled families. If such questions can be added, the impact of the programme could be analysed in relation to health aspects in addition to the economic aspects of the family function (e.g. income and saving), at different point of the stage of the family development.

The life-cycle analysis attempts to monitor the economic, health and other aspects of the family at various points of time over its life cycle. The data required for life-cycle analysis would be best obtained from detailed longitudinal study but such data are generally not available.

Simulation may be an alternative to longitudinal study. Ruprecht and Jewett,[21] based on a landmark attempt by Lorimer,[22] developed a simulation model to examine the economic consequences (both consumption and production) of demographic changes at family level (e.g. reduced mortality, deliberate child limitation, child spacing and delayed marriage), in comparison of the same with natural family size differentials. This involves (a) simulating the process of family development (births and deaths) through time ; (b) calculating family production and consumption on the basis of the age and sex of family members ; and (c) analysing how the economic position, as measured by the difference between family production and family consumption, changes when demographic changes are introduced. A similar simulation study may be developed to examine the health status (e.g. maternal or child health) of a family as a consequence of reduced fertility, notwithstanding the need to measure health status quantitatively.

In this connexion, an empirical source of data for studying the effects of reduced family size on family health would be a longitudinal family planning / MCH demonstration project where the

family health records are properly maintained and updated by compiling family planning statistics, health statistics and soio-economic characteristics using the family or household as the unit for record-keeping. Though the duration of observation could not cover the whole stage of the family life cycle of each family, it could be studied for the truncated programme period. The information generated from the records during the programme period would render meaningful analysis possible between family planning acceptance and health status taking into account other intervening variables such as the change of socio-economic factors before and after the programme period.

For example, such attempt is being made in the community health project in Kangwha county, Republic of Korea,[23] where the full records have been kept systematically over the past three years, using the village health workers as record keepers to record the health status of the households in their area. It is suggested that on the basis of these data the effects of family planning practice on family health be examined by applying the concept of life-cycle analysis.

In case policy makers or researchers are interested in looking into the consequences of small size of family or other areas of family life (e. g. farming and schooling), it may first be useful to examine whether the linkage of economic and social service data at the family level is possible in a given setting. This record linkage will become more important since it is now being advocated that family planning be integrated not only into health but also into other functional areas of the family to meet family needs at different stages of family life cycle. However, the question remains whether the integration of various programmes and the consequent integration of data is feasible and / or economical.

VI. Summary and Conclusion

In summary, there is growing recognition of the need for a study to assess the impact of family planning at the family or micro level because the family is an important social unit which plays a unique role as an actor as well as mediator for the family planning programme. It is especially important to study family characteristics before and after adopting innovative reproductive behaviour in different stages of the family life cycle and under different socio-economic condition.

An attempt is made in this paper to call attention to the need for data analysis to assess the programme impact in regard to : (a) family planning programme acceptance and family characteristics ; (b) contraceptive use and change in demographic period indices based on the concept of family life cycle ; and (c) effects of reduced family size on family function.

In making such family studies in Asian countries, however, there are definitional as well as data problems as the concept and methodology related to the family and its life cycle are more or less based on the nuclear family concept which is not a universal phenomenon in the context of many ESCAP countries. Yet, in view of the vast resources and infrastructure being provided to family planning programme in the region and of the quantum of family or household data related to the programmes that is being collected, ample opportunities exist to undertake creative analysis on the basis of the family as a unit of analysis.

There is also a need for (a) reorientation of research and evaluation strategies aimed at shifting the emphasis from the individual to the family as the unit of analysis ; (b) generation of the family data by linking available individual records from the various sources of statistics and

;(c) further development of analytical methodo-logy for family planning studies at the family level. These needs are more acute in those Asian countries where demographic or family transition is currently occurring under the context of their socio-economic change.

If these needs are met through full participa-tion and concern of researchers and administrator from multidisciplinary fields, it will then be pos-sible to assist countries in the formulation of better "family" welfare policies including family planning in order to meet the various needs of the family at different points of time of the family life cycle in harmony with societal goals.

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⟨Annex⟩
ANTICIPATED EFFECTS
OF FAMILY PLANNING PRACTICE ON THE FAMILY

A. Effects of family planning programme on the acceptor and its family

    A-1 Knowledge of family planning / health increased

    A-2 Attitude / behaviour of family planning / health changed

    A-3 Husband / wife communication increased

    A-4 Frequency of health centre visits increased

    A-5 Preventive care of children increased

    A-6 Physical examination, early detection of disease

    A-7 Side effects especially noted

B. Effects of continuous contraceptive use on demographic indexes related to family building process

    B-1 Number of abortion decreased

    B-2 Number of unwanted pregnancies controlled

B-3 Timing of pregnancy controlled

B-4 Birth interval prolonged

B-5 Open interval prolonged

B-6 Number of births "reduced" or "averted"

C. Effects of changed demographic indexes on family function

    C-1 No child-bearing for a long period (before menopause) or want to have another child (for having son)

    C-2 More attention to child already born

    C-3 More attention to health care of other family members

    C-4 More time to work and for leisure

    C-5 More savings, able to repair house

    C-6 More food and nutrition to children

    C-7 Less crowded- more space for sleeping- size, number of rooms

    C-8 Mentally lonely