

Three Years of Pakistan's New National Family-Planning Programme

by

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INTRODUCTION

Seventeen years ago (1952) the first organized family-planning programmes were started in Pakistan by the Family Planning Association of Pakistan. Since that time family planning has passed through three distinct phases, and it is now in a fourth phase. Phase I was marked by the unofficial activities of voluntary organizations such as the Family Planning Association. In Phase II, the beginning of an official policy was made with the "cautious approval" and limited funding of such activities by the government in the First Five-Year Plan (1955-1960). Official policy was crystallized in Phase III with the writing of the Second Five-Year Plan (1960-1965) in which a specific allocation was made for family planning and the responsibilities for operating such a programme assigned to the Ministry of Health, Labour and Social Welfare, Health Division [21 ; 22].

With the Third Five-Year Plan in preparation, it became increasingly evident that the population of Pakistan was growing at a rate which would, unless checked, impede the economic development of the country. Officially the plan recognized a growth rate of 2.6 per cent [18], but reports then available in the country suggested that the actual rate of growth was as high as 3.00 per cent per year [15], and this latter figure was used in drafting an official family-planning scheme which became the basis for Phase IV of family planning in Pakistan.

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Phase IV began with the Third Five-Year Plan. Under the plan, family planning in Pakistan was to be carried out as an administrative activity operated by a separate unit within the Ministry of Health, Labour and Social Welfare and independent of other health programmes of the Ministry. Subsequently, family planning has been raised to the level of a separate division with the Ministry, independent of the Health Division.

As planned the new scheme was designed to provide family-planning services to the entire eligible population of Pakistan and to reduce the crude birth rate by 20 per cent in five years. Given the size and organization of the country — a population now in excess of 115 million [2] in two provinces separated by one thousand miles of foreign territory — the problems were and are monumental.

At the time the scheme was proposed, Dr. Warren C. Robinson outlined the problems [21;22]. First, the socio-cultural milieu appeared inimical to rapid, widespread adoption of family planning: 87 per cent of the population lived in rural areas and 84 per cent of the population was illiterate; per capita income was one of the lowest in the world; the infant mortality rate remained at approximately 150 per thousand live births; communication facilities were limited; trained medical and non-medical staff were in short supply; and foreign exchange or aid was needed for most contraceptive supplies and equipment. In short, from a theoretical point of view there seemed to be little in favour of programme's success except a firm commitment to promote family planning on the part of the Government of Pakistan, at the highest levels. Nevertheless, there were valid reasons for proceeding with an active national programme. Studies of knowledge about, attitudes toward, and practice of family planning in Pakistan and a variety of other developing societies with high fertility levels provided a sound empirical basis for action. While a small proportion of the population may know about or practise family planning, there is strong evidence of interest in limiting the size of the family among significant sectors of such populations. Indeed there is little evidence available to suggest that interest in fertility limitation is absent or low in most developing countries. Nevertheless, the operational difficulties of mounting a national programme in Pakistan or similar countries remain, and Dr. Robinson, consequently, further argued that the scheme was excessively ambitious in attempting to cover the entire country within a five-year period and that the emphasis on non-clinical methods of contraception offered less hope of success than if the scheme had placed major emphasis on clinical methods of contraception [21 ; 22].

The organizational and operational problems notwithstanding the expanded family-planning programme of Pakistan was put into operation in mid-1965 although activities were delayed by about two months as a result of the conflict with India. In three years of activities the programme appears

to be strikingly successful: about four-fifths of the population have been covered by the programme in which over 90,000 persons are engaged in family-planning activities in some direct fashion as full-time, part-time, cut-piece workers or programme agents; more than 1.6 million I.U.D's have been reported as inserted; over 296 million conventional contraceptives are reported as distributed; and over 320,000 vasectomies or tubal ligations have been performed. The programme has proved to be both flexible and imaginative. For example, clinical methods have proved to be acceptable and as a result receive far more attention than originally anticipated. Where medical personnel have been in short supply, the programme has successfully trained paramedical personnel to insert I.U.D's.

Official reports claim that not only is the programme meeting its targets for the reduction of the growth rate but that it may indeed surpass the targets [14;17]. Such a conclusion, however, should be carefully examined since it is likely that Pakistan may become the *cause celebre* of both proponents and detractors of family-planning programmes.

There are few dissenters to the argument that rapid population growth constitutes one of the most significant problems in the world and the greatest hindrance to economic development in the Third World, but there is little agreement on whether family-planning programmes, such as that in Pakistan, constitute the solution to the problem. On the one hand, writers such as Davis [5] and Hauser [8] argue that family-planning programmes currently operating are insufficient to control rapid population growth and that there is no evidence available to indicate any significant independent success of existing programmes. On the other hand, Bogue, referring to Pakistan and other countries, argues that a "breakthrough to control" has been achieved [4]. Each point of view may be premature, for wide-scale national programmes are *still* relatively new, accurate data are largely unavailable to measure precisely the impact of family-planning programmes, and many programmes remain, in part, experimental because social science for all its progress has not yet generated the theory or methods for large-scale, rapid social change which may be carried out within a democratic framework. All of this is not to apologize for national family-planning programmes such as Pakistan's. Given what many world leaders have cited as the two major problems facing the world today—war and overpopulation—more progress has been made in the resolution of the latter problem than the former no matter how loosely evaluated. Yet the question of whether family-planning programmes will effectively solve the problem of rapid population growth in developing countries should be carefully examined; for, whether or not other countries accept this path of controlling the rapid population growth may depend on the demonstrated success or failure of such programmes as now exist in Pakistan, the largest country following India with an official nationwide family-planning programme.

FAMILY-PLANNING EVALUATION IN PAKISTAN

The focus of family-planning programme evaluation in Pakistan or any other country with an official or unofficial programme must be on the extent to which the programme is effective in reducing the fertility rate. All other suggested targets are secondary. For example, the Pakistan programme is conceived as an administrative activity designed to create the organizational and personnel capacity to provide family-planning services to 20 million couples (1965-1970) in the country. Presuming that the programme reaches all 20 million couples (married and in the child-bearing years of life), and assuming that the programme is 25 per cent effective, it is estimated that four to six million births would be prevented over the five-year period and that the birth rate would thereby be reduced from 50 to 40 per thousand [15]. Thus, everything else in the programme is designed to reach a desired 20-per-cent reduction in the crude birth rate within a five-year period of time.

Developing countries such as Pakistan are consistent internally to an amazing degree in that almost everything is in the process of development including the statistical system. In Pakistan the censuses are inaccurate [11] and vital statistics largely invalid [7]. Indeed, vital statistics data are so poor currently that short-run or small changes in fertility cannot be measured and even a decline of 20 per cent might be difficult to document¹. Thus, evaluation cannot be as direct as one may wish; it is uncertain that the crude birth rate was exactly 50 in 1965 [9]; it is possible that some changes may result from simply shifts in the age structure between 1965 and 1970 [10]; and it is unlikely that Pakistan will have a system to measure precisely fertility levels in 1970. Thus, alternate approaches to evaluation of the family-planning programme must be sought, such as measures of: *i*) changing proportions of couples knowing about and practising effectively contraception; *ii*) programme activities; or *iii*) births prevented for example.

In this paper our evaluation of the Pakistan family-planning programme focuses on intermediate targets. Specifically, to what degree have the administrative, organizational and personnel targets been achieved in order to provide family-planning services in the country? What have been the levels of performance with respect to the provision of family-planning services? Is it possible to translate programme activities into measures of demographic change such as births prevented? The answers which can be given here to these

¹In Pakistan the lack of adequate vital statistics has led to collection of fertility and mortality data on a sample basis. While this project (Population Growth Estimation) provides the most accurate data currently available, the sampling error is large enough to make it impossible to detect small changes even if the system were to be continuously operated [25]. Unfortunately, the Population Growth Estimation project was terminated in 1965 and a new project, Population Growth Survey, to be carried out by the Central Statistical Office, is based on completely different research design so that no continuous body of data will be available for several more years.

questions will not provide a definitive evaluation of the programme but should prove useful in suggesting types of research activities and studies which may be necessary to determine the effectiveness of family planning in Pakistan or in other countries beginning similar nationwide programmes.

FAMILY-PLANNING ORGANIZATION AND PERSONNEL

One of the early criticisms of the proposed family-planning scheme in Pakistan was that it was organizationally complex and overly ambitious. During Phase III of family planning, as outlined above, family planning was part of the existing Ministry of Health structure. Under the revised programme family planning was to be operated independently and within a five-year period to be extended to cover the entire country with the exception of Frontier and Tribal areas.

The operating unit of the family-planning programme was and is the district, the fourth-level administrative unit in Pakistan (following the Central Government, Provinces — East and West Pakistan, and Divisions — four in East Pakistan and twelve in West Pakistan). Of the total 62 districts in Pakistan, 17 are located in East Pakistan and 45 in West Pakistan although there are six tribal areas or agencies in West Pakistan which were originally not scheduled to be covered by the programme. The district, an administrative unit established by the colonial British rulers, was to have its own staff and budget. The district Executive-cum-Publicity Officer was and is responsible for all programme operations and performance within the district.

As outlined in the scheme for the Third Five-Year Plan, the programme was to be started in 10 East and 23 West Pakistan districts in the first year, in the second year expanded to 11 and 25 respectively, and in the third year expanded to 13 in East Pakistan and 29 in West Pakistan. In the third year, district-level programmes had been established in all of these areas (see Table I) and covered at least 79 per cent of the population, as enumerated in the 1961 Census.

By mid-1968 the programme had exceeded the anticipated coverage in two ways. First, services are available in non-programme districts. These are areas not covered to-date by the official family-planning programme but where, through individual medical personnel, services such as I.U.D. insertions, vasectomies, or tubal ligations are available. Second, under the original scheme the programme was not intended to cover unsettled or tribal areas. As a result of almost total lack of religious or popular resistance to the family-planning programme, local agency and tribal area officials have requested services, and special programmes have been established in Quetta, Dir State, Swat State, Khyber Agency, Malakand Agency and Khurram Agency in West Pakistan and the Chittagong Hill Tracts district in East Pakistan. These areas and those to be

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TABLE I

ESTIMATED POPULATION COVERED BY THE PAKISTAN FAMILY-PLANNING PROGRAMME: DISTRICTS, 1965-1968^a

	(population in 000's)		
	1965/66	1966/67	1967/68
East Pakistan			
Districts ^b	10	11	13
Population	31,580	35,841	42,817
Per cent of EP Population	62.1	70.5	84.2
Per cent of land area covered	54.8	62.4	74.0
West Pakistan			
Districts ^b	23	25	29
Population	28,740	32,200	34,414
Per cent of WP Population	67.0	75.1	80.3
Per cent of land area covered	28.4	30.5	37.9
All Pakistan			
Districts	33	36	42
Population	60,320	68,041	77,231
Per cent of population	64.4	72.6	79.0
Per cent of land area covered	32.4	35.3	43.4

Note: Figures are independently rounded.

a. Population and area figures are based on [16a, Table 1]. Thus, the population figures represent the 1961 population unadjusted for underenumeration. Although the total figures are now incorrect, the proportions are unlikely to have changed greatly and any error is likely to be conservative.

b. For 1967/68, agencies, states and Quetta district have been excluded. These areas were added as special districts and their organization is somewhat different from that originally outlined in the family-planning scheme. For West Pakistan, inclusion of Quetta, Swat State, Khyber Agency, Malakand Agency, Dir State and Khurram Agency would add an additional 6.0 per cent (approximately, since Swat and Dir are not included in the census reports) of the population covered. Addition of the Chittagong Hill Tracts in East Pakistan would account for less than 1.0 per cent of the population of East Pakistan.

added are more difficult to administer because of their low population density (see Table I).

The specialized programmes do not cover extensively the entire areas and family-planning performance — in terms of I.U.D. insertions, conventional contraceptives distributed, vasectomies or tubal ligations carried out — accounts for a small part of the national achievements. For purposes of discussion official non-programme districts and the special added areas will be referred to as non-programme districts and the following discussions will be limited to official programme districts only. Excluding non-programme areas means, however, that little information is lost since they account for less than 1.0 per cent of the I.U.D's inserted, conventional contraceptives distributed, or vasectomies and tubal ligations performed (see Table II).

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TABLE II

**PROGRAMME AND NON-PROGRAMME DISTRICT PERFORMANCE
BY YEAR: 1965-1968**

	July 1965- June 1966	July 1966- June 1967	July 1967- June 1968	Total
ALL AREAS				
I.U.D. insertions	252,355	588,350	775,955	1,616,660
Conventional contraceptive units (000's)	36,328	97,154	164,118	297,700
Vasectomies or tubal ligations	5,400	48,729	266,794	320,923
NON-PROGRAMME AREAS^a				
I.U.D. insertions	nil	3,292	4,663	7,955
(per cent of all insertions)		(0.6)	(0.6)	(0.5)
Conventional contraceptive units (000's)	nil	573	933	1,506
(Per cent of all units distributed)		(0.6)	(0.6)	(0.5)
Vasectomies or tubal ligations	nil	41	173	214
(per cent of all operations)		(0.08)	(0.06)	(0.07)

Source: Monthly report of the Pakistan Family Planning Council.

^a. Non-programme areas in this paper include Quetta district in West Pakistan, Chittagong Hill Tracts district in East Pakistan, and tribal areas and states in West Pakistan.

It is important to stress, however, that the Pakistan programme has been able to expand its activities beyond the areas originally scheduled for the first three years of the scheme, moving into areas where no progress was anticipated for many years². The apparent widespread acceptance of the programme in the first year allowed for more rapid progress than anticipated.

Although the family-planning programme has been extended easily to the districts as scheduled, expected staff levels have not been achieved in certain categories or maintained [1]. The positions to be filled in each district are as follows:

1. The District Executive-cum-Publicity Officer (DEcP). There is one such officer per district and he has overall responsibility for the district programme.
2. District Technical Officer. One technical officer is required for each district and he/she is responsible for recruitment and registration of medical and paramedical personnel and general supervision of technical and medical aspects of the district programme. The post is to be filled by a doctor, usually a person with an M.B.B.S. degree.
3. Family Planning Supervisor in West Pakistan and Thana Family Planning Officer in East Pakistan. In West Pakistan the number of supervisors is established in terms of population (urban areas) or number of villages while there is one thana (political subdivision) family planning officer for each thana within the district. Functionally, this person is responsible for motivation and education for family planning, organization of fieldwork, registration of agents and *dais* (see below), supply of conventional contraceptives and organization of family planning services in camps or temporary field stations where I.U.D. insertions are performed or vasectomies done.
4. Union Council Secretaries in West Pakistan and Assistants for Thana Development Officers in East Pakistan. These individuals are expected to assist the family planning supervisors or officers in their various functions. In West Pakistan the union council secretary is the chief of the smallest political unit and thus family planning is only a part of his myriad duties while in East Pakistan

²Although this paper covers only the first three years of the Phase-IV programme, it is worth noting that in the fourth year the programme was extended to cover all districts, advancing expansion of the programme by one full year. While administratively this is one mark of success, further study will be required to determine if the programme has not spread itself too thin or served only to reach the "ready adopters" without consolidating gains. One inherent danger is that failure to build on successful and satisfied family planning may produce a negative reaction to the programme.

Appendix e

TABLE III

AVERAGE NUMBER OF DISTRICT-LEVEL FAMILY PLANNING PERSONNEL
IN POSITION, BY PROVINCES: 1965-1968

	1965 Sept.- Dec. ^a	1966 Jan.- June	1966 July- Dec.	1967 Jan.- June	1967 July- Dec.	1968 Jan.- June
East Pakistan						
District Executive-cum-Publicity Officer	b	b	9	11	b	b
Technical Officer	b	b	2	4	b	b
Medical and Paramedical	170	354	224	316	726	844
Thana Family Planning Supervisor	239	240	254	270	323	331
F. P. Assistants	642	709	805	814	931	954
Dais (Motivators)	9,184	16,375	18,430	18,517	19,902	20,214
Agents	17,561	21,966	22,406	22,905	23,086	21,255
West Pakistan						
District Executive-cum-Publicity Officer	b	b	25	25	b	b
Technical Officer	b	b	17	17	b	b
Medical and Paramedical	448	657	918	952	1,046	1,386
Family Planning Officers	633	642	717	737	779	800
Union Council Secretaries	2,276	2,328	2,541	2,518	2,662	2,664
Dais (Motivators)	11,883	12,616	13,856	14,148	14,603	14,884
Agents	19,924	23,880	27,594	28,507	29,101	29,125

a. The first period, September to December 1965, was shortened as a result of the Indo-Pakistan conflict of 1965.

b. Data not available in usual monthly report published by the Pakistan Family Planning Council which served as the source for this table. Data for 1966/67 were abstracted from the original district family planning reports upon which the Council's publication is based.

full-time personnel are assigned to assist the thana family planning officer. The distinction arises from the differences in the lower level political divisions in the two provinces.

5. *Dais* or Village Family-Planning Organizers. The number required in each district is set in terms of population (urban areas) or villages (rural areas). The organizer is usually the illiterate village *dai* or midwife who works for the programme on a part-time basis. Functionally, they are expected to motivate individuals, refer I.U.D. cases, sell conventional contraceptives and assist in the follow-up of I.U.D. cases.
6. Agents. These are shopkeepers, hotel (tea shop) proprietors, chemists, factories or any other person or institution serving as sales agents of conventional contraceptives, other than *dais* (motivators).
7. Medical and Paramedical Personnel. This is a heterogeneous category and would remain so even if the medical and paramedical personnel were separated. The range of skills involved includes doctors, lady health visitors (public health workers), lady family planning visitors and trained midwives who are licensed to insert the I.U.D. or doctors specifically licensed to perform vasectomies or tubal ligations and receive payments from the family-planning programme (incentives). The category includes "cut-piece workers" (fee for service), full-time clinic personnel, and regularly employed full-time lady family-planning visitors. Targets (required staff levels) have been established for medical and paramedical personnel jointly but the method of setting targets is unspecified.

The monthly average numbers of personnel listed as trained and in position by six-month intervals for the first three-year period of the programme are presented in Table III. The proportions of the personnel targets achieved are presented in Table IV. For both tables and all remaining tabular presentations East and West Pakistan are presented separately because of the differences in structure, organization and performance.

With few exceptions little difficulty has been encountered in filling non-medical positions specified in the tables of organization at the district level — even in those cases where college or university training is required: executive officers, family-planning supervisors, officers and assistants. Given the high level of unemployment or underemployment even among college and university graduates [20] the large number of employment opportunities created fails to exhaust the supply.

TABLE IV

PERCENTAGE OF PERSONNEL TARGETS ACHIEVED ON A MONTHLY AVERAGE, BY PROVINCE: 1965-1968

	1965 Sept.- Dec. ^a	1966 Jan.- June	1966 July- Dec.	1967 Jan.- June	1967 July- Dec.	1968- Jan.- June
East Pakistan						
District Executive-cum-Publicity Officer	b	b	82	100	b	b
Technical Officer	b	b	18	36	b	b
Medical and Paramedical	21	44	35	35	69	80
Thana Family-Planning Supervisor	99	99	92	98	98	100
Family Planning Assistants	88	98	98	98	94	96
Dais (motivators)	47	84	88	88	83	84
Agents	55	69	62	64	54	49
West Pakistan						
District Executive-cum-Publicity Officer	b	b	96	96	b	b
Technical Officer	b	b	65	65	b	b
Medical and Paramedical	64	94	123	127	111	99
Family Planning Officers	97	108	98	99	93	99
Union Council Secretaries	117	119	117	116	104	104
Dais (motivators)	91	97	94	96	93	94
Agents	71	85	88	91	83	88

a. See footnote a to Table III.

b. See footnote b to Table III.

The major problems are found in positions requiring medical personnel. Neither province has been successful in maintaining the required number of technical officers who must be doctors. In addition, East Pakistan has not been able to secure the required number of medical or paramedical personnel while West Pakistan has been able to overachieve targets only by the registration of large numbers of "cut-piece" doctors and paramedical personnel³. It is, of course, true that the relative number of physicians is much greater in West than in East Pakistan. Given the difficulties of securing adequate numbers of paramedical and medical personnel, the family-planning programme has undertaken two steps to improve the situation. To attract personnel to the position of Technical Officer, the rank (significant in terms of prestige) as well as the salary has been raised. In addition, it is recognized that some clinical services do not require the skills of a physician and therefore a one-year training course has been generated to prepare lady family planning visitors to work in the programme and specifically to insert I.U.D's. The first classes have completed their year-long training programme and early in 1968 began work in the field. Nevertheless, the programme still depends heavily upon the cooperation of physicians who work on a part-time basis in the programme⁴.

Although agents for the sale of conventional contraceptives do not receive a direct stipend, they do receive part of the sales price. Recently the proportion of the sales price which may be retained by the agent has been increased from 50 per cent to 85 per cent, yet East Pakistan has not been able to attract the number of agents originally foreseen under the family planning scheme. The West Pakistan programme falls somewhat short of the required number but at the end of the third year of the programme East Pakistan listed only half the number of agents required. The provincial difference may not be as significant as indicated since it is possible that among the agents registered some are not effective sales agents and indeed may even lack stock. The situation is certainly plausible when one recognizes that on the average 36 agents and 19 *dais* in West Pakistan must rely on one family planning officer to provide conventional contraceptives monthly in addition to his other duties. The span of control is greatly reduced in East Pakistan where both family planning supervisors and assistants carry such responsibilities. Nevertheless, the difference in the number of agents registered in East and West Pakistan is clearly reflected in the distribution of conventional contraceptives within each province (see Table V).

³One should note that the most significant variation in personnel numbers, the drop in the number of medical and paramedical personnel in East Pakistan between the second half of 1965/66 and the first half of 1966/67, probably reflects dropping of "cut-piece" or "free for service" physicians since the total decline is reflected in medical rather than paramedical personnel. Early in the programme large number of doctors were registered, but they failed to perform any activities for the programme. At the beginning of the second programme year it appears that only active medical personnel were retained on the registers.

⁴For a more detailed analysis of personnel in the programme, see [1, part 1].

In summary, the family-planning programme has, in general, been able to achieve personnel targets and at the present time over 90,000 district-level workers are reported to be functioning in some capacity. Most of the workers are cut-piece workers, part-time workers, or sales agents for conventional contraceptives. Medical personnel have proved to be more difficult to attract into the programme because of the intense competition for the small number of trained persons, but the programme has taken steps to relieve the pressure in both traditional and highly imaginative ways.

FAMILY-PLANNING ACHIEVEMENTS, 1965-1968

The Pakistan family-planning programme provides a near complete cafeteria approach to family-planning services: conventional contraceptives — largely condoms and foam tablets (approximately 90 per cent) but some creams and jellies—are sold by agents and *dais* at reduced prices; small incentive fees are provided to medical or paramedical personnel, referral agents, and clients accepting the I.U.D., vasectomy or tubal ligation. The only significant family-planning services not provided under the Pakistan programme at present are pills and abortions although pills are now being distributed on an experimental basis and are available commercially in urban centres.

During the initial stages of the programme few conventional contraceptives were available in Pakistan and channels for mass distribution were almost totally absent. Yet in the original scheme conventional contraceptives received priority. During the first four programme months, September to December 1965, only 3.2 million conventional contraceptive units⁵ were distributed on the average during each month. Since that period a large number of condoms have been made available on a regular gift basis through SIDA (Swedish International Development Authority); foam tablets are manufactured locally; foam liquids are packaged locally, and some gifts of aerosol foams have been received from other foreign agencies; and finally, a wide ranging distribution system has been established through the agents and *dais*. Thus, the total supply and number distributed have on the average increased consistently since the beginning of the programme.

Although considerable variation is noted on a monthly basis, largely because of religious holidays or holy periods — Ramzan, the month of fasting and Moharram, the month of mourning — the data as aggregated semi-annually — Table V — reflect a constant increase from 3.2 million units distributed monthly to 14.6 million units distributed monthly. Nevertheless, in each province and particularly in East Pakistan distribution targets have not been

⁵The conventional contraceptive *unit* refers to single applications. The meaning is clear in the case of condoms and foam tablets, but not in the case of aerosol foams. In the case of foaming liquids, the expected number of applications contained in each bottle is multiplied by the number of bottles sold to estimate the total number of applications. This number has been changed for various products and at various times in the programme.

achieved for conventionals at any given period, although the rate of increase in numbers distributed and proportion of target achieved has been much greater in East Pakistan where more difficulty in registering sales agents has been encountered.

TABLE V

Appendix C

CONVENTIONAL CONTRACEPTIVES DISTRIBUTED, UNITS OR APPLICATION
BY PROVINCE: 1965-1968

	(in 000's)					
	1965 Sept.- Dec.	1966 Jan.- June	1966 July- Dec.	1967 Jan.- June	1967 July- Dec.	1968 Jan.- June
East Pakistan						
Number	3,482	9,027	13,700	21,426	31,327	35,623
Cumulative	3,482	12,509	26,209	47,635	78,962	114,585
Per cent of target	5.8	15.0	17.9	28.0	34.2	44.2
Average per month	871	1,504	2,283	3,571	5,221	5,937
West Pakistan						
Number	9,653	14,162	26,665	34,450	44,742	51,987
Cumulative	9,653	23,815	50,480	84,930	129,672	181,659
Per cent of target	16.0	23.5	32.9	42.5	51.8	65.0
Average per month	2,413	2,360	4,444	5,742	7,457	8,664
All Pakistan						
Number	13,135	23,189	40,365	55,875	76,068	87,610
Cumulative	13,135	36,328	76,692	132,528	208,636	296,246
Per cent of target	10.9	19.2	25.6	35.4	42.6	54.5
Average per month	3,284	3,865	6,727	9,312	12,678	14,602

Note: Figures are independently rounded.

Source: Monthly report of the Pakistan Family Planning Council; figures exclude non-programme districts as defined in this paper.

One should note carefully, however, that the figures reported in Table V do not necessarily reflect use of conventional contraceptives in Pakistan. There is no information currently available to indicate the numbers or proportion of the population reporting either knowledge or use of conventionals⁶. In addition, the data available more accurately reflect conventional contraceptives reported as distributed (stock transfers) although increasing pressure has been exerted on supervisors to report sales rather than distribution figures.

In Table VI the number of I.U.D. insertions reported is presented. Since the beginning of the programme when 9.5 thousand I.U.D's were being inserted monthly, the number has increased consistently through each semi-annual period to a level where 70 thousand were inserted monthly (on the average) during the last six-month period. For the last six-month period both East and West Pakistan districts surpassed the monthly target. The lower rate of achievement in East Pakistan is probably a reflection of the more limited medical personnel and resources, although the recent training of lady family-planning visitors is obviously reducing the problem.

TABLE VI

Appendix C

I.U.D. INSERTIONS, BY PROVINCE: 1965-1968

	1965 Sept.- Dec.	1966 Jan.- June	1966 July- Dec.	1967 Jan.- June	1967 July- Dec.	1968 Jan.- June
East Pakistan						
Number	6,196	90,330	113,493	136,780	162,298	187,802
Cumulative	6,196	96,526	210,019	346,799	509,097	696,899
Per cent of target	5.1	74.1	75.7	91.2	101.8	104.3
Average per month	1,549	15,055	18,916	22,797	27,050	31,300
West Pakistan						
Number	31,589	124,340	155,169	180,560	191,162	232,807
Cumulative	31,589	155,929	311,098	491,658	682,820	915,627
Per cent of target	25.9	101.9	102.2	110.9	119.1	129.5
Average per month	7,897	20,723	25,862	30,093	31,860	38,801
All Pakistan						
Number	37,785	214,670	268,662	317,340	353,460	420,609
Cumulative	37,785	252,455	521,117	839,457	1,192,917	1,613,526
Per cent of target	15.5	88.0	89.0	105.1	108.8	116.9
Average per month	9,446	35,778	44,777	52,890	58,910	70,102

Note: Figures are independently rounded.

Source: Monthly report of the Pakistan Family Planning Council; figures exclude non-programme districts as defined in this paper.

⁶Several attempts have been generated to measure conventional contraceptive use, but none have proved to be successful to-date.

Table VII presents data on vasectomies and tubal ligations performed under the family planning programme. Except for the last six-month period following a massive push to train doctors for the vasectomy in West Pakistan, this aspect of the clinical programme has been largely an East Pakistan vasectomy programme. Little attention was given in the original scheme to the vasectomy programme on the assumption that such a programme would be unacceptable in Pakistan. The assumption was validated during the first year, but beginning with the second year of the programme the number of vasectomies has increased consistently and unexpectedly in East Pakistan. With the beginning of the third year, an average of 21,000 vasectomies were done in East Pakistan and this number stabilized during the second six-month period largely as a result of the overwhelming success of the programme. Since such activity was unexpected, funds were not allocated for incentives or supplies at this level and financial support was no longer possible during the early part of 1968. With a supplementary grant, the programme was returning to its previous high levels at the end of the six-month period and has continued to be expanded in both East and West Pakistan late in 1968 although the number in West Pakistan remains small.

✓ TABLE VII *Appendix C*

VASECTOMIES AND TUBAL LIGATIONS, BY PROVINCE: 1965-1968

	1965 Sept.- Dec.	1966 Jan.- June	1966 July- Dec.	1967 Jan.- June	1967 July- Dec.	1968 Jan.- June
East Pakistan						
Number	304	3,731	22,959	23,944	126,304	125,947
Cumulative	304	4,035	26,994	50,938	177,242	303,189
Per cent of target ^a	8.7	106.6	574.0	598.6	3,157.6	52.5
Average per month	76	622	3,826	3,990	21,051	20,991
West Pakistan						
Number	476	889	957	813	796	13,681
Cumulative	476	1,365	2,322	3,135	3,931	17,612
Per cent of target					.7	11.5
Average per month	119	148	160	135	133	2,280
All Pakistan						
Number	780	4,620	23,916	24,757	127,100	139,628
Cumulative	780	5,400	29,316	54,073	181,173	320,801
Per cent of target	11.1	66.0	296.2	306.6	1,574.6	38.8
Average per month	195	770	3,986	4,126	21,183	23,271

Note: Figures are independently rounded.

Source: Monthly report of the Pakistan Family Planning Council; figures exclude non-programme districts, as defined in this paper.

^a. Note that the targets are set yearly and in the case of vasectomy in East Pakistan were reset for the second half of the third year after the original targets became meaningless.

The vasectomy aspect of the Pakistan programme is a second significant indication of the administrative flexibility of the programme. First, the administration developed a unique training programme for paramedical personnel. Second, following evidence of the acceptability of the vasectomy programme wide-scale efforts have been made in both East and West Pakistan to train medical personnel to perform vasectomies. The results of the training programme are now being evidenced with the increasing number of vasectomies in West Pakistan.

DISCUSSIONS

The evidence published by the Pakistan Family Planning Council suggests that the Phase-IV programme in Pakistan has achieved large-scale success in certain areas. As an administrative programme it has been established in not only the planned areas, but expanded to cover areas where little hope existed for the establishment of such activities at the time the current scheme was drafted. Staff have in general been provided in all areas to carry out the programme, although there is an apparent shortage of medical and paramedical personnel. To offset this shortage a specialised training programme was started to develop a cadre of paramedical staff to assist medical personnel as well as to carry out certain tasks usually assigned to a physician. Such a programme is needed and its operation is unique. In the face of the opposition one might normally expect from the traditionally conservative medical profession (at least conservative as far as their own prerogatives are concerned), the establishment and operation of such a programme is a remarkable achievement. There are few other such examples in the world.

While the organizational structure and staffing appear successful, although not complete, there remain questions of efficiency of the staff. For example, if one assumes that agents and *dais* sell an equal number of conventional contraceptives and are responsible for all sales, their performance is minimal. Assuming the employment and distribution figures to be accurate, the agent or *dais* would on the average, during the last six months of the period, sell or distribute only 10 dozen conventional contraceptive units during a month and as units are presently computed in the programme this might mean the sale, for example, of only three to four bottles of foaming liquids. If one assumes that the *dais* are responsible for motivating women to accept an I.U.D. insertion, the staff performance record is even more depressing; on the average, other things being equal, a *dai* is able to motivate only two women per month to accept an I.U.D.

It is evident that detailed personnel studies are required in the programme and possible revisions made in the staffing and organizational patterns. Most critical at the present time is an evaluation of the performance of the recently trained lady family-planning visitors since this programme could well become

a prototype for family-planning and health-training programmes in other developing countries where highly trained medical personnel are in limited supply. Next in order of priorities seems to be an evaluation of the effectiveness of the part-time employees in the programme, particularly the *dais* and the union council secretaries; perhaps fewer full-time well-trained personnel could produce more efficiently and effectively.

No one should or will be willing to judge the success of Pakistan's family-planning programme on the basis of its staff levels. The only relevant question remains: has the Pakistan family-planning programme been able to reduce the birth rate? Obviously, such a question cannot be accurately answered here or, to the writer's knowledge, anywhere. The necessary data are simply unavailable.

Regardless of the lack of information, studies or data, the family-planning programme in Pakistan attempts to translate programme action (I.U.D's inserted, conventional contraceptives distributed, and vasectomies or tubal ligations performed) into demographic measures. The procedure is to translate performance measures into an aggregate estimate of the number of couples protected for a year (couple years protection) against the risk of conception and then in turn to translate this concept (couple years protection) into births averted per year by programme action. The inadequacies of this approach are beyond the scope of this paper, but are presented elsewhere [3].

In the absence of accurate fertility data for the total population there are, of course, reasonably valid alternate methods of judging programme action. If one has accurate data for family-planning clients including data on age, sterility, parity, mortality, time of insertion of I.U.D., average retention rates, and information on fertility schedules for the population, estimates may be made of births averted by an I.U.D. programme [12;13;19] and similar measures could be used to estimate the impact of a vasectomy programme. Alternately, periodic KAP surveys (knowledge about, attitudes towards, and practice of family planning) would provide measures of the proportion of couples and changes in the proportion of couples with knowledge of, with favourable attitudes towards, and actually practising family planning. Unfortunately, in Pakistan neither information for the Potter [19] or Lee and Isbister [12] type studies or KAP studies is available⁷.

While information for evaluation is needed, the Pakistan programme should be congratulated on not waiting until a KAP study was ready, other studies generated, or statistical systems organized to directly and accurately measure the impact of the programme. The problem was known, the problem

⁷Small-scale KAP type studies have been carried out but each has been limited to a particular category of the population or small geographical area. No national samples have been studied to-date although planning for such a study began early in 1968.

was recognised, and there were excellent reasons for proceeding with an action programme as expeditiously as possible. International KAP studies have demonstrated conclusively that non-contracepting population are in favour of family limitation and desire contraceptive information and methods. With a population growing as rapidly as in Pakistan and with the overwhelming governmental support, establishment of an action programme required early attention.

It is unnecessary to delay the establishment of a family-planning programme until all the data are in or the data systems organized to provide all the required answers accurately. Statistics for programme evaluation should be collected in the normal operation of a programme and may be most effectively developed as the programme begins and continues operation [23]. On the other hand, the problem of evaluation should not be postponed indefinitely. Objective measurement of changes in contraceptive practice and fertility behaviour must be attempted by allocating sufficient resources to ensure accurate results.

Pakistan is, of course, now undertaking studies which will in the future provide answers to many of the evaluation questions: service statistics are being collected on I.U.D. acceptors and follow-up studies are being made or have been made; service statistics for vasectomy and tubal ligation patients have been designed and will go into operation the beginning of 1969; a KAP study was planned in 1968 and was scheduled for field operations in November 1968. Until such information becomes available it remains relevant to ask again: can one tell what the programme has accomplished in Pakistan?

One rough approach to answering the question is to attempt to estimate the number of couples likely to be practising family planning as a result of officially reported programme action. Obviously, the calculations must be approximate but may serve as a basis of calculations to be adjusted as additional information becomes available.

The absolute number of couples practising family planning is less meaningful than the proportion of eligible couples practising family planning. Therefore, the first problem is to estimate the potential market. For this purpose the total population was estimated by a simple linear interpolation between the 1965 and 1970 population projections for Pakistan which assumes a slight decline in mortality between 1960 and 1970 and no decline in fertility [2]. Applying the age-specific marital fertility rates from the 1961 Census [16] to the mid-1965-1970 population, the number of married couples for all Pakistan in the age group 15-49 was estimated at 20.7 million, excluding tribal and Frontier populations.

The impact of the conventional programme is not measureable currently but it is probably significant. One may assume that at the beginning of the

programme the number of regular users of conventional contraceptive devices (but not necessarily traditional methods such as *azl* — coitus interruptus) was negligible; thus a rough estimate of users might be made. Assume that ten units monthly are employed by the average couple using conventionals on a regular basis and that roughly one-third of all units distributed are defective, accepted by non-regular, inefficient users, or simply wasted. Under these assumptions the distribution figures suggest a million regular users, or 5 per cent of the married couples in the country, or roughly 7.5 per cent of the married couples where the wife is not pregnant, other things being equal. These figures are simply crude guesses but reflect the potential order of magnitude of the conventional programme. Further detailed studies would be required to more precisely evaluate the impact of the programme.

To estimate the number of women with I.U.D.'s *in situ*, retention rates found in recent I.U.D. follow-up studies in East and West Pakistan may be employed [6 ; 24]. Using these figures it is estimated that 940,000 women of the 1,612,000 reported receiving an I.U.D. may still be wearing the I.U.D. at the end of the third year, or roughly 4.5 per cent of the eligible women⁸.

Assuming that all of the men having a vasectomy or women having a tubal ligation are still living and in the childbearing years, an additional 1.5 per cent of the eligible population is protected against the risk of childbearing.

Collectively, the various methods of family planning reported would suggest that as much as 11 per cent of the eligible population in Pakistan may now be practising family planning. Obviously, such a crude estimate as this is subject to a wide range of error and further studies will be required to provide accurate estimates. Specifically, studies should be undertaken to validate the accuracy of performance reports at the district level; further studies of I.U.D. retention are required; studies of use and use effectiveness of conventional contraceptives are needed; studies of vasectomy and tubal-ligation clients are required. Once such studies are complete and accurate, if appropriate information on clients and family-planning practices then become available, it may be possible to estimate the impact of the programme in terms of births prevented using such techniques as suggested by [12;13;19]. This is not possible at present. Nevertheless, if all of the figures reported in terms of current performance are correct and the assumptions made above are reasonably valid, the Pakistan programme has achieved a remarkable degree of success in the first three years of its Phase-IV programme. However, in order for Pakistan to achieve its stated objective of controlling population growth the programme will have to concern itself, in future, not only with enlarging the proportion of practising couples but also with the problems of continuing use and effective use among the practising couples.

⁸For the method of estimation, see [13].

SUMMARY

The available data from the Phase-IV Pakistan family-planning programme suggest three areas of progress: *i*) in establishing a wide ranging organization; *ii*) in training staff to perform various functions in the programme — particularly in training paramedical personnel to perform functions usually restricted to physicians; and *iii*) in programme performance: conventional contraceptives distributed, I.U.D's inserted, and vasectomies or tubal ligations performed.

The major weakness in the programme at the present time is the lack of research which would enable one to estimate the impact of the programme on fertility or to determine the efficiency of the staff. In the consolidation of the gains made by the Phase-IV programme attention should be given to well-designed evaluation studies which would provide a sound basis for translation of programme performance data into demographic measures. Until such studies are carried out, the overall success of the Pakistan programme remains open to question. Yet given the problems facing the programme at the beginning of its operation (as discussed in the introduction to this paper) the Phase-IV programme has made remarkable strides in three years of operation.

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