

UNCLASSIFIED

AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

PROJECT PAPER

INDIA

FAMILY PLANNING COMMUNICATIONS AND MARKETING
PROJECT 386-0485

JULY 1983

UNCLASSIFIED

PROJECT AUTHORIZATION

INDIA

Family Planning
Communications and
Marketing
Project No. 386-0485

1. Pursuant to Section 104(b) of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Family Planning Communications and Marketing Project for the Government of India (Cooperating Country) involving planned obligations of not to exceed Thirty Four Million United States Dollars (\$34,000,000) in loan funds and Fourteen Million United States Dollars (\$14,000,000) in grant funds over a four year period from date of authorization, subject to the availability of funds in accordance with the A.I.D. OYB/allotment process to assist in financing foreign exchange and local currency costs for the project. The planned life of the project is six years and nine months from the date of initial obligation.
2. The project is designed to assist the Cooperating Country to increase fertility awareness and the use of safe, readily available and inexpensive, temporary methods of contraception by providing support for: (a) the establishment and operation of a Contraceptive Marketing Organization which will be responsible for procurement, promotion and marketing of contraceptive commodities; (b) the Cooperating Country's information, education and communication program to promote reversible methods of contraception through training, professional development and workshops, promotion, and improved training materials; (c) demographic analyses and development studies through training, seminars and workshops and conducting specific analyses and disseminating results; and (d) bio-medical research particularly in the field of immunology of reproduction.
3. The Project Agreement(s) which may be negotiated and executed by the officer(s) to whom such authority is delegated in accordance with A.I.D. regulations and Delegations of Authority shall be subject to the following essential terms and covenants and major conditions, together with such other terms and conditions as A.I.D. may deem appropriate.

ZX

4. a. Interest Rate and Terms of Repayment

The Cooperating Country shall repay the Loan to A.I.D. in United States Dollars within forty (40) years from the date of first disbursement of the loan, including a grace period of not to exceed ten (10) years. The Cooperating Country shall pay to A.I.D. in United States Dollars interest from the date of first disbursement of the Loan at the rate of (a) two percent (2%) per annum during the first ten (10) years, and (b) three percent (3%) per annum thereafter, on the outstanding disbursed balance of the Loan and on any due and unpaid interest accrued thereon.

b. Source and Origin of Commodities, Nationality of Services

Commodities financed by A.I.D. under the project shall have their source and origin in the Cooperating Country or the United States if grant funded and in the Cooperating Country or countries included in A.I.D. Geographic Code 941 if loan funded, except as A.I.D. may otherwise agree in writing. Except for ocean shipping, the suppliers of commodities or services shall have as their place of nationality the Cooperating Country or the United States if grant funded and the Cooperating Country or countries included in A.I.D. Geographic Code 941 if loan funded, except as A.I.D. may otherwise agree in writing. Ocean shipping financed by A.I.D. under the project shall, except as A.I.D. may otherwise agree in writing, be financed only on flag vessels of the United States if grant funded and only on flag vessels of the Cooperating Country or the United States if loan funded.

Signature

Frank B. Kuntell

M. Peter McPherson
Administrator

July 27, 1983
Date

Clearance:

Charles W. Greenleaf, AA/ASIA
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Richard A. Derham, GC

Date

CG
7/26
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Initial

7/15
SRB
7/19

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2. COUNTRY/ENTITY
 India

5. PROJECT NUMBER
 386-0485

4. BUREAU/OFFICE
 Asia [04]

3. PROJECT TITLE (maximum 40 characters)
 Family Planning Communications & Marketing

6. PROJECT ASSISTANCE COMPLETION DATE (PAGE)
 MM DD YY
 03 31 94

7. ESTIMATED DATE OF OBLIGATION
 (Under '0' below, enter 1, 2, 3, or 4)
 A. Initial FY 83 B. Quarter 4 C. Final FY 86

8. COSTS (\$000 OR EQUIVALENT \$1 =)

A. FUNDING SOURCE	FIRST FY 83			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total	16,600		16,600	47,000		47,000
(Grant)	(6,600)	()	(6,600)	(13,000)	()	(13,000)
(Loan)	(10,000)	()	(10,000)	(34,000)	()	(34,000)
Other U.S.						
1. Host Country		22,000	22,000		358,000	358,000
2. Other Donor(s)						
TOTALS	16,600	22,000	38,600	47,000	358,000	405,000

9. SCHEDULE OF AID FUNDING (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1)	430	430	430	-0-	-0-	13,000	34,000	13,000	34,000
(2)									
(3)									
(4)									
TOTALS				-0-	-0-	13,000	34,000	13,000	34,000

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)
 450 420

11. SECONDARY PURPOSE CODE

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)
 A. Code BR
 B. Amount

13. PROJECT PURPOSE (maximum 480 characters).
 To increase fertility awareness and the use of safe, readily available and inexpensive, non-terminal methods of fertility reduction.

14. SCHEDULED EVALUATIONS
 Interim MM YY 07 87 MM YY 03 89 Final MM YY 03 90

15. SOURCE/ORIGIN OF GOODS AND SERVICES
 000 941 Local Other (Specify)

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a _____ page PP Amendment.)

17. APPROVED BY
 Signature: *John Westley*
 Title: John Westley, Director (Acting), USAID/India
 Date Signed: MM DD YY

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION
 MM DD YY
 06 01 83

FAMILY PLANNING COMMUNICATIONS AND MARKETING

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FAMILY PLANNING COMMUNICATIONS AND MARKETING

I. PROJECT SUMMARY, RATIONALE AND DESCRIPTION

A. Introduction and Summary Description

In 1982 the use of contraceptives for delaying and spacing births was practised by about six percent of the 122 million married couples of reproductive age (MCRAs) in India. Of this six percent:

- a) about one per cent of MCRAs -- mostly urban -- purchased commercially priced contraceptives;
- b) about two per cent -- also mostly urban but of middle-to-lower incomes -- purchased condoms at highly subsidized retail prices through the NIRODH Program operated by the Ministry of Health and Family Welfare (MOHFW); and
- c) about three per cent -- mostly rural and low-income -- obtained free contraceptives distributed by the MOHFW through public sector and private hospitals, clinics, health centers and outreach personnel.

This seven year project will assist the Government of India (GOI) in increasing the use of temporary methods from the present six percent to twenty percent of MCRAs by 1990. The program will focus on younger married couples since younger couples account for most births. Delayed initial childbearing extends average "generation intervals" and early use of contraception typically leads to intermittent use throughout the reproductive period resulting in smaller completed family size. Early marriage and early, frequent child-bearing characterize India's demographic and cultural patterns. To modify these reproductive patterns will require concerted efforts and investments.

This proposal contains two main components: first, establishing a new organizational unit -- the Contraceptive Marketing Organization (CMO) -- and providing it with authority and funds to conduct marketing programs; second, intensification of public sector promotional activities on behalf of family planning. These elements are primarily designed to increase the demand for contraceptives and improve availability and accessibility to consumers. Indo-U.S. collaboration and training in demographic analysis and biomedical research constitute small but important additional components.

1. Background

Since the late 1960s India's family planning program has had a strong sterilization component. This method has been remarkably successful given the enormous constraints within which the program has operated. Fertility rates are declining significantly among older couples in direct proportion to acceptor levels. Fertility among younger age couples, however, remains high. It is widely acknowledged that the long term goal of reaching replacement level fertility by 1996 cannot be met without major new efforts to promote methods appropriate to young couples for delaying and spacing births.

For fifteen years subsidized sales of condoms have been made through the MOHFW, utilizing large marketing firms for distribution to retailers. One subsidized condom brand is now available in one-quarter of India's larger (mostly urban) retail outlets at very low price. The MOHFW, acting through state health departments, has also distributed free condoms, IUDs, and, more recently, OCs through public health facilities and health personnel. Publicity and procurement have been handled by the Ministry of Information and Broadcasting (MOIB) and Director General of Supply and Disposal (DGS&D) respectively. Condoms have been produced in India by one public sector and one private sector firm. New production units are being established. Most production has gone to government, although recently commercial sales and exports have risen. Government sales and free distribution of condoms have also increased recently, after years of low performance.

Oral contraceptives have been commercially available for fifteen years, manufactured and marketed by six relatively small private sector firms and, for the GOI program, by one large public sector firm. Their commercial (ethical) sale and GOI procurement have been almost negligible although both have risen significantly during the past two years.

IUDs have been mostly imported, although an idle factory exists with a license to produce Lippes Loops and CU-T200s. The GOI plans to reactivate this plant and to license one or more additional firms in the private sector in 1983. Distribution is largely restricted to the MOHFW system of hospitals and clinics. IUD acceptor rates have risen impressively in recent months and, as with condoms and OCs, are at higher levels than ever before.

Surveys since the late 1970's reveal widespread and growing public awareness of the family planning concept, as the GOI, especially during the past decade, has concentrated successfully on promotion of the small family norm and on its voluntary sterilization (VS) program. There has been, however, only limited encouragement so

for temporary methods or for commercial and private practitioner activity despite the existence of easily expandable production facilities, over 200,000 private practitioners and large potential markets.

India's marketing, advertising, research and production capabilities have demonstrated sophistication and success. With the gradual growth in household incomes, market penetration of many consumable commodities has increased from around ten percent to over sixty percent of small farm households. These include consumer items such as bicycles, wrist watches, transistor radios, flashlights, batteries, toilet soaps, creams, simple pharmaceuticals and other products. Although the issues are not identical for all types of products and contraceptives are clearly unusual in some ways, a marketing approach to family planning and temporary methods will provide a strong complement to the GOI's overall efforts to reduce fertility, allow the MOHFW to concentrate on the important clinical methods (about which there are much more serious issues of policy, safety, supervisor and compensation) and provide an opportunity to recover part of the costs of the program.

The inherent constraints to direct government administration of contraceptive marketing operations have proven formidable. Government's natural concern with broad policy issues and the inter-ministerial coordination required for manufacture, procurement, promotion, distribution and evaluation have resulted in limited flexibility to exploit market opportunities, test new brands, launch innovative advertising, experiment with packaging and pricing, try new distribution channels, or otherwise to act as an integrated marketing operation. Personnel have been limited in number and salaries have not competed with those of private sector counterparts. As the GOI is planning its family planning strategy for the remainder of the 1980's, the difficulties and limited results to date with temporary methods combined with the recognition of growing consumer demand have prompted the conclusion that management of promotional and logistic systems should be integrated. An extra-governmental agency which combines the resources and some of the authority of government with the skills and flexibility of the private sector is the most likely means of expanding awareness and improving distribution. No existing organization or agency provides the needed combination.

2. Contraceptive Marketing Organization (CMO)

The new implementing agency will be established as a semiautonomous entity under the Societies Act of 1860, and called the Contraceptive Marketing Organization (CMO). Its charter will authorize it to operate with maximum flexibility to plan and contract

for the procurement and marketing of contraceptives. Most of its personnel will be drawn from the private sector, with emphasis upon persons with specific marketing skills. Its governing board will be composed of senior members of government and the private sector, particularly from the fields of health, communications, management, manufacturing, marketing, advertising and market research. A total of \$6.0 million in A.I.D. funds is budgeted for initial administrative costs. Activities to be undertaken by the CMO with project support include:

a. Social Marketing

Social marketing refers to subsidized marketing through convenient commercial outlets of contraceptives priced low enough to be purchased by couples who cannot afford -- or otherwise will not pay for -- market priced products. Project funds will enable the CMO to expand, improve and diversify India's existing social marketing program; government resources budgeted for procurement and marketing of contraceptives will be allocated to the CMO. The CMO will buy selected family planning products from indigenous manufacturers and supply them at subsidized prices to wholesalers for distribution through retailers with normal commercial margins. The subsidy will be the difference between procurement prices and the prices to wholesalers.

Project funds will also help finance promotion and advertising commissioned by the CMO from private sector firms. Product-specific promotion and publicity is a central project element, with a total budget of \$55.5 million, of which A.I.D. will contribute \$24.1 million and the GOI will contribute, at presently planned levels, up to Rs. 310 million, or about U.S. \$31 million equivalent, over the project period.

b. Free Distribution

The GOI intends to transfer procurement and central management responsibilities for its free distribution program to the CMO. Presently, this is the part-time responsibility of the NIRODH staff. In MOHFW's experience procurement and distribution have tended to become confused within the overall medical supply depot system, and this vital part of the program has not yet received adequate logistic attention. Producers and marketing agencies may be engaged to ensure more thorough and regular distribution to lower level supply depots, and more constant monitoring. The CMO will have fulltime personnel at its Center and Regional offices for this program.

c. Commodity Procurement

Procurement of contraceptives for both the social marketing and the free programs will, as at present, be financed entirely by the GOI. Responsibility for procurement, however, will be transferred to the CMO. If the programs are successful, the GOI is expected to provide about Rs.2,580 million, or U.S. \$258 million, during the project period for procurement. UNFPA may contribute up to \$31 million for raw materials and imported products.

3. Information, Education and Communication

Commercial marketing of mass consumer items now reaches about 60-70 percent of the population. The remainder are very low income, largely rural people. Most of the poor can, however, be reached through the GOI's expanding health infrastructure, especially paramedics, village health guides (VHG) and trained midwives (daïs). In 1982 over one-fourth of India's 550,000 villages had VHG and daïs and easy access to paramedics and subcenters, and plans are to cover all by 1990. This veritable army can be especially effective in counseling new acceptors of contraception, often needed to reassure new users, explain temporary side effects, correct misunderstandings, clarify methods of use and encourage continued use. Their current lack of orientation to temporary methods is a principal constraint to wider rural distribution.

The project will not increase the number of workers; this is otherwise underway. The project will provide stronger leadership for communication activities, and improve training, supervision and materials for existing workers. Approximately 5,000 such workers will be trained and retrained at Central and State training institutes. Special efforts will be made to adapt the successful Training and Visit (T&V) system from agriculture. Through this program new efforts will be made to promote reversible methods among the estimated 200,000 registered private medical practitioners (RMPs), very few of whom today are involved in providing family planning services. Improving basic information to practitioners and villagers while providing them with higher quality contraceptives is a central intervention in this project. A total of \$6 million is budgeted for this component to complement existing GOI activities. The GOI will also continue to support generic, small family norm campaigns through the Ministry of Information and Broadcasting at levels totaling up to Rs. 900 million (US \$90 million) over the seven years.

4. Demographic Analyses and Studies

The project will support Indo-U.S. collaboration in studies, training and technical assistance in the demographic field. Support to the GOI Census and Planning Commissions will, for example,

accelerate analyses of age-specific fertility and other parameters necessary to evaluate the impact of the GOI program and of this project, (and help identify key target groups. A total of \$1.1 million is budgeted for this component to support U.S. costs for collaboration and training.

5. Biomedical Research

The project will support Indo-U.S. collaboration in biomedical research, especially in reproductive immunology. This small but important component will help India continue the search for better and more appropriate fertility regulation methods, and will capitalize on India's unique capabilities in this field. New methods of fertility regulation will increase choices for couples in India and elsewhere, and may provide a "safety net" if current program methods fall short. The budget for this component is \$1 million to cover costs in the U.S. for materials, workshops and studies.

B. Background and Rationale

1. GOI Population Policy, Plans and Targets

In 1952 India became the first country to adopt an explicit policy to reduce population growth. Since then many leaders, Cabinet and Parliamentary resolutions, and official commissions have endorsed various voluntary measures. Over the years, ambitious goals for lowered birth rates have been set and subsequently have had to be reduced.

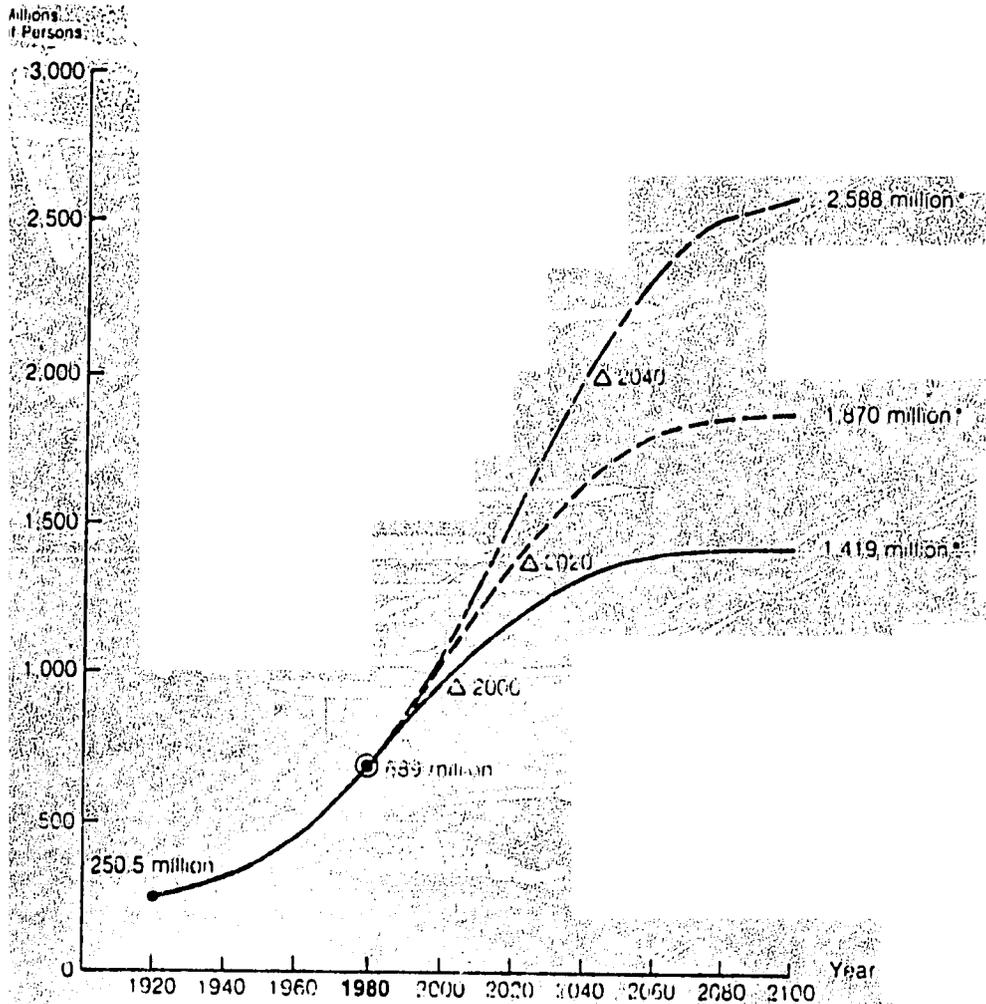
A GOI program has been the main policy vehicle with targets for specific methods. There appears always to have been an implicit assumption that this program must do the full job. The Sixth Five Year Plan originally projected 22 million sterilizations, 7.9 million IUD insertions and 11 million "equivalent" users of conventional contraceptives (mostly condoms, but also including oral contraceptives) between April, 1980 and March, 1985. The Sixth Plan envisaged an increase from 23 percent of couples effectively protected through the official program (as distinct from private sector sales) in 1979/80 to 36.5 percent in 1985/86, and to 60 percent by 1995/96^{1/}, thereby reaching replacement level fertility.

Probably no more than twenty-five percent of Indian reproductive age couples have been using effective methods in any year since 1979. Perhaps an additional ten to fifteen percent may be assumed to be infertile or subfecund at any time. A major increase in the range and acceptability of contraceptives will be required to increase prevalence by an additional 35 percentage points in only 14 years and to reach 34.5% by 1986 will require great effort.

^{1/}GOI definition of couples "effectively protected" is arrived at by multiplying the couples currently protected by estimated use effectiveness of the method, which is taken by GOI as 100% for sterilization and orals, 95% for IUDs and 50% for condom and other related barrier methods.

Figure 1

Demographic Momentum: Alternative Paths
of India's Population Growth



△ Year replacement level fertility is reached
After replacement-level fertility is reached a population continues to expand for several decades but eventually stops growing. Replacement-level fertility usually equals a little over two children per woman. Based on 1975-80 data, Indian women are currently bearing, on the average, 5.1 children per woman.

* Population size at stabilization.

Source: Tomas Frejka, The Population Council

Table taken from "Population Growth and the Policy of Nations", October 5, 1982. United States Department of State, Bureau of Public Affairs, Policy No. 429.

2. Recent Population and Fertility Trends

The 1981 Census was conducted shortly after the release of the Sixth Plan. Its results provoked renewed discussion of population issues. The preliminary head count was 684 million as of March 1, 1981 -- at least twelve million more than the projected figure used in the Sixth Plan -- suggesting a decennial rate equal to that of the preceding decade. India's population has more than doubled since Independence (1947) and will be over 720 million in mid-1983. Figure 1, drawn from demographic projections provided by the Population Council and similar to projections of GOI and other agencies such as the World Bank, shows the dramatic implications of this momentum. Depending on whether India reaches replacement fertility by the years 2000, 2020, or 2040 (differences of only 20 years) its eventual population will likely reach 1.4, 1.9 or 2.6 billion people.

Since the 1981 Census the Perspective Planning Division (PPD) of the Planning Commission has developed its own projections. Table 1 is a condensed version of one of these sets, based on 1996-2001 targets for the net reproduction rate (NRR)^{2/} at 1.2 and the crude birth rate (CBR)^{3/} at 24, rather than the more ambitious goals of the pre-1981 Census Sixth Plan. It provides the basis for numerous estimates in this Project Paper, including size and composition of the target population. The figures indicate that in 1991 about 115 million women will be in the 15-29 year age group, of which 85% (about 98 million) will be married and fertile, and potential acceptors of temporary contraceptives. Part V.B., Targets and Market Sizes, provides further detail on this market segmentation.

The GOI's response to the 1981 Census has been to intensify efforts rather than to lower targets. Promotion of voluntary family planning was included in the Prime Minister's revised 20-Point Program announced in 1982 on the second anniversary of her Government's resumption of office. There appears to be a solid consensus on population policy across virtually the entire spectrum of political parties and critical commentators.

^{2/} NRR = Average number of daughters that would be born to a woman through her life if she experienced the fertility and mortality rates current among all ages in a given year. The measure is probably the single best indicator of current and future demographic growth, because it summarizes prevailing fertility and mortality experience and is the clearest expression of the concept of replacement-level fertility.

^{3/} CBR = Number of live births per 1000 total population in one twelve month period -- the most common measure of fertility levels.



TABLE 1

Projections of Female Population by Age Group and
Urban Proportions as of March 1, 1986-1996:
(millions)

<u>AGE</u>	<u>1986</u>	<u>1991</u>	<u>1996</u>	<u>2001</u>
0-14	140.6	143.2	143.8	143.7
15-29	103.0	115.4	125.2	132.7
30-44	61.7	70.4	82.4	95.3
45+	58.3	66.8	76.3	86.4
	<u>363.6</u>	<u>395.8</u>	<u>427.7</u>	<u>458.1</u>
TOTAL 15-44	164.7	185.4	207.6	228.0
MARRIED 15-44*	140.0	156.0	170.2	182.4
URBAN proportion	.256	.277	.298	.321

Adapted from Tables 4 and 6 of Set I of "Population Projections in the Light of the 1981 Census Provisional Population Totals", by Perspective Planning Division, GOI Planning Commission, 1982.

* Married Couples of Reproductive Age (MCRA): These are USAID estimates based on 1971 Census and its projections, assuming $p=.85$ in 1986, declining linearly to $p=.80$ by 2001 due to trends toward delayed marriage, partially countered by trends favoring widow remarriage.

There are good grounds for believing the 1996 contraceptive targets can be met. During the 1970's India as a whole experienced a decline in fertility levels, especially among couples with women over thirty years of age, and among very young women because of increasingly delayed marriage. Most demographers agree that during the first years of the decade 1971-1981, the total fertility rate (TFR)^{4/} was around 5.8 live births, with a CBR of about 40 per thousand. Data from various sources late in the decade suggest that by 1979 the TFR was about 5.0 live births, i.e., 15% less and the CBR about 35-37, i.e., 12% less.

^{4/} TFR = Average number of live births to women during their lifetimes if they conformed during their lives to the age-specific fertility rates of a given year.

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The rationale for this project is supported by the age distribution of fertility decline. Table 2 provides estimates of decline by specific age groups, 1971/72 to 1978/79. The pattern is clear: fertility declined in all, but was most evident among older women and the youngest (15-19) group. The crucial group is the "young marrieds" aged 20 to 29 years among whom little decline is occurring and who contribute the largest proportion of births. This pattern has characterized nearly all populations during early stages of transition to low fertility, and suggests that this has begun in India. The age pattern of decline reflects increased use of contraception by older women and especially the impact of India's sterilization program during the 1970's. This trend is central to the rationale for this project.

TABLE 2

Estimated Age-Specific Fertility Rates,
1971/72 to 1978/79 (per 1000)

<u>Age</u> (1)	<u>71/72</u> (2)	<u>78/79</u> (3)	<u>%</u> <u>Decline</u> (4)
15-19	118.1	79.4	-32.8
20-24	277.8	267.4	- 3.7
25-29	284.3	267.9	- 5.8
30-34	225.7	194.5	-13.8
35-39	147.4	125.5	-15.2
40-44	72.8	57.8	-20.7

Adapted from Table 10 of Jain and Adlakha, "Preliminary Estimates of Fertility Decline in India during the 1970's," Population and Development Review, Vol. 8, No. 3, September 1982. The estimates in (3) are pooled from data in the cited table. Note that the figures in columns (2) and (3) are adjusted for the effects of several key variables and are not to be taken as original empirical values but rather as refinements.

Figure 2 provides evidence of the relationship between percentage decline in fertility of older couples during the past decade and of those effectively protected. The curve also suggests that the percentage choosing sterilization may be leveling off, even among older couples, at about 35%.

The 1981 Census and Table 2 also show how little change is yet occurring among the young, the largest and fastest growing proportion of India's reproductive age couples, those who -- in

India, as elsewhere -- contribute the majority of births. All this explains our emphasis: expanding acceptance of contraceptives among younger couples.

3. GOI Family Planning Program and Performance

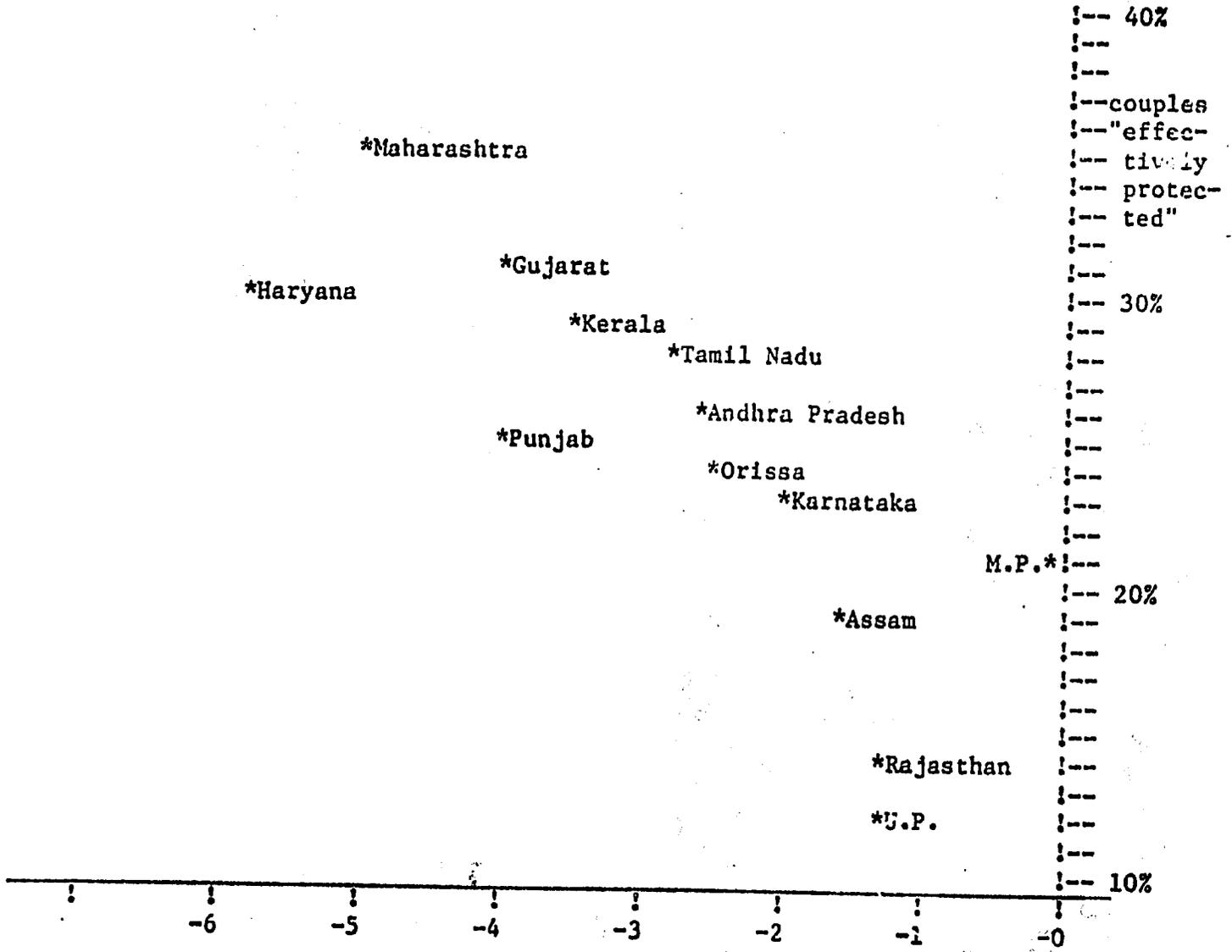
India's Family Planning Program has achieved remarkable success in some respects, given the economic, social, cultural and organizational constraints in an open and democratic country. Its major success has been in sterilization. By 1982, an estimated 20% of reproductive age couples had been sterilized. This compares favorably with any other country. Sterilization is a relatively safe and appropriate method in India, given the infrastructure of trained surgeons, strong cultural emphases upon early marriage and early marital fertility, a tradition of abstinence among older couples, low educational levels (especially among females) and relative ease of establishing user and provider compensations. Voluntary Sterilization (VS) goes "with the grain of the culture". India's communications efforts, mainly by MOHFW and the Ministry of Information and Broadcasting and strongly supported by PVOs, independent writers and political leaders, have successfully generated widespread awareness of the small family norm, the condom and VS.

The GOI has always had justifiable concern, however, about the costs and logistics problems involved in producing and distributing daily oral contraceptives or condoms on the vast scale necessary. Nevertheless, the GOI since 1965 has had a program for the production, distribution and marketing of temporary contraceptives. The required indigenous capacity now exists to meet internal needs. With the possible exception of China, no developing country can match India's capacity. The GOI has also permitted selective import of contraceptives.

a. Condoms

Today, as for the past fifteen years, subsidized retail sales and free distribution of condoms account for most temporary contraceptive protection. In GOI FY 1981/82, 166 and 147 million condoms, respectively, were sold or distributed free by MOHFW/NIRODH (see Table 3). With GOI's formula of 72 pieces equivalent to one couple-year protection (CYP), NIRODH provided an estimated 4.4 million CYPs in 1981/82. Given an estimated 117 million married couples of reproductive age (MCRA), NIRODH provided 3.6% theoretical prevalence, or 1.8% to 2.0% "effective" protection in 1981-82, its best year.

Figure 2: CHANGE IN THE AGE PATTERN OF FERTILITY COMPARED WITH A MEASURE OF FAMILY PLANNING PERFORMANCE, BY STATE
(data from Registrar General, Sample Registration Survey, 1972 to 1976: See Dyson and Somawat, 1983)



PERCENT CHANGE IN AGE-SPECIFIC FERTILITY ABOVE AGE 30

The GOI launched the NIRODH subsidized marketing program in September 1968 through six of the country's largest mass marketing companies. The objectives were to:

1. create large-scale primary demand;
2. obtain nationwide sales through modern marketing;
3. make the product affordable by the majority;
4. make the user perceive it as an everyday necessity.

The original concept envisaged an autonomous agency. This concept reportedly foundered in mid-1968 on GOI concerns about the willingness of mass marketing firms to cooperate and other issues concerned with salary levels, top management selection and autonomy. Later in the year MOHFW gathered a small nucleus of technical officers and, with help from USAID and SIDA (Sweden), began marketing condoms directly via two GOI Ministries and the massmarketing organizations.

The results of the NIRODH program have been a mixture of success and disappointment, as illustrated in columns (8) through (11) of Table 3. Although its coverage has grown steadily and NIRODH is by far the largest and least expensive marketing program for contraceptives in the world, it has become evident to the GOI that the full potential, especially in rural India, has not been realized. Three-year moving averages of distribution and annual sales translated into percentage of couples (Columns 10 and 11 respectively) show little growth, although an upturn occurred in 1980 which may represent a favorable trend. The marketing firms responsible for commercial distribution have not been involved in developing publicity material. This has been prepared by the Ministry of Information and Broadcasting, Division of Advertising and Visual Publicity (MOIB/DAVP). Although DAVP and the MOHFW have achieved high levels of public awareness of the family planning concept ("we are two, we have two," "small family is a happy family", etc.), it cannot easily handle product-specific commercial advertising in close concert with product distribution, dealer and consumer schemes and similar conventional advertising and marketing campaigns. Frequently, perhaps inevitably, publicity materials have been unavailable where sales are being intensively promoted. Existing incentive structures in mass marketing have not yet pulled the products out to rural areas.

Little market research on consumer response and retailer performance has been conducted over the years, although both are central to success of the program. In 1980 the MOHFW did, however, sponsor two useful studies that pointed to the need for extensive modifications including improved product, packaging, profit margins, supply systems and strategy (e.g., expanding outlets in rural areas), and better retailer and consumer education. Research required for creative marketing has proved very difficult to undertake within governmental constraints.

TABLE 3

NIRODH Distribution and Performance Estimates, 1968-1982

Year	Distribution of Pieces (Millions)			CPYs ^{2/} (Millions)		No. of couples 15-44 ^{3/} (million)	% of CYPs total ^{4/}	Commercial ^{5/} only	Percent of MCRA's Using NIRODH 3-year moving averages	
	Free ^{1/}	Commercial ^{1/}	Total ^{1/}	Total	Commercial only				Nationwide Commercial plus free	Nationwide Commercial only
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1968-69	43.5	15.7	59.2	0.82	0.22	89.4	0.9	0.2		
1969-70	68.8	29.6	98.4	1.37	0.41	91.2	1.5	0.4	1.5	.5
1970-71	80.2	52.7	132.9	1.85	0.73	93.1	2.0	0.8	1.9	.7
1971-72	96.3	66.6	162.8	2.26	0.93	95.1	2.3	1.0	2.2	1.0
1972-73	88.5	78.7	167.2	2.32	1.10	97.2	2.4	1.1	2.6	1.2
1973-74	96.1	116.2	212.3	2.95	1.61	99.4	3.0	1.6	2.6	1.2
1974-75	115.4	63.9	179.3	2.49	0.89	101.7	2.4	0.9	2.9	1.2
1975-76	171.2	79.3	250.5	3.48	1.10	104.1	3.3	1.1	3.0	1.1
1976-77	162.9	97.9	260.9	3.62	1.36	106.5	3.4	1.3	3.2	1.3
1977-78	118.1	109.7	227.8	3.16	1.52	109.0	2.9	1.4	3.1	1.3
1978-79	135.5	107.5	242.7	3.37	1.49	111.6	3.0	1.3	2.8	1.2
1979-80	134.1	77.8	211.9	2.94	1.08	114.2	2.5	0.9	2.9	1.2
1980-81	133.2	129.5	262.7	3.65	1.80	117.0	3.1	1.5	3.1	1.4
1981-82	147.4	166.2	313.6	4.36	2.30	120.0	3.6	1.9	3.4	1.7
1982-83	140.0(prov.)	160.0(prov.)	300.0	4.16	2.22	123.0	3.4	1.8		

^{1/} From MOHFW, 1982.

^{2/} 72 condoms equal one couple year protection (CYP).

^{3/} USAID estimates

^{4/} Column (5) divided by column (7)

^{5/} Column (6) divided by column (7)

b. The OC and IUD

The oral contraceptive (OC) and the intra-uterine device (IUD) have had an even more difficult time in India than the condom. Both were introduced in the mid to late 1960's. The IUD, in fact, was expected at that time to become the major program focus, and a campaign to popularize the Lippes Loop was launched during 1965. By 1968, however, a major backlash had developed that effectively reduced it to a minor role in the program and depressed use rates to around 1.0% of couples throughout the decade 1971-1981. Very recent evidence suggests a resurgence of demand, however, and the MOHFW predicts much higher use in the next few years.

OCs were introduced in the late 1960's. At least six pharmaceutical firms began producing and marketing international brands, and GOI and Indian PVOs started experimental small-scale programs. Unfortunately, this was at about the time of the IUD backlash, and also when their safety was beginning to be seriously questioned in the popular press in the West. The GOI and the Indian medical establishment developed deep-seated apprehensions. Leaders fretted over whether poor, illiterate women could remember to take the pill daily; medical professionals worried about cancer and micronutrient metabolism and many influential people wondered about costs, logistics and adequacy of information systems. For these and other reasons, OCs never received firm endorsement. The pharmaceutical firms which began with high hopes have since found more profitable products and OCs are now a negligible part of their production. Recently, however, GOI decided that safety issues had been exaggerated. It has developed, tested and approved its own low-dose formulations and has begun expanded production, promotion and distribution through paramedicals in the MOHFW system. Appropriate authorities have decided that, when requested by MOHFW, OCs may be sold without prescription and advertised in public media.

The GOI is now persuaded that India's private sector should be more widely involved in its program. The new emphasis will involve large-scale motivation campaigns, a freer commercial environment and incentives, and private sector management. This is to encourage higher quality, expanded production, economies of scale, improvements in technology and increased export earnings. It will also help contain GOI procurement costs and create an improved and more appealing image of contraceptives.

c. Detailed Description

1. Goal

The broad goal of India's population policy, of which this project is a part, is to reduce the rate of population growth and

thereby improve the quality of life. India's Sixth Five Year Plan (1980-1985) called for a reduction in the Net Reproduction Rate (NRR) from the then estimated level of 1.67 to 1.0 by 1996 for the country as a whole and by 2001 for all the states. The Planning Commission estimated that the Crude Death Rate (CDR) by 2000 would be around 10/1000. With other assumptions, it was then calculated that the CBR would have to be about 21/1000 to achieve the NRR of 1.0. Assuming no major changes in other demographic variables, a best case forecast would be that total population would be 900 million by the year 2000. The Sixth Plan estimated the 1978 CBR to be 33-35 per thousand. After the 1981 Census and revaluation of other data from 1972 and 1979, that figure has been revised to 35-37 per thousand. GOI's CBR target of 21 per thousand by 1996 has thus become even more ambitious, now requiring a reduction of 40% within twenty years, or about 0.9 CBR point decline per year from 1978 through 1996.

This will be achieved only if every reasonable avenue is exploited. The larger processes of mass education, urbanization and industrialization should reinforce broader adoption of the small family norm. To the extent awareness of the norm exists or can be created, it can be increased through improved availability of attractive, high-quality contraceptives and product-specific promotion.

2. Sub-Goal

The Sixth Plan adopted a sub-goal of 60% of couples "effectively protected" by 1996. USAID believes this is the minimum required to reach the goals in the projections above. International data suggest that on average every 2.4% to 3.3% increase in contraceptive prevalence produces a one point decline in CBR^{5/}.

The GOI's program will need more than to triple the prevalence of temporary contraceptives, from 6% currently to 20% of eligible couples by 1990, lowering CBR by between 4.3 to 5.8 points, and thus contributing about one-third of the reduction required to reach a CBR of 21/1000 by 2001.

Specific subgoal targets are:

^{5/} See Nortman and Hofstatter, 1980. Lightbourne, et al estimate from World Fertility Survey data that up to 3.3% prevalence points may be required if less effective methods predominate.

a. Full Cost Commercial Sales

Presently roughly one percent of the 122 million married couples of reproductive age, primarily upper class and urban, are protected with full-cost, commercially marketed products. Expanded production and sales stimulated by more aggressive promotion and marketing should double or triple this coverage by 1990, increasing users from 1.2 million to over 4 million (3% of the total 153 million eligible couples projected for 1990).

b. Subsidized Commercial Sales

Two percent (2.4 million) of today's eligible couples are protected through subsidized NIRODH sales. Product diversification and aggressive marketing by the private sector should increase this to as much as nine percent by 1990, to over 13 million couples.

c. Free Distribution and IEC

Three percent, or 3.7 million couples, are presently protected by free condoms, OCs and IUDs. Improved counseling, more educational materials and the training of village workers is expected to triple this by 1990 to eight percent, i.e., around 12.2 million couples.

d. Total

The total program is expected to increase use of temporary contraceptives from six percent of eligible couples, presently totaling 7.6 million, to 20 percent in 1990, i.e., 31 million.

3. Purpose

Increases in the prevalence rate will be achieved through increasing the demand for contraceptives, increasing the supply and improving their accessibility, through more aggressive private sector promotion of both socially marketed and full cost commercial brands and through improved rural, public sector performance.

The population not reachable commercially will be influenced through the public sector health network. Commonly known in India as Information, Education and Communication (IEC), this effort focuses on village level health workers who treat and counsel villagers and provide simple health services. It includes professional communication techniques, training and improved design and distribution of information.

In addition, Indo-U.S. collaboration in demographic analyses and information dissemination will be strengthened, and studies of demand constraints will be supported. This entails training in new demographic and analytical techniques and methodologies; sustained professional collaboration, joint support for specific studies, analyses and workshops; and planned dissemination of findings.

Finally, biomedical research will be supported to develop and test new contraceptive technologies for India and probable application elsewhere.

4. Outputs

a. Contraceptive Marketing Organization (CMO)

The project will support the establishment and operation of a semiautonomous, non-profit Society under the Societies Act of 1860. This organization, with the acronym CMO, will assume responsibility for managing both the social marketing and free distribution programs.

1. Legal Character

By its Charter (see Annex F.1. for draft) the CMO will be authorised to:

- operate nationwide;
- obtain resources including funds, commodities, equipment, supplies and technical assistance from domestic and foreign sources;
- purchase, package and sell the full range of family planning products approved by the GOI, including but not limited to condoms, OCs, IUDs, diaphragms and spermicides;
- contract with domestic and foreign institutes, individuals, commercial firms and non-profit agencies;
- register sole ownership of names, goods and services.

11. Functions

The CMO's functions will include:

(a) Administration of Social Marketing Program

India's NIRODH social marketing program will be transferred to the CMO, which may procure condoms and other products from indigenous sources. The CMO will also contract for promotion and advertising campaigns and for distribution and retail concessions. At present, the social marketing program is handled by six major firms, each covering a portion of the country. The subsidy is the difference between the price initially paid to suppliers and that charged to the distributor. Other models may be tried. The objective will be to develop and encourage potentially profitable business. The key is adequate profit margins at affordable prices. The first major substantive task of the CMO will be to prepare a detailed marketing plan for carrying out this program. The plan will include phased targets for sales by type of contraceptive, and targets for expanding sales outlets, number of salesmen, distribution points, etc. An important part of the marketing plan will be a study of the price elasticity of demand for various types of temporary reversible contraceptives.

(b) Management of Free Distribution Program

The CMO will also eventually be responsible for the free distribution program, now managed on a parttime basis by the MOHFW. Commodities will be distributed through existing government and possibly other channels to rural health centers, clinics and hospitals. New distribution arrangements will be explored using manufacturers' contracts for initial distribution to district level. Regional CMO offices will provide closer monitoring than has been possible so far.

The CMO may also assist in the expansion and improvement of the MOHFW IEC program as required. This will complement the marketing elements of the free distribution program. It will include arranging support to the MOHFW in training systems for village health guides, dais (midwives), physicians, and hospital and clinic personnel in the preparation and dissemination of information, instructions and news items regarding the small family norm, fertility awareness, and the use of contraceptive methods and products.

iii. Structure

The CMO is to be small and highly professional, headquartered in Delhi, with a total of about 100 people, including senior level management, marketing, logistics and communications professionals and five regional offices. It will function primarily through contracts with the public and private sectors.

Annex F.2. describes a proposed organizational structure, based on extensive professional consultations with Indian and U.S. experts. During the initial months of the project the governing board of the CMO will decide on and formalize the structure in detail.

iv. Funding

A major portion of administrative costs for the CMO will initially be paid from A.I.D. funds. This will be phased down gradually so that by project completion it will be supported entirely from other sources, including sales revenues.

Funds for other costs will come from existing government sources and A.I.D. Contraceptive procurement will be funded by the GOI, with probable assistance by the UNFPA.

Brand-specific advertising and promotion for socially marketed products will be jointly financed by the GOI and A.I.D. The IEC component will be financed by A.I.D. with a technical assistance component likely to be financed by UNFPA.

For details see Section II, Summary Cost Estimates and Financial Plan; Section III, Implementation Plan and Annex F.5.

b. GOI Information, Education, Communication Program (IEC)

This component supports the expansion of free contraceptive distribution, and has been described earlier. The main outputs are:

- i. about 12 communications specialists and 100 trainers at Central, Regional and State level, trained and placed in existing institutions;
- ii. about 400 District-level trainers trained or retrained;
- iii. about 5000 Block Extension Educators retrained in fertility awareness and temporary methods;
- iv. probably two new mass media programs launched each year to support free distribution;
- v. improved FP training and materials for primary health center personnel (at least 15,000 directly) and for village-level workers (at least 500,000).

c. Demographic Analyses and Development Studies

A third component is analysis of demographic data and of social and economic factors related to mortality and fertility. Major emphasis will be on: (1) strengthening Indian institutions by training and the transfer of private sector Indian technology, and (2) conducting specific analyses and disseminating results.

Collaborative research and analysis will be conducted primarily by the Office of the Registrar General (RG) of India in association with two U.S. institutions, the Population Institute of the East-West Center (EWPI) Hawaii and the U.S. Bureau of the Census. Collaboration will involve short-term exchanges of staff between Indian and U.S. institutions. Results of such research and analyses will be published by Indian institutions or through joint Indian-U.S. publications.

Seminars will be sponsored by the Office of the Registrar General to ensure dissemination of results. In 1986, three years after the first Regional Conference on Population Trends in South Asia, the RG and EWPI will sponsor a second conference on the subject.

Most of the analysis of India's demographic data is performed by the Office of the RG, under whose aegis this project component will be implemented. Specialists will be trained in the U.S. in statistical sampling, data evaluation, demographic analysis, data processing, computer software and the application of micro-computer technology. Courses vary in length from three months to one year. Short-term in-country workshops of approximately three weeks each will be conducted on special topics in data processing and analysis. U.S. specialists will help conduct these, held primarily for middle level staff.

Training conducted in the U.S., primarily by the Bureau of Census, will cover statistical sampling, computer data systems and demographic analysis, among other topics. Indian participation in annual summer seminars, population census conferences and working groups conducted by EWPI will also be provided financial support.

Mid-career statistical and evaluation officers from the Census Commission, Vital Registration, MOHFW Evaluation Division and from various population research centers in India will be selected by the RG's Office for training. Selection will be based on probable contributions to accelerating analysis and dissemination for key GOI planning exercises. This training is needed in order to fill important gaps in modern techniques, to improve skills in preparation for the 1991 Census of India, and to strengthen the currently weak Vital Registration System. An estimated 25 officers from the RG's Office and 15 from other agencies are directly involved at the working level in these types of demographic analysis in India. Of these, eight will be selected for long-term training and about 15 for short-term training in the U.S. More than 30 will participate in seminars and workshops in India. The mix of training and the numbers of people to be trained were developed by the RG in consultation with EWPI. The RG and USAID have discussed the plans in detail, and we are both enthusiastic over the prospects for improving capabilities for conducting demographic analysis.

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d. Biomedical Collaboration

Biomedical collaboration will be undertaken as coordinated investigations between leading Indian and U.S. institutions based on the mutual interests of Indian and U.S. institutes and of individual scientists, particularly in the field of immunology of reproduction. This will include investigators in India from the Indian National Institute of Immunology, the Post Graduate Institute of Medicine at Chandigarh, the Institute for Research and Reproduction at Bombay, the Indian Institute of Science at Bangalore, the Central Drug Research Institute at Lucknow; and in the U.S., investigators at the Department of Biochemistry and Molecular and Cell Biology, Northwestern University, Oregon Primate Center, the International Committee for Contraceptive Research (Population Council) and at the National Institute of Health, Bethesda, Maryland, among others.

Immunological approaches to human fertility regulation are now feasible based on recent biological advances and the new technologies of human mono-clonal antibody production and genetic engineering. Indo-U.S. collaboration already exists between the Indian Institute of Immunology and International Committee for Contraceptive Research focusing on post-fertilization techniques.

This project will support research only on pre-fertilization methods. Because of strong Indian resources, expertise and interest in this specific research area and because of the recent advances in the U.S. in the field of reproductive immunology (especially in the area of andrology), two complementary approaches will be taken. Both involve support to U.S. institutions to sustain U.S. costs of collaboration in India and dollar costs of Indian participation in the joint program. The first will involve a U.S. Task Force with participation of Indian scientists and the second will involve targeted research projects. The Task Force will convene to prepare workscopes for U.S. contractors and studies to be undertaken with the GOI Department of Science and Technology (DST). This Task Force will determine the topics to be studied. AID/ST/POP, USAID/New Delhi and representatives of the GOI/DST will select an appropriate U.S. institution to serve as prime contractor and convenor of the U.S. Task Force. Due to their apparent predominant experience this seems likely to be the Program for Applied Research in Fertility Regulation (PARFR) at Northwestern University, Evanston, Illinois. Likely topics for targeted research are as follows. The

first concerns a sperm-specific antigen which has been successfully used to immunize mice, rabbits and baboons against pregnancy. Studies may be supported to test its antigenicity with synthetic adjuvants in monkeys, to test the minimum antibody needed via passive immunization to prevent fertility, and finally to see if this specific antigen can be produced synthetically.

The second targeted research may study specific sperm antigens previously identified through the study of sera of infertile couples. Passive immunization studies will be conducted to determine titers necessary to prevent fertility. Subsequently conjugation of specific antigens may be undertaken for active immunization.

The third targeted research may be directed towards an antigen contained in the zona pellucida surrounding the egg. Studies are needed to define the antigen biochemically, and this leads into the fourth targeted area of immunopathology studies. These safety studies will most appropriately be carried out at different Indian institutions with special arrangements for pathological studies.

The fifth targeted area will transfer the technology of cryopreservation of sperm and of antigens. This will have both veterinary value as well as importance for human egg and sperm preservation.

New computer simulation techniques developed in the U.S. may become the subject of joint studies and technology transfer.

Finally, and perhaps most promising, this project will study the effectiveness of the IgA secretory antibodies in cervical mucous, which, if effectively demonstrated, will lead to monoclonal IgA antibody production for bonnet monkeys -- a major step towards development of the technology for humans.

It is anticipated that the several Indian institutes with scientists and laboratories working on reproductive immunology, members of which make up a complementary Indian Task Force, will communicate freely with U.S. reproductive immunologists and the NIH for long range research planning. The task force approach in reproductive immunology has been singled out for emphasis by the Indo-U.S. Senior Scientific Panel at the February 1983 meeting in New Delhi.

5. Inputs

a. GOI

- the establishment of and provision of funds for the CMO and the transfer to it of responsibility for social marketing and central management of free distribution of contraceptives;

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- expansion of government resources for procurement for social marketing and free distribution programs;
- expansion of government resources for promotion and advertising campaigns and programs;
- support and resources for public sector communications programs and campaigns, primarily involving MOHFW and Ministry of Information and Broadcasting;
- participation in and resources for demographic studies and analyses involving the Planning Commission, the Registrar General and the MOHFW;
- participation in and resources for biomedical research involving the Department of Science and Technology and the Indian Council of Medical Research.

b. AID

- resources to help establish and support the CMO;
- for advertising and promotion;
- for market research;
- for IEC activities;
- for collaboration in demographic analyses and training;
- for collaboration with U.S. institutions in biomedical research.

c. Indian Private Sector

- support for and participation on the Board of the CMO;
- support for and participation in social marketing and free distribution programs.

d. United Nations

- provision of raw materials for manufacture in India of OCs and IUDs;
- participation in the four planned program evaluations.

II. Cost Estimate and Financial Plan

A. Financing Procedures

1. Administrative Costs of the CMO

Total administrative costs of the CMO, including salaries, rent, supplies and transportation, are estimated at \$15 million for the project period. See Annex F.5.a. A.I.D. will cover up to 100% of these in the first year, with contributions declining over the project period. The CMO will operate on annual budgets, provided in advance by the GOI and, on a declining scale, in turn reimbursed by A.I.D. Toward the end of each year the CMO will submit expenditure data against the previous advance and a projection of expenditures for the coming year. A.I.D. will reimburse the GOI for a portion of the funds it releases to the CMO; by the end of the project the GOI will fully support the CMO from budgeted funds; sales proceeds alone should be more than adequate to cover administrative costs, although the GOI at this time prefers to apply these revenues against the entire project budget. See Tables 4 through 7. Estimates for the CMO's administrative costs are based on a detailed consultancy report prepared by Price Waterhouse and Company for USAID and the MOHFW. They have been carefully reviewed and are considered reasonable and realistic.

2. Advertising and Promotion

A.I.D. funds will likewise cover some advertising and promotion costs. Most generic advertising will be financed by the GOI directly, as at present. Budgets for product advertising costs will be advanced by the GOI as part of the CMO's program costs and in turn will be reimbursed by A.I.D. from project funds.

3. Market Research

Indian marketing and survey firms will undertake market research, organized by the CMO and paid for under the project.

4. Information, Education and Communication

A variety of activities will be supported under this component. Consultative services will come primarily from the Indian private sector, provided through either A.I.D. or host country contracting. Professional training will include a range of activities from short, specialized in-country in-service workshops to two-year training programs abroad. Standard A.I.D. procedures will be followed for U.S. and third country training; both direct financing and reimbursable procedures will be used for in-country

in-service training. For example, to cover the costs of training approximately 5000 supervisors in the village level health delivery system, modified forms of fixed amount reimbursement financing will be explored.

A small amount of equipment will be purchased, primarily in India. Both direct financing by USAID and host country procurement will be involved.

A quarterly information digest may be mailed directly from the U.S. throughout the project period to approximately 200,000 Indian medical practitioners, with project funds directly disbursed to the U.S. publisher. Mailing may be performed by the MOHFW Mass Mailing Unit at lower cost, but with lower impact. USAID and the MOHFW will decide the best option. A similar mailing of an indigenous publication, probably by NIHFW, will also be supported directly by A.I.D. Funding will also be provided, most likely through direct financing, for a variety of experiments and pilot projects to adapt the highly successful Training and Visit (T&V) method of extension used in agriculture, through field trials of T&V systems in selected rural areas. Technical assistance for radio and TV programming of family life drama ("soap operas") is included.

5. Demographic Analysis

Costs of travel of Indian scientists to the U.S. and of American and other foreign scientists to India will be eligible for project financing, as will other technology transfers, including the purchase and adaptation of computer software. Workshops, documentation and dissemination and computer time in India will be paid for by the GOI. Costs incurred in the U.S. will be paid with project funds mostly through existing centrally managed A.I.D. agreements and contracts with the applicable institution and agencies.

6. Biomedical Research

A.I.D. will finance travel to and per diem of U.S. scientists in India and travel and per diem of Indian scientists in the U.S. The cost of workshops in India will be covered by the GOI; those in the U.S. will be covered by A.I.D. Costs of exchanges of materials between laboratories will be borne by the country of origin. The U.S. costs of this collaboration will be covered with project funds mostly through existing centrally managed projects.

TABLE 4

B. SUMMARY COST ESTIMATE AND FINANCIAL PLAN
 (\$ Millions)

PROJECT ELEMENTS	I N D I G E N O U S		U N F P A	D O N O R S			T O T A L
	PRIVATE	GOI		A.	I.	D.	
1. CONTRACEPTIVE MARKETING ORG.	-	9.00	-	LOAN 4.00	GRANT 2.00	(TOTAL AID) (6.00)	15.00
2. PROMOTION AND ADVERTISING	12.00 ^a	121.70	-	25.50	-	(25.50)	159.20
A. Commercial Full Cost	(12.00)	(-)	(-)	(-)	(-)	(-)	(12.00)
B. Socially Marketed	(-)	(31.40)	(-)	(24.10)	(-)	(24.10)	(55.50)
C. Free Distribution and Generic	(-)	(90.30) ^b	(-)	(1.40)	(-)	(1.40)	(91.70)
3. MARKETING AND OPERATIONS RESEARCH & EVALUATION	-	0.50	-	-	1.51	(1.51)	2.01
4. COMMODITIES	71.94 ^a	224.64	30.28 ^c	-	-	(-)	326.86
A. Condoms	(44.89)	(129.20)	(-)	(-)	(-)	(-)	(174.09)
B. Oral Contraceptives	(25.89)	(65.65)	(24.03)	(-)	(-)	(-)	(115.57)
C. IUDs	(1.16)	(29.79)	(2.25)	(-)	(-)	(-)	(33.20)
D. Other	(-)	(-)	(4.00)	(-)	(-)	(-)	(4.00)
5. INFORMATION, EDUCATION, COMM.	-	- ^d	1.50	-	6.00	(6.00)	7.50
A. Training, Prof.Dev., Workshops	(-)	(-)	(-)	(-)	(1.06)	(1.06)	(1.06)
B. Specialized Materials & Mailing	(-)	(-)	(-)	(-)	(3.26)	(3.26)	(3.26)
C. T&V Adaptation; TA/Consul- tation	(-)	(-)	(1.50)	(-)	(1.68)	(1.68)	(3.18)
6. DEMOGRAPHIC ANALYSIS	-	0.40	-	-	1.09	(1.09)	1.49
7. BIOMEDICAL RESEARCH	-	1.00	-	-	1.00	(1.00)	2.00
SUBTOTAL	83.94	357.24	31.78	29.50	11.60	(41.10)	514.06
REVENUE FROM SALES PROCEEDS	-	-12.39	-	-	-	-	-12.39
CONTINGENCY	-	-	-	4.50	2.40	(6.90)	6.90
T O T A L	83.94	344.85	31.78	34.00	14.00	(48.00)	508.57

^aThe estimated "contribution" of the full-cost commercial sector to its own specific brand advertising and to production costs. No figures are shown for probable revenues or profits.

^bGOI funds for generic promotion and advertising and for its IEC program are consolidated in the figure of \$90.30 million shown above. It has not been possible to differentiate precisely between the two; nor, except for identifying counterpart for the IEC component of the project, is it necessary. The GOI is committing this level for all of these activities over the project period.

^cUNFPA will be requested by the GOI to provide raw materials and commodities. If such support is not available, the GOI will fully cover these costs.

TABLE 5

C.1. PRELIMINARY PROJECT EXPENDITURES BY FISCAL YEAR
AID-FINANCED PROJECT ELEMENTS
(\$ Millions)

FISCAL YEAR	CMO ADMIN COSTS	PROMOTION & ADVERTISING	I.E.C.	MARKETING RESEARCH	DEMOGRAPHIC ANALYSIS	BIOMED	TOTAL
1984	2.00	0.43	1.06	0.16	0.20	0.22	4.67
1985	1.00	1.95	1.23	0.18	0.30	0.24	4.90
1986	0.75	2.86	0.63	0.19	0.25	0.20	4.88
1987	0.75	3.88	0.73	0.21	0.15	0.20	5.92
1988	0.60	4.71	0.63	0.23	0.14	0.14	6.45
1989	0.50	5.45	0.57	0.26	0.05	-	6.83
1990	0.40	6.22	0.55	0.28	-	-	7.45
TOTAL	6.00	25.50	6.00	1.51	1.09	1.00	41.10

TABLE 6.

C.2. PRELIMINARY PROJECT EXPENDITURES BY FISCAL YEAR
OVERALL PROJECT SUMMARY, ALL FUNDING SOURCES
 (\$ Millions)

FISCAL YEAR	PRIVATE	G O I BUDGET	SALE PROCEEDS	UNFPA	A. I. D.			TOTAL
					LOAN	GRANT	TOTAL	
1984	4.97	23.71	-1.08	1.31	0.43	4.24	4.67	33.58
1985	6.97	31.28	-1.19	2.60	2.95	1.95	4.90	44.56
1986	9.31	39.87	-1.50	3.91	3.61	1.27	4.88	56.47
1987	11.27	47.82	-1.73	4.34	4.63	1.29	5.92	67.62
1988	13.96	58.47	-2.00	5.45	5.31	1.14	6.45	82.33
1989	16.80	71.55	-2.33	6.46	5.95	0.88	6.83	99.31
1990	20.66	84.54	-2.56	7.71	6.62	0.83	7.45	117.80
TOTAL	83.94	357.24	-12.39	31.78	29.50	11.60	41.10	501.67

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TABLE 7.

C.3. PROJECTION OF ADMINISTRATIVE EXPENDITURES
FOR CMO BY FISCAL YEAR AND SOURCE OF FUNDS
(\$ Million)

FISCAL YEAR	ADMIN EXPENDITURE	GOI	A.I.D.	PERCENT FINANCED BY A.I.D.
1984	2.72	0.72	2.00 (G)	74
1985	1.59	0.59	1.00 (L)	63
1986	1.75	1.00	0.75 (L)	43
1987	1.93	1.18	0.75 (L)	38
1988	2.12	1.52	0.60 (L)	28
1989	2.33	1.83	0.50 (L)	21
1990	2.56	2.16	0.40 (L)	16
T O T A L	15.00	9.00	6.00	40

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Source: Price Waterhouse report for CMO recurring and capital costs.

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TABLE 8.

D. COSTING OF PROJECT OUTPUTS AND INPUTS

<u>PROJECT INPUTS:</u>	<u>PROJECT OUTPUTS</u>				
	<u>CMO AND ITS MARKETING & DISTRIBUTION PROGRAMS</u>	<u>IEC</u>	<u>DEMO ANALYSIS</u>	<u>BIOMED</u>	<u>TOTAL</u>
	a	b	c	d	e
<u>AID Appropriated Total</u>	33.01	6.00	1.09	1.00	41.10
<u>LOAN</u>	(29.50)	(-)	(-)	(-)	(29.50)
<u>GRANT</u>	(3.51)	(6.00)	(1.09)	(1.00)	(11.60)
<u>GQI Total</u>	355.84	-	0.40	1.00	357.24
<u>Sales Proceeds</u>	(12.39)	(-)	(-)	(-)	(12.39)
<u>Other budgeted</u>	(343.45)	(-)	(0.40)	(1.00)	(344.85)
<u>Indian Private Sector</u>	83.94	-	-	-	83.94
<u>UNFPA</u>	30.28	1.50	-	-	31.78
<u>T O T A L</u>	503.07	7.50	1.49	2.00	514.06

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III. Implementation Plan

A. Start-up Actions

The key events and activities which must occur during the first few months after the Project Agreement is signed are as follows:

- establishment of the CMO;
- establishment of a Task Force on Communications;
- designation of an "apex" organization for new rural communications strategies;
- conclusion of funding agreements with U.S. institutions on demographic studies and biomedical research.

1. CMO:

The CMO is to be governed by a Board, several members of which will be ex-officio government officials. Among others, these may include:

Secretary, Ministry of Health and Family Welfare;

Additional Secretary, Ministry of Finance;

Commissioner of Family Welfare.

The board may also include a number of appointed members who will represent the interests of firms, associations and institutes involved in family planning. These members will serve for periods of one or two years to enable broad participation and to minimize potential perpetuation of interests.

To register the CMO under the Societies Act of 1860, a minimum of seven persons must file a memorandum of association with the Registrar of Societies. A suggested draft of such a memorandum is contained in Annex F.1. Initial society members will constitute the first governing board; these members will be selected and appointed by the GOI in consultation with USAID. Standard procedure is for the GOI then to assign an official to undertake all formalities to establish the society.

After the full board has been appointed, it will meet to review the proposed memorandum of association and establish the CMO as a Registered Society. As soon as the registration becomes legal,

the Board should appoint a full-time Chief Executive and two Product Directors who will become additional ex-officio members.

2. Task Force on Communications

The GOI established an interministerial Task Force on Communications in 1981 to coordinate strategies for reaching remote rural areas. This has not met since mid-1981. Reactivation or the establishment of a similar body is essential for the IEC component. The Task Force was originally chaired by the Joint Secretary, MOHFW, with membership from numerous central and state training institutes. MOHFW technical officers will play a key role.

3. Implementing Organization for Rural Communications

The MOHFW will be the key institution to implement improved rural communications. The MOHFW also looks to the National Institute for Health and Family Welfare (NIHFW), a semi-autonomous society established in 1979, and to several Central Training Institutes for technical assistance and in-service training in health and family welfare. An "apex" body or agency will be selected to coordinate among them. If designated as the "apex" body responsible for improving rural communications, as is expected, it will fill a major gap in the implementation structure of the project. With policy guidance from the Task Force, NIHFW will work in coordination with the MOHFW's Department of Media and Mass Education (MME) and draw upon the CMO for technical support. The Director of NIHFW and the Chief Executive of the CMO will be on each other's Board.

4. Management for Demographic Analysis and Biomedical Research

These components fall outside the purview of the MOHFW. Demographic analysis will be implemented under the aegis of the Registrar General/Commissioner of the Census of the Ministry of Home Affairs, and the U.S. Bureau of Census and East-West Population Institute. Biomedical research likewise involves the Department of Science and Technology, the Institute of Immunology and the Indian Task Force on Reproductive Immunology on the Indian side and such U.S. institutions as the Program for Applied Research in Fertility Regulation (PARFR) at Northwestern University, Evanston, Illinois. These will be arranged by supplementing AID's existing PASA with BuCen and the existing agreements with the East-West Center and Northwestern University.

B. Contracting for Services

Advertising and marketing services will be procured from firms doing business in India. This is appropriate because of the need to conduct campaigns in local languages and in accordance with Indian customs and sensitivities. Under Chapter 1 of A.I.D. Handbook II, A.I.D.'s country contracting concerns when procuring local services are limited to assuring: that contractors are selected competitively; that A.I.D. have approval rights; and that appropriate mandatory provisions be included in each contract. See Handbook II, Chapter 1, paragraph 1.1b.

Advertising and marketing services will be procured competitively.

A.I.D. will exercise its contract approval responsibilities by reviewing and approving the procurement procedures to be used by the CMO, requiring that these procedures actually be followed and reserving the right to audit periodically when deemed appropriate.

The mandatory provisions have been reviewed and it appears that none is necessary or appropriate for such contracts. The Mission, in the exercise of its delegated authority to implement projects, will continuously review the process of contracting for advertising and marketing services to determine whether more active review and approval will be required.

C. Preliminary Calendars of Project Events

Annex F.3 contains preliminary calendars for each of the major components of the project.

D. GOI Staffing Implications

The project will result in the net addition of approximately 93 positions: The CMO will have approximately 102 staff members, including perhaps five from the Ministry. NIHFW will add three positions, and the MOHFW can eliminate about seven positions when NIRODH responsibilities are transferred to CMO. The following table summarizes the net effect on public or publicly supported employment.

TABLE 9:

EFFECT OF CMO ON PUBLICLY SUPPORTED EMPLOYMENT

	<u>Current</u>	<u>Proposed</u>	<u>Net Changes</u>
GOI	14	2	-12
CMO	0	102 (5 from GOI)	+102
IEC/NIHFW	3	6	+3
		<u>Total net changes</u>	<u>: 93</u>

IV. Monitoring Plan

A. Possible Problem Areas and USAID Monitoring Actions

The following examples typify potential problems that might arise during implementation in the early stages of this project:

- delays in establishing and staffing the CMO: USAID will be able to watch for this from New Delhi and will encourage, through personal and written contacts, timely action;
- failure of the CMO to operate with the flexibility and innovativeness crucial to successful marketing programs: the CMO's governing board and its professional staff will both contain senior and respected professionals from private firms with proven marketing and management credentials. These individuals will have to be able to operate in accordance with their professional judgment with minimal interference from government or imposition of government procedures and restrictions. USAID will be in regular contact with the CMO and its regional offices and with its government counterparts to facilitate smooth transfer of responsibilities and to facilitate the retention of maximum flexibility and freedom for the CMO;
- coordination between supply, distribution, advertising and promotional activities: advertising and promotional campaigns are of little potential value if the products being promoted are not available. Coordination of these major functions will be the responsibility of the CMO, as will be monitoring. USAID will conduct its own spot monitoring, for example during a special promotional program targeted to a state or region. The primary purpose will be to ascertain the effectiveness of the CMO in undertaking coordination programs and in responding to unforeseen programs such as rail or trucking delays;
- delays in training; assignment of trainees to inappropriate jobs; poorly prepared communication materials: USAID will work out detailed training and work plans and schedules for the IEC component with the MOHFW and NIHF and will monitor progress against schedules;
- delays in demographic analyses and bio-medical research: detailed work plans and schedules will likewise be prepared. Progress against these schedules will be monitored continuously.

B. Illustrative Calendar of Monitoring Actions by USAID Staff

In order to watch for and address these potential or anticipated problems, USAID plans roughly the following monitoring schedule. The schedule will change as actual problems emerge and as implementation patterns evolve.

<u>July to September 1983</u>	<u>Work Days</u>
Interact with MOHFW, NIHFW	10
" " Governing board, CMO	10
" " IEC Task Force	3
" " RG Census	1
" " Biomed contractor & Indian Counterpart	2
T O T A L	<u>26</u>
 <u>October to December 1983</u>	
Interact with Counterparts	20
U.S. Demographic Contractors & Indian Counterparts	4
U.S. Biomed contractor & Indian Counterparts	<u>3</u>
T O T A L	<u>27</u>
 <u>January to March 1984</u>	
Interact with Counterparts	15
Visit 5 regional offices (@ 2 days each)	10
Visit NIHFW Workshops	1
Visit CMO physicians Workshops	3
Monitor mass mailing	5
Visit demographic analysis workshop	<u>1</u>
T O T A L	<u>35</u>
 <u>April to June 1984</u>	
Interact with Counterparts	15
Visit 2 Regional Offices (@ 3 days)	6
Review CMO budget	1
Monitor workshop proceedings	2
Monitor biomedical exchanges	2
Monitor mailings	<u>7</u>
T O T A L	<u>27</u>

July to September 1984

Interact with counterparts	15
Visit 2 Regional Offices (@ 3 days)	6
Visit 2 rural areas (@ 5 days)	10
Visit IEC training	1
Monitor mailings	<u>1</u>
T O T A L	<u>33</u>
<u>Subsequent Quarters:</u>	<u>33</u>

C. USAID Staffing Implications

The events identified above are, of course, tentative and preliminary. Monitoring will respond to problems as they arise. In general, however, USAID expects to spend a minimum of 15 work days of staff time each quarter interacting with the CMO and its governing board, the MOHFW, NIHFW, the IEC Task Force, etc. This will entail office visits, telephoning and time spent preparing correspondence.

In addition, a minimum of two field office visits will be planned each quarter so that each of the five will be visited at least once a year and most twice. At an average of three days each, including travel time, a total of six days each quarter will be scheduled for regional office visits. Visits to target market areas to observe delivery point coordination of supply, IEC and advertising and promotion and to assess the effectiveness and impact of the marketing efforts, will be made at least twice each quarter. At an average of five days each trip, a total of ten work days per quarter will be scheduled. An additional two work days will be devoted to monitor training, market research, demographic analysis and biomedical investigations. In sum, a minimum of 33 work days each quarter are considered at this stage necessary to monitor the project adequately.

Each quarter contains approximately 60 work days. USAID's Family Planning Development Officer will personally devote approximately one third of his or her time, or 20 days a quarter, to this project. In addition, USAID is seeking to recruit a communications specialist who will spend roughly one third of his or her time on this project. An Indian national professional may also be assigned part-time to the project, if necessary. Therefore, staff already in place or approved will be sufficient to monitor the project adequately. USAID may also engage marketing consultants as required for project implementation and monitoring.

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V. Project Analyses

A. Policy and Strategy

1. GOI

The project has been designed to converge with current GOI population policy, which aims to supplement sterilization with temporary contraception, primarily among young couples. This is fully in accord with AID priorities. GOI also wishes to involve more fully the private sector in its FP program. This, too, is consistent with AID policy.

2. AID Population Assistance Policy and the Four Central Strategy Themes

AID's population assistance strategy emphasizes helping to achieve population growth rates consistent with the host country's perceived resources, and the right of all couples to have access to voluntary services for planning their families according to their own informed choices. AID also explicitly recognizes the considerable health and family welfare advantages to parents and children of birth spacing. GOI has for many years been in full accord with these objectives.

The project is consistent with the main themes of overall A.I.D. strategy worldwide. The project emphasizes a shift toward greater private sector involvement and responsibility. Policy dialogues have been prominent throughout project negotiations concerning such issues as price and advertising controls, taxes and the limits to marketing under severe socio-economic constraints. The use of private sector skills and technology in advertising and promotion, manufacture and other areas is now the major appeal of this project for the GOI. Technology transfer in demography for improved planning and in contraceptive research are also prominent features of the project and are uniquely areas for Indo-U.S. collaboration. The project addresses institutional modification at the program level; it does not directly address community-level institution building except in the element concerning IEC retraining of local level community workers.

Project negotiations have focused the attention of the GOI on its policies and regulatory constraints to commercial manufacture and the business environment. Key regulations affecting oral contraceptives have been changed during the period of project negotiation (consumer advertising is now permitted and price controls have been lifted). USAID will continue its policy dialogues with the GOI on issues including taxes, levies and duties on raw materials, imported products, profits, machinery and licensing procedures.

USAID has been successful to date and will continue to represent reasonable general interests favoring a freer, more efficient business environment. The GOI has responded very affirmatively to date to nearly all such recommendations.

3. Relationship of Project to USAID's Family Planning Strategy

The strategy for fertility reduction formulated by the Mission in early 1980 for the FY 82 CDSS, since refined and sharpened, contains four basic objectives:

- delay first pregnancy;
- lengthen intervals between births;
- encourage desire for small families;
- reduce child mortality (and thus the need to produce more children to compensate for anticipated losses) and support policy dialogues on other factors that influence fertility norms (e.g., universal primary education).

India already has in place an impressive program to encourage sterilization. Fertility has declined in all age groups, but the decline among younger couples has been slowest (Table 2). This under 30 age group most affects future population growth. Hence, the project focuses on the methods most appropriate for young couples, i.e., temporary ones. This directly addresses the first three elements of AID's fertility reduction strategy, without committing young couples irrevocably to childlessness through the use of permanent methods.

Fewer children mean more attention, food and other tangible and intangible benefits for each, and thus better health and longer life. The project contributes to the fourth element through demographic studies to support dialogues on the determinants of fertility.

4. Coordination with Other Aid-Supported Projects and Activities and with Those of Other Donors

a. Centrally Funded Activities:

GOI and USAID have, over the past three years, explored a wide range of family planning problems. Joint activities, studies, and collaboration have taken place on (1) strengthening and expanding rural public sector infrastructure in remote and "backward" districts; (2) production of various contraceptives; and (3) large-scale qualitative market research on physicians and chemists, marketing potential for contraceptives and advertising and mass media plans. Collaboration has also focused on (1) improving paramedical

training, including micro-computer applications for field and headquarters and clinical skills and equipment maintenance; (2) developing capacity for demographic analysis and for population and development studies and biomedical research for new and/or improved methods; and (3) strengthening PVO outreach services. Studies were undertaken to identify mutual priorities. This project reflects the outcome of that process.

b. AID Funded Bilateral Projects

USAID's population assistance to India began in late 1967 and involved expenditures of nearly \$20 million plus Rs. 165 million before ending in 1973. It financed the import of equipment for local production of contraceptives (orals and condoms); marketing of condoms; and distribution of OC's through 150-200 centers with medical and paramedical staff. It strengthened five central training institutes and about 60 state and local ones and improved demographic training and research at GOI population centers. A.I.D. financed expansion of mass education and communications programs through radio, films and mailing and intensive FP services in about 50 of the most populous districts in the country. U.S. assistance also supported biomedical research at ICMR and a Maternal and Child Health program in which traditional birth attendants (dais) received training at public health centers.

No assistance in family planning was provided between 1973 and 1980. In 1980, a new five year project was begun, to provide \$40 million to strengthen and expand integrated health and family planning services in rural areas, of which \$13.8 million was FP assistance in five states.

At about the same time, USAID provided about \$18 million worth of U.S. owned rupees to finance rural activities of private institutes and organizations in health, nutrition and family planning. Of this total, perhaps one-quarter will go for FP support.

This project will add \$48 million in population assistance, bringing the total AID bilateral population and family planning dollar assistance to India to \$57.8 million, as per current plans for 1980 through 1989. To this may be added an estimated Rs.45 million (equivalent to almost \$4.5 million), and an estimated \$0.7 million per year or more in AID centrally-funded assistance, i.e., perhaps \$7.0 million for 1980 through 1989. The total will thus be \$69.3 million over the decade.

5. Family Planning Assistance from Other Donors

India's population problem and the country's various efforts to encourage family planning have attracted considerable attention and financial support from other aid donors. A review of their activities is attached as annex F.4. In summary, they include the following:

<u>Source</u>	<u>Beginning Year</u>	<u>Total to date</u> (\$ Million)
1. United Nations Fund for Population activities	1974	\$124.86/
2. World Bank	1973	\$71.0
3. United Kingdom	1977	\$25.5
4. Norway	1973	\$35.5
5. Denmark	1973	\$32.6
6. Sweden	1973	\$12.4

B. Targets and Market Sizes for Reversible Contraceptives

USAID estimates that, to attain a prevalence rate of 60% for reversible methods by 1996, at least 102 million couples must be effectively practicing one or another method. Table 10 provides projections of the users required to reach this target. These figures are based on Planning Commission projections from the preliminary 1981 Census figures (see Table 1), Sixth Plan targets for 1984/85, recent MOHFW reports and survey data, and judgments about growth potential.

Increases should occur roughly as follows during each five year interval: 11%, 13%, 11% (column 6). The curve is due to initial slow demand generation, subsequently increasing, followed by the more difficult extension to remote populations.

6/ An additional \$30 million may be made available under the existing agreement.

Table 10

Projected Number of Couples Protected by Major Contraceptive Methods
(millions)

<u>Year</u>	Number of couples in reproductive age group (1)	Sterilization (2)	IUD (3)	Condom OC, Other (4)	Method Total (5)	% Total (6)
1980/1981	117	24.0	1.5	4.5	30.0	25.6
1985/1986	140	36.0	3.2	12.0	51.2	36.6
1990/1991	156	45.0	11.0	21.0	77.0	49.0
1995/1996	170	58.0	19.0	25.0	102.0	60.0

Column 1 from Table 2 ; column (2) thru (6) are adapted from Sixth Plan.

1980/81 data are taken from GOI MOHFW Yearbook, Table E 1;

1985/86 figures are adjusted Sixth Plan Targets; Column (2) thru (4) entries for 90/91 and 95/96 are best guesses, based on assumptions regarding overall requirements, constraints and growth potentials by method.

In GOI Fiscal Year 1980/81 (i.e., April 1 thru March 30) about 24 million couples were protected by sterilization, i.e. 20% of fertile age couples. Voluntary sterilization (VS) will likely remain by far the major contraceptive method in India for various reasons. Experience elsewhere and in India, however, suggests that it will level off at no more than 35% of couples, even assuming continued improvements and no unforeseen backlash^{7/}. A few large states are already approaching this level among older couples. India's success in VS and GOI's experience and commitment make AID support in this area of low priority.

^{7/} In fact, international experience suggests that very few societies exceed 20%, even when high quality services are available over a long time period and the socio-economic environment is favorable, e.g., Singapore, 21%; Panama, 21%; Hong Kong, 19%; United States, 30% (Ref. Population Reference Bureau, Visaria, 1981). Table 10 represents conservative estimates of the CPR required for temporary methods.

Assuming 35% eventually opt for VS, 1996 targets require that 25% rely on temporary, and "natural" methods. The IUD is again becoming popular and should show the greatest growth over the next decade. Based on Sixth Plan targets for 1984/85, experience in other countries and recent trends in India, use rates by 1990/91 should reach over 10 million. The condom is widely known and with improved products and promotion its use will certainly increase. The use of oral contraceptives, uniquely suited to young married couples, will also grow mainly at first in urban areas and later in rural, although it is not expected to exceed 6% of MCRAs in 1991.

GOI does not yet consider "natural" and traditional methods "effective" protection. Table 10, however, includes under "Other" a significant and growing contribution by these which could be important in India. Abortion and medical termination of pregnancy (MTP) also affect fertility rates and will influence the totals in column (4). This project, however, does not support MTP or contribute to VS.

Table 10 projects that overall prevalence of "effective protection" will reach 49% of MCRA by 1990/91, one year after the project ends. It assumes that VS levels will have reached about 29% (from about 21% in 82/83); that the IUD will attain a prevalence of 7% and that the combined category of non-clinical methods (condoms, OC's, other barrier methods, "natural" methods and pregnancy termination) will exceed 13%. These figures are based on extensive interviews and offer a plausible basis for planning.

Although older couples are not excluded, the major family planning challenge in the next decade in India is young couples. There were approximately 91 million females aged 15-29 in 1980/81 (over 62% of all 15-44 age women). As shown in Table 2, their proportion is rising, the number is expected to reach 103 million by 1985/86, and almost 115 million by 1989/90, the last year of the project. About 82% i.e., about 95 million, of these will be married and fertile by 1989/90. Assuming that some proportion, say 7%, become early VS acceptors, the total market for reversible methods will approximate 88 million young non-users in 1989/90. If the proposed GOI program were able to motivate and serve 35% of these by 1989/90, this would be 31 million -- the target for this project during its last year.

Market segmentation for contraceptive sales involves differentiation by income levels. International experience suggests that roughly 1.0% of income tends to be spent on contraceptives. Current commercial strategies assume a minimum income of Rs. 500 per month to purchase contraceptives costing Rs. 3.00 to Rs. 4.00 per month (at current retail prices of commercial condoms). Using the

1981/82 retail price of Rs. 2.50 for 5 condoms (an estimated 6-9 per month are required), about 40% of urban households and almost 30% of rural households constitute the target market for full-cost commercial condoms by 1989/90. This market covers 27 million of the 88 million households. The same considerations apply to the largest commercial OC brands, which now sell for around Rs. 4.00 per cycle; i.e., the target markets are similar for condoms and OCs.

Household income distribution figures for 1971 suggest that as many as 30% of young couples i.e, about 26 million, could probably afford full-cost commercial purchases. Another 30% or more at the lowest income levels are not expected to be able or willing to pay anything for family planning. Most of these (who will number at least 25 million by 1990) live beyond the range of commercial marketing, are illiterate and mostly rural. Free distribution is virtually the only way of reaching them. This situation will continue into the foreseeable future.

The 40% or so of couples in the middle income levels, i.e. about 35 million, constitute the target market for subsidized commercial sales. They have low incomes, but sufficient to pay something. They are both urban and rural, and make up the crucial target of the proposed marketing strategy. Promotion to this group will strongly influence the other two. Probably all of these couples have ready access to retailers if they live in urban areas; two-thirds do if they are rural. The net target market for subsidized products is thus about 27 million couples.

The potential market for commercial sales (full-cost and subsidized) by 1990 should thus be 54 million young couples; to this total must be added a significant number of older couples (30-44 years) who will not opt for sterilization, probably about eight million by 1989/90. The total potential market, then, for retail outlet and private practitioner sales of reversible methods is estimated to be at least 62 million by 1989/90.

Reasonable targets of 1989/90 users by method and by source (assuming 153 million couples by then; see Table 10) are shown below in Table 11.

TABLE 11

Estimated Numbers of Users Reached (in millions)
in GOI FY 1981/82 and Project Projections for 89/90 by Major
Contraceptive Methods and by Type of Distribution System

<u>Method</u>	<u>Commercial</u>		<u>Subsidized</u>		<u>"Free"</u>		<u>Total</u>	
	<u>81/82</u>	<u>89/90</u>	<u>81/82</u>	<u>89/90</u>	<u>81/82</u>	<u>89/90</u>	<u>81/82</u>	<u>89/90</u>
Condom	0.8	2.5	2.3	5.0	2.0	2.5	4.9	10.0
OC	0.6	1.5	-	4.5	0.1	2.0	0.7	8.0
IUD	0.1	0.5	-	2.3	1.5	6.5	1.6	9.3
Others	0.1	0.5	-	1.0	0.1	0.2	0.2	1.7
"Natural"	-	-	-	-	0.2	2.0	0.2	2.0
TOTALS	1.6	5.0	2.3	12.8	3.9	13.2	7.6	31.0

Note: By GOI definitions, "natural" and traditional methods are not included in calculations of number of couples protected.

C. Production of Contraceptives

1. Condoms

Condoms are currently produced by two companies, London Rubber Company (India) Ltd. (LRC), and Hindustan Latex Ltd. (HLL). The former is in the private sector Indian group, TTK. It started local manufacture under a licensing agreement with London Rubber Company, London, in 1964-65. Hindustan Latex Ltd. is a public sector company established in 1965.

LRC has installed capacity of 225 million pieces per year of which approximately 70 percent is used for NIRODH, 20 percent for its own domestic brands, and 10 percent for export. HLL has installed capacity of 288 million pieces per year, almost totally used for NIRODH, although it introduced a new commercial brand in 1982.

In addition, LRC has set up a joint enterprise in Aurangabad with the state of Maharashtra with an annual capacity of 200 million pieces. Production has begun. The state of Rajasthan is sponsoring a similar joint venture for a plant with projected capacity of 150 million, expected to be on-line by 1985 if demand warrants. Andhra Pradesh and Orissa have also requested GOI approval to set up joint ventures as have private manufacturers in Bangalore and Bombay. These are summarized below:

TABLE 12

CONDOM PRODUCTION CAPACITIES IN INDIA

<u>Name of Factory</u>	<u>Sector</u>	<u>Production Capacity (Million Pieces yr.)</u>	<u>Remarks</u>
1. Hindustan Latex Trivandrum	Public	288	Works to full capacity
2. London Rubber, Madras	Private	255	-do -
3. Lorcom/Sicome Aurangabad	Joint	200	Full production began in Feb. 1983
4. Name not given yet, Rajasthan	Aided Unit of State Government	150	Expected to go into Production by 1985

In addition to the above, USAID understands that Letters of Intent were issued during 1981-82 by the Ministry of Industry to -

- | | | | |
|--|---------|-----------|-----------------------------|
| 5. Andhra Pradesh
Industrial Development Corp. Ltd. | Joint | 225 | Production possible by 1985 |
| 6. Shri R. Neelakanta Rao Jagdale & Sons
36 Sampanki Tank Road
Bangalore 560 027 | Private | Not known | |
| 7. Shri Proboth C.S. Palit
Palit, Puri & Sagvari
Private Limited
Bombay | -do - | do - | |

TABLE 13

CONDOM PRODUCTION BY YEAR AND SECTOR
(in million pieces)

<u>Year</u>	<u>NIRODH</u> <u>Free Issues &</u> <u>Commercial</u> <u>Distribution</u>	<u>Trade Sales of</u> <u>Branded Condoms</u> <u>In India</u>	<u>Exports</u>	<u>Total</u>
(1)	(2)	(3)	(4)	(5)
1977-78	227.80	18.20	30.00	276.00
1978-79	242.73	31.20	32.50	306.43
1979-80	211.89	25.80	55.00	292.69
1980-81	262.73	50.10	52.20	365.03
1981-82	320.00	55.60	53.00	428.60
1982-83	434.00	73.00(Est.)	Not avail.	Not Avail.
1983-84	550.00(Procurement Plan)	92.00(Est.)	Not Avail.	Not Avail.
1984-85	650.00(projection)	Not Avail.	Not Avail.	Not Avail.

The Family Welfare Department has estimated a requirement of 500 million Nirodh Commercial (i.e., subsidized) and 150 million Nirodh Free in 1984-85, against an installed capacity by then of 863

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million, leaving more than 200 million a year for full-cost commercial sales or exports. The LRC and Maharashtra Plants produce condoms of highest international quality; efforts may be made to increase standards for HLL.

LRC began fully automated production in 1968, and produces to a 0.5 standard Acceptable Quality Level (AQL) equal to Swedish standards and higher than British or U.S. It is three times as stringent as the 1.5 AQL currently required under Indian law (which has been progressively relaxed over the last few years from 0.5 AQL). The Indian standard is, however, prescribed under the Drugs Act, and failure to meet it could theoretically result in criminal prosecution and severe penalties. Latex, the main raw material, must be bought indigenously at costs approximately double international prices. Silicon, used as a lubricant, is imported and carries 210% duty. Other materials required were not investigated, although it is known that the prices of indigenous paper and board, for instance, are above international levels.

It appears certain that India's production capacity for condoms can more than meet targets. However, imports are possible if required to compensate for unforeseen problems (e.g. labor strikes). In 1982-83 the GOI obtained 43 million condoms from South Korea under its UNFPA Country Agreement. Indications are that international sources will continue to be available if needed.

2. Oral Contraceptives

Manufacturing capacity for oral contraceptives is already available in India to meet the requirements anticipated during the seven year life of the project. Privately-owned firms are ready and willing to increase production if additional output can be marketed or sold to GOI at a reasonable profit.

There are four principal constraints to the use of OCs:

1. There are well over the 200,000 Registered Medical Practitioners (RMPs) in India, few of whom are oriented towards providing Family Planning advice or services and virtually all of whom are reluctant to encourage the use of OC's. This is the result of their perceptions of adverse effects of the OC, as well as the lukewarm official endorsement which OCs have received by the GOI over the years.

2. The purchase of oral contraceptives has until now required a medical prescription. This has meant that large sections of the population have been excluded from the potential market. The GOI is fully prepared to change this requirement.

3. The advertising of OC's has been limited to medical publications. Thus while the general public could learn of the potential dangers of the pill through stories in the press, those stories could not be countered by product advertising nor by professional publicity. The GOI has now relaxed this constraint.

4. Since OCs have been treated as ethical pharmaceuticals, they have been available only in urban areas where pharmacies are found. Further, the OC manufacturers in India are relatively small, sophisticated specialty firms with small detailmen cadres all of whom essentially make calls on the same 25,000 or so metropolitan physicians. OCs have not really been available to a large part of the population.

As a result of these limitations, the demand for - and the production of -- oral contraceptives has been low and stagnant. Only about 600,000 couples currently use them. Of this total, about 500,000 buy their pills commercially from pharmacies supplied by one or another of the local manufacturers. The balance is supplied without cost through GOI hospitals and clinics. Six private firms and one public firm have production capacity.

Indian Drugs and Pharmaceutiucals, Ltd. (IDPL), is a public sector firm, and the largest pharmaceutical company in the developing world. Its plant in Haryana produces a GOI - specific formulation for the GOI program. IDPL is presently producing OCs at installed capacity, requiring two shifts, at the annual level of about 12 million cycles.

Ciba-Geigy of India, Ltd., has underutilized capacity and could add an additional shift; German Remedies, Ltd. could easily expand its capacity by installing additional equipment and moving to two shifts; Searle (India Ltd.) has underutilized capacity and could also utilize recently constructed facilities if demand warrants; Wyeth (India) Ltd., which currently supplies about half of market requirements, has underutilized capacity and could add a second shift. Additional production facilities are maintained by Organon and Parke Davis, each of which has a share of the current market.

USAID has been in direct touch with these manufacturers and has arranged consultant visits to several of the production facilities. A substantial expansion in production is reportedly possible with minimum investment. The companies themselves would welcome an opportunity to increase the production on their installed capacity if such action would be profitable. The potential supply of oral contraceptives in the quantities needed and at the required quality levels to meet project targets is considered to be far more than adequate to meet even the most optimistic demand levels over the next decade.

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3. The I.U.D.

The Lippes Loop was produced in India for a few years in the late nineteen sixties. Production faltered after responsibility for the small manufacturing facility was shifted from the original management, which occurred near the time when adverse publicity caused the medical profession to hold back its support for the IUD. Production ended in 1971. Subsequently an effort was made to convert the manufacturing facility to the production of CU-T200's ("copper Ts"), and although some supplies were imported for assembly, the production line has not been in sustained operation since. The plant, equipment and technicians assembled to produce the Lippes Loop now require substantial effort before production can resume^{8/}.

There is at present virtually no production of IUD's in India. Pending the development of a new manufacturing facility IUD's will continue to be imported, purchased by the GOI as provided under its agreement with UNFPA and other sources. Demand for IUDs (specially for the CU-T200) appears to be rising steadily. Outside sources (in the U.S., Finland and Mexico) can likely meet the demand until an indigenous production facility can be brought on stream, which the GOI believes should not take more than one year. The GOI is prepared to sanction private or public sector production and to place regular orders at levels sufficiently high to sustain a small staff and labor force. Several leads are now being pursued to enable indigenous manufacture. Private sector marketing and subsidized sales will likely be undertaken under arrangements with a large pharmaceutical distributor. GOI has recently licensed the manufacture of an Indian developed IUD (Soonawalla device) and arrangements are underway in Bombay for its production in 1983 or 1984. USAID does not consider IUD commodity availability to be a constraint to project implementation, although special efforts will be required to ensure uninterrupted supply.

D. Financial Analysis

1. Project Costs

The total cost of the project is \$514.06 million. The cost of project elements and magnitude of indigenous and donor contributions are summarized in Section II, Cost Estimate and Financial Plan, Part B. Details of costs of each project element are summarized in the tables in Annex F.5. The indigenous contribution is \$441.18 million. The GOI's share is \$357.24 million, representing two-thirds of total project costs.

^{8/} Contraceptive Manufacturing in India, a report prepared by John L. Lach and Paul H. Bronnenkant, October, 1982.

2. Incremental Costs Over Current Patterns

Based upon past performance of India's family planning program, the GOI would have to spend \$259.48 million during the seven-year period 1984-1990 if the changes proposed in this project are not made. The project calls for increased promotional expenditures to generate increased demand for contraceptives. If successful, the project will result in the GOI having to spend \$357.24 million in this period, an increase of 38 percent or \$97.76 million. A substantial portion of this increase is for commodities and promotion and advertising, as follows:

TABLE 14

PROJECTED GOI EXPENDITURES DURING PROJECT
LIFE WITH AND WITHOUT PROJECT
(\$ Millions)

<u>Project Costs</u>	<u>Without Project</u>	<u>With Project</u>	<u>Increase</u>
Commodities	155.31	224.64	69.33
Promotion & Advertising	101.69	121.70	20.01
Others	<u>2.48</u>	<u>10.90</u>	<u>8.42</u>
T O T A L	259.48	357.24	97.76

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The GOI's incremental costs in each project year are as follows:

TABLE 15

PROJECTED GOI EXPENDITURES BY YEAR
WITH AND WITHOUT PROJECT
(\$ Millions)

<u>Project Year</u>	<u>Without Project</u>	<u>With Project</u>	<u>Net Increase</u>	<u>Percentage Increase</u>
1984	19.90	23.71	3.81	19
1985	24.20	31.28	7.08	29
1986	29.17	39.87	10.70	37
1987	34.37	47.82	13.45	39
1988	41.72	58.47	16.75	40
1989	50.96	71.55	20.59	40
1990	<u>59.16</u>	<u>84.54</u>	<u>25.38</u>	<u>43</u>
TOTAL	259.48	357.24	97.76	38

The projected increases required in GOI expenditures range from \$3.81 million in 1984 to \$25.38 million in 1990. The percentage increase in annual requirements ranges from 19 percent in 1984 to 43 percent in 1990.

3. Ability of GOI to Cover Incremental Costs

The GOI budgeted \$245 million for its Family Welfare (planning) program in GOI fiscal year 1982-83. The budget provision in 1983-84 is \$330 million, an increase of 34.7 percent. The budget provision has increased substantially each year for the last 15 years, and the GOI has invariably provided virtually the full amount requested. The budget document for 1983-84 states that the Family Welfare Program continues to be accorded high priority and the Government's aim is to bring the birth rate down to 21 per thousand and death rate to 9 per thousand respectively by 2000 A.D. Such published statements, private statements of high-level counterparts and past funding patterns all indicate that GOI commitment to the program is and will remain high and that funding is not expected to be a problem. A covenant will assure that sufficient resources will be made available as needed.

The increases projected to be necessary as a result of this project are likewise not expected to represent an undue financial burden on the Government. Increase of \$3.81 million equivalent

projected for 1984 represents only one percent of development plan outlays for family planning for 1983-84. The order of magnitude of the increase will be equally small for the ensuing project years.

Moreover, if such added expenditures do turn out to be necessary as expected, it will mean that the project is being successful, demand is growing, contraceptive prevalence is increasing and population growth -- itself a major long term determinant of governmental spending requirements -- slackening. Success in accelerating growth in demand will likely lead to a further strengthening of Government efforts and dedication of more resources to the program.

The GOI funding requirements projected through the life of the project have been reviewed by and discussed with the GOI. They have been accepted as realistic and incorporated into plans for the remainder of the Sixth Five Year Plan period (1980-1985). The GOI has indicated that plan allocations for the Seventh Plan, 1985-1990, will also reflect project projections.

4. Recurrent Cost Financing

Project costs include administrative and operational costs totaling \$15 million for the establishment and operation of the CMO, the key organization to implement the project. AID will finance a declining share of the operational costs of the CMO during the project. See Table 7, Projection of Administrative Expenditures for CMO by Fiscal Year and Source of Funds.

AID's contribution to the recurring costs of the CMO is budgeted to total \$6.00 million. AID funds will cover roughly 74 percent of these costs the first project year, declining to 16 percent by the final project year.

5. Subsidization

In terms of the continuum from "private" to "public" goods, contraceptives appear to occupy an intermediate position. The benefits of contraceptive use can be viewed as "internalized" by the individual household unit leading to higher per capita consumption levels over time. On the other hand, the widespread use of contraceptives reduces the demand for social infrastructure by reducing congestion and overcrowding of existing public facilities. Thus the public interest is served by higher levels of contraceptive use with corresponding reduction in the negative "externalities" associated with rapid population growth, such as urban congestion, pollution etc. In order to stimulate greater consumption of contraceptives, the price can be lowered for the consumer through a

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subsidy. The size of the subsidy element need not be very large to induce greater consumption and use. The effectiveness of the subsidy is determined by the elasticity of demand for a given contraceptive product. Ideally, the subsidy element should be adjusted to the income level of the target group and gradually reduced as real income levels increase with development. Such a policy would raise the effective demand from marginal income groups and automatically be phased out as the need diminishes. A.I.D.^{9/} recognizes the need for partial subsidy of family planning programs and supports GOI efforts to "popularize" birth control methods through economic incentives. The project does vary the subsidy element in contraceptive pricing according to income group. Given the level and distribution of income in India forty percent of the population requires full subsidization while another forty percent requires partial subsidy support. The upper twenty percent of the population represents the "full cost" market.

Project costs include \$224.64 million for the procurement and distribution of contraceptives. This amount consists of \$90.32 million for free distribution and the balance, or \$134.32 million, for subsidized distribution (Table 4; Annex F.5.d.).

Free distribution is currently made by the GOI in rural areas through primary health centers and government hospitals and clinics. This program will be expanded and accelerated under the project.

The free program for reversible methods covered approximately 2.1 million couples in 1982, at a cost of roughly \$3.4 per couple.

Subsidized distribution is made primarily through commercial retail sales. As of April, 1983, retail prices were set at Rs.0.25 for a package of 3 condoms, or Rs.0.083 per piece. No subsidized sales program has yet been launched for OCs. These prices, which have not been raised in almost ten years, are substantially lower than full-cost, commercially marketed products (Rs. 0.35 to Rs. 1.25 for condoms and Rs. 4.00 to Rs. 6.00 per cycle for OCs. The subsidy payment is made at the point of ex-factory delivery. The GOI purchases condoms at competitive prices, approximately Rs.0.85 for three and sells them to distributors at Rs. 0.16 per three condoms, thereby subsidizing production costs to the extent of Rs.0.69 per three. Normal mark-ups covering transport, storage, marketing and profits are added to reach the government-set retail prices. These prices were set so as to provide a product selling at the lowest possible price, affordable by even lower income consumers.

^{9/}A.I.D. Policy Paper on Recurrent Costs, May, 1982, Page 7.

Experience in other developing countries has suggested that a good general rule of thumb is to establish contraceptive prices at a level roughly equal to one percent of the household income of the target group. Household income distribution data for urban and rural India have not been reliably established since 1976. (The Planning Commission recently provided unofficial estimates shown in Table 17). This pricing rule of thumb has been used successfully in many other AID-supported social marketing programs. Obviously, variations in individual income within the broad "middle income" category mean that some consumers are able to spend substantially less than one percent while others may have to spend more.

One of the early acts of the CMO is expected to be introduction of a new, higher priced condom to cater to the upper income ranges of the target group. As marketing strategies and promotional campaigns begin to influence target group consumers, rise in demand will permit gradual increases in retail price, possibly to the point where all costs are covered and thus no subsidy required. This is an important objective on which both USAID and the GOI agree. Both believe strongly, however, that raising demand and consumption is more important at this stage than eliminating the subsidy and raising prices. Demand and price elasticities will be watched closely by the CMO through its market research and prices will be raised whenever prudent without unduly dampening consumption.

TABLE 16

Comparison of Rural Household Incomes with Expenditures for Subsidized Contraceptives

Percentile	Actual 1970-71 Incomes ^{a/} Rs.	Adjusted to 1981-82 Rs.	Rs.48 Annual Expendi- ture for Contraceptives as Percent of Income
10	909	2090	2.29
20	1174	2700	1.77
30	1409	3240	1.48
40	1678	3859	1.24
50	2000	4600	1.04
60	2265	5209	0.92
70	2739	6300	0.76
80	3510	8073	0.59
90	4972	11,435	0.42
100	above 4972	above 11,435	

^{a/} Source: Changes in Rural Income in India 1968-69, 1969-70, 1970-71. National Council of Applied Economic Research, New Delhi, December, 1975.

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E. Economic Analysis

The project is economically viable based on an evaluation of project benefits and costs. Project benefits have been defined as the savings to society of a reduction in the rate of population growth. Accordingly, the value of a "birth averted" was calculated from a macro-economic growth model which measures the effects of reduced population growth rates on per capita income. The estimated value of a birth averted was then applied to the number of births averted due to the project. The latter is a technical estimate based on the effectiveness of the project in raising the demand and use of contraceptives among young couples. The project assumes that the voluntary spacing of births through reversible contraceptive techniques will ultimately result in fewer births and smaller family size. The benefit of fewer births or "births averted" is basically the difference between average private and public consumption expenditure and the marginal product of labor over the life cycle. Given high unemployment rates and the low productivity of labor, individual consumption requirements normally exceed the economic contribution of additional labor. Thus, there is a social savings associated with a birth averted which, when discounted over time, gives the present value of a birth averted. Since the benefits or net social savings comprise both private and public expenditure savings, the costs of doing the project can be similarly divided into private and public costs. These costs may be explicit in the project budget or implicit in the project design. In the latter case, shadow pricing and indirect estimation are required. The resulting cost stream was discounted by the same rate as the benefit stream to derive the present value of project costs. The discount rate used in the analysis was ten percent, considered to be reflective of the opportunity cost of capital. This rate is commonly used in public sector project evaluation both in India and the United States. The discounted benefit/cost ratio for this project using a 10 percent discount rate is 11.48. The methodology and results are outlined below with details of the macro-economic model presented in Annex F.8.

1. Methodology

The project will stimulate an increase in the effective demand for contraceptives particularly among younger couples through marketing and other promotional activities. These activities will undoubtedly enhance the effectiveness of the overall GOI family planning effort. Nevertheless, for purposes of project appraisal, the relevant comparison of benefits and costs are those which are directly attributable to this project independent of other projects or programs in the family planning sector. Accordingly, the approach taken in the economic analysis was to quantify the net benefits to society from a reduction in population growth achieved through the

project as well as the corresponding social costs. Social costs include public and private costs and in some cases shadow pricing was used to derive the economic value of resources utilized in the project. For example, the private costs incurred by contracepting couples equivalent to the unsubsidized portion of the price of marketed contraceptives has been included even though these costs are not explicitly shown in the project budget. Hence, costs estimated in this analysis may differ from those shown in the project budget or financial analysis.

2. Project Benefits

An important objective of the project is to support GOI efforts to reduce the rate of population growth to the point where the net reproductive rate (NRR) is equal to 1.0 before the end of the century. In achieving this target there will have to be an increase in the contraceptive prevalence rate (CPR) for temporary reversible methods. Specifically, the project will reinforce GOI family planning efforts to increase the current 6% rate to 20% of all fertile couples by 1990. The project itself is expected to contribute 11% of this planned 14% increase in the CPR. There are three major contraceptive methods promoted under the project i.e. condoms, oral contraceptives and intrauterine devices. Each method provides protection against pregnancy. However, the effectiveness of each method may vary somewhat depending on the technical characteristics and practical use of that method. Therefore, "couple year protection" by method was adjusted to derive the number of likely births averted by each method. An overall mix of methods was then assumed and programmed over project life giving the number of births averted by year. The total number of births averted by this project is estimated to be 6.1 million.

TABLE 17

Projected Births Averted and Contraceptive Acceptors by Method
(million)

YEAR	BIRTHS AVERTED	NUMBER OF CONTRACEPTING COUPLES	DISTRIBUTION OF ACCEPTORS BY METHOD		
			<u>CONDOM</u>	<u>O.C.</u>	<u>I.U.D.</u>
83/84	-	-	-	-	2.75
84/85	-	0.9	0.5	0.3	0.1
85/86	0.2	1.7	1.0	0.5	0.2
86/87	0.4	3.8	1.5	1.0	1.3
87/88	0.7	5.4	1.6	2.0	1.8
88/89	1.4	6.2	1.9	2.5	1.8
89/90	1.7	6.4	1.9	2.5	2.0
90/91	1.7	-	-	-	-
TOTAL	6.1	24.4	8.4	8.8	7.2

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A macro-economic model developed by Robert C. Repetto was used to estimate the value of a birth averted in India ^{10/}. This model estimates the benefits of a birth averted by comparing the per capita consumption stream with the likely income stream over a 50 year period. The per capita consumption stream includes private household expenditures derived from national income data and average government expenditures on public education, health and housing.

The marginal product of agricultural labor was used to estimate the likely income contribution of an additional worker. This was adjusted for labor force participation rates which are not expected to change drastically in the future. The marginal product of labor per year was estimated to be only Rs.375 in 1960/61 prices. The present value of a birth averted taken as the discounted difference of consumption and probable income streams is Rs.1,500 in constant prices. This estimate assumes that present levels of per capita consumption and marginal product remain unchanged. This appears to be unrealistic and the model was adjusted to allow a one percent growth in the key parameters ^{11/}. This assumption, which is consistent with past growth performance of the Indian economy, increases the present value of a birth averted to Rs.1,875 in 1960/61 prices. If we adjust for recent inflation by using the implicit consumption expenditure price deflator, we arrive at an Rs.7,477 estimate of the value of a birth averted in 1980/81 prices.

The number of births averted over project life multiplied by the estimated value of a birth averted yields the project benefit stream. This stream when discounted by 10 percent gives a present value benefit (PVB) equal to Rs.27,255 million.

3. Project Costs

The most important cost element of the project involves the manufacture and distribution of contraceptives. Since the policy of the GOI is to subsidize partially or wholly the price of contraceptive products according to income group ^{12/}, it was not appro-

^{10/} This model uses the same conceptual framework developed by Enke, Coale and Hoover. For specification of the model see Annex F.7.

^{11/} A constant growth rate (c) can be factored out and incorporated into the discount rate (r) on the form $[(1+c)/(1+r)]$.

^{12/} Clearly, the GOI does not wish "low income" to be an obstacle to the effective demand for contraceptives.

appropriate to use government prices as a measure of the value of commodity resources used in the project. Moreover, adjustment for the subsidized element in contraceptive prices was not possible since the pricing policy under this project has not yet been fully determined nor have retail distribution margins been clearly established. Therefore, to estimate the value of contraceptive products used to attain the project target of 6.1 million births averted, "full cost" market prices were applied to technical estimates of consumption of contraceptives. Thus the "indicated" physical quantities of contraceptives used in the project were valued at constant market prices, even though the price to the final consumer will vary according to the subsidy element.

A number of simplifying assumptions was made concerning the effects of increased demand on the supply of contraceptives. It was assumed that manufacturers were operating at less than full capacity somewhere in the "flat" portion of their average cost curves. As demand for contraceptives increases due to marketing and promotion efforts of the project, supply will be elastic at current average costs of production. Moreover, industry inputs such as latex would not be bid up through higher industry demand due to liberalization of imports (perhaps brought about through policy dialogue under the project). Thus the contraceptive industry is assumed to be a constant-cost industry with retail distribution according to customary margins.

Another assumption is that private user costs are negligible for condoms and pills since they can be readily obtained through normal commercial channels. However, the cost of I.U.D. insertions was adjusted to reflect for both the commodity and related services.

Finally, budget cost data were reformulated to estimate project costs related to marketing and promotion; research and analysis; and administrative costs associated with establishing the CMO (see Table 18).

The resulting cost stream was discounted by 10 percent to obtain the present value cost (PVC) of the project calculated at Rs.2,375 million.

4. Sensitivity Analysis

In order to test key assumptions of the project and their effect on the benefit cost ratio, two "pessimistic" scenarios were carried out. Scenario A assumes that the project will only be 50 percent successful in averting 6.1 million births. This outcome would reduce the benefit cost ratio to 5.74. If, in addition, costs exceeded those estimated by 25 percent, then Scenario B indicates a further drop in the benefit cost ratio to 4.59. The "base run" and alternative scenarios are shown in Table 19.

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TABLE 18
Public and Private Costs (Rs. Million)

YEAR	CONTRACEPTIVE COSTS IN CONSTANT MARKET PRICES				MARKETING AND PROMOTION	CMO ADMIN. EXPENSES	RESEARCH ANALYSIS	T O T A L
	CONDOM	O.C.	I.U.D.	TOTAL				
83/84	-	-	-	-	102.00	27.2	23.8	153.00
84/85	19.80	34.86	5.0	59.66	149.00	16.0	21.3	245.96
85/86	39.60	58.10	10.0	107.70	177.00	17.5	13.8	316.00
86/87	59.40	116.20	65.0	240.60	206.00	19.4	13.4	479.40
87/88	63.36	232.40	90.0	385.76	239.00	21.3	10.7	656.76
88/89	75.24	290.50	90.0	455.74	280.00	23.3	6.4	765.44
89/90	75.24	290.50	100.0	465.74	305.00	25.6	5.5	801.84
TOTAL				1,715.20	1,458.00	150.3	94.9	3,418.40

TABLE 19
Sensitivity Analysis

YEAR	Base Run		Scenario 'A'		Scenario 'B'	
	Benefit	Costs	Benefits/2	Costs	Benefits/2	Costs (1.25)
83/84	0	153.0	0	153.0	0	191.3
84/85	0	246.0	0	246.0	0	307.5
85/86	1,495.4	316.0	747.7	316.0	747.7	395.0
86/87	2,990.8	479.4	1,495.4	479.4	1,495.4	599.3
87/88	5,233.9	656.8	2,616.9	656.8	2,616.9	821.0
88/89	10,467.8	765.4	5,233.9	765.4	5,233.9	956.8
89/90	12,710.9	801.8	6,355.5	801.8	6,355.5	1,002.3
90/91	12,710.9	0	6,355.4	-	6,355.4	-

Present Discounted Value

27,255.0	2,374.5	13,627.4	2,374.5	13,627.4	2,968.2
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Benefit/Cost Ratio

11.48	5.74	4.59
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F. Social and Behavioral Analysis

Social and behavioral patterns prevailing in large areas of India will complicate even the most determined efforts to create a demand for contraceptives. The problem is illustrated by the situation in Uttar Pradesh (U.P.). This state has over 115 million people (1983), about 85% rural, with average annual household incomes of less than \$600, high mortality rates especially among infants and children, probably less than six percent female literacy in rural areas, and deeply rooted patrifocal and patrilocal kinship systems. Social norms emphasize early marriage (for females about 15 years), establishing earliest possible fertility within marriage, and an intense preference for male offspring. The value of children's labor is significant to agricultural families and there is little old-age security for the poor beyond that provided by sons. In order to have two sons survive through the parents' old age, at least five births are needed, given prevailing infant mortality. Until these conditions change, rural people will continue to have large families. It is a tough scenario for even the best family planning program, and especially so for one trying to reach young couples. Despite these discouraging constraints, demand for contraceptives is rising, and the population growth rate is coming down. The project will support and accelerate this trend.

The GOI recognizes that a large portion of India's population lives beyond the reach of the commercial marketing network. This has led the GOI to undertake heavy investments in rural infrastructure and IEC strategies described elsewhere in this paper. This project will reinforce such efforts.

Experience also indicates that family planning success is related to performance in allied social sectors, particularly health, primary education and old-age security. Thus, the project includes a component to strengthen demographic analysis and to monitor progress in related sectors.

The immediate beneficiaries of this project will be those younger couples who are motivated to use spacing methods. The nation as a whole will benefit as India moves toward the ultimate goal of an NRR of 1.0. Benefits which would not otherwise accrue include better maternal and child health, improved intra-familial income distribution, reduced requirements for social and educational services, and a generally improved capacity to satisfy personal needs.

Yet-to-be born and already born children, however, constitute the principal beneficiaries over the long term. An objective of this project, and a central objective of the GOI and of A.I.D. assistance, is to improve the quality of life for each individual in definable

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terms. An underlying tenet of this policy is that children born of parents who want and plan for them will enjoy a greater concentration of adult attention, more physical and other resources and better chances of survival. This project will also increase the average time between births. Ample evidence exists of direct health and survival benefits from improved child spacing.

Expansion in promotional and IEC activities will improve the public's access to information. IEC activities will be further decentralized and involve close participation by regional and state-level specialists in media and mass communications.

G. Administrative Analysis

1. Contraceptive Marketing Organization

The focal point of this project will be the Contraceptive Marketing Organization (CMO), established as a semiautonomous society administratively separate from the Government. The Project envisages the transfer of responsibilities to CMO for:

a. Procurement and Marketing of Contraceptives: Procurement for the subsidized and free programs, selling and selling arrangements, distribution of free and subsidized brands, advertising and promotion, and Information/Education/Communications (IEC) including design of extension training for opinion-formers, decision-makers and government and non-government paramedics;

b. Monitoring and Evaluation: Market research, and data flow systems from the field.

The CMO will be uniquely capable of carrying out these responsibilities. Factors contributing to this capability include:

- integration of management of procurement, distribution and marketing in one organization; heretofore these functions have been handled separately by different ministries of the Government;
- independence from many key restrictions and procedures which have constrained the MOHFW, such as the requirement of governmental bodies to use the Director-General of Supply and Disposal for all procurement, and the requirement to use the Ministry of Information and Broadcasting for advertising arrangements;

- ability to offer competitive levels of compensation that will attract proven talent from the private sector in the fields of management, marketing, advertising, etc.;
- authority derived from its governing board chairman, an individual expected to be prominent in Indian society and experienced in planning and launching major programs;
- influence over both government and the private sector through membership on its board of high level individuals from both sectors.

These features, together with the high priority placed by the Government of India upon its family planning programs, will equip the CMO with organizational strengths, authority and the capability to control resources that are rarely found together in a single organization and which will greatly increase its ability to achieve its objectives.

2. GOI and Other Agencies

Two major areas of responsibility for temporary contraceptive methods will remain within the MOHFW:

- a. Procurement of imported supplies (as necessary);
- b. Liaison within the MOHFW in the areas of evaluation, education, use of the media, reporting and finances; liaison with other key ministries, particularly Finance, Commerce, Information and Broadcasting, Industries, Chemicals & Fertilizers and the Planning Commission; liaison between CMO and USAID.

These responsibilities will be discharged by a senior official directly responsible to the Commissioner for Family Welfare. A unit specializing in management and communications will be created at the level of Joint Secretary or Director with adequate staff knowledgeable about logistics, advertising, marketing, market research and communications. The purpose of this unit is to provide a channel through which the CMO can draw resources and support from GOI, and to act as an intermediary in resolving issues that may arise with contractors, manufacturers, import agencies, other GOI officials at the center and in the states, and USAID.

The Inter-agency Communications Task Force will be reconstituted to stimulate public sector communications on family planning. This group is expected to be chaired by a high official of

MOHFW, and members will include communications officials of various States, the Central Training Institutes, and the Ministry of Information and Broadcasting. It will formulate strategies for the IEC component of the project and will provide policy guidance to the National Institute of Health and Family Welfare in its capacity as the "apex" responsible for implementing IEC activities. The Director of NIHFV is expected to sit both on the governing board of the CMO and on the task force.

VI. Conditions and Covenants

A. Conditions Precedent

1. For the Contraceptive Marketing Organization and its programs:

- a. registration of the Society with the Government of India;
- b. selection and appointment of its governing board, including CMO Executive Director and Product Managers;
- c. provision of funds for administrative and operating expenses for the first year deposited in its account by the Government of India;
- d. provision of funds for procurement of contraceptives for social marketing and free distribution programs for all procurement to be undertaken during the first year of operation;

2. For advertising and market research: approval by the governing board of an advertising and market research plan, including detailed work plan for first year operations;

3. For information, education and communications:

- a. establishment of a communications task force involving center and state organizations concerned with communications activities in the field of family planning;
- b. designation of a lead or apex institute or agency for planning and implementing communications training activities in the field of family planning;
- c. completion of a training plan including recommended course topics, approximate numbers and types of people to be trained and a schedule of when and where such training should occur.

B. Covenants

1. Sufficient and timely funding provided by the Government of India, as and when required, to enable orderly and regular procurement planning by the CMO for the free and subsidized family planning programs;

2. CMO permitted to operate as freely as possible within the limits of ethics, law and good business practice in designing and implementing a contraceptive marketing program; for example, advertising and publicity campaigns undertaken without prior clearance;

VII. Evaluation Arrangements

As is the case with any competent marketing organization, evaluation will be an integral part of the on-going responsibilities of the CMO and a major operational concern. Continuous market research will be undertaken in order to assess the effectiveness of the marketing plan and of specific advertising campaigns. Baseline sales figures will be established for each product line, and progress against these starting points will be continuously monitored both nationally and region - specifically. Marketing programs found to be less effective will be revised or dropped in favor of others demonstrating more impact upon the market. Indicators watched will include sales figures for both full-cost and socially marketed products -- an indicator of contraceptive prevalence -- the relationships between specific products and their advertising and promotional campaigns and the relationship between sales and price variations.

Market research will be directed mainly at purpose level project objectives. The demographic analysis component will monitor goal level objectives: movement in NRR, CBR and age-specific fertility rates. This will serve to guide the planning of market plans during and after the project, and it will also address A.I.D.'s interests in goal level indicators.

Project outputs will be reviewed regularly throughout the project by joint GOI, A.I.D. and UNFPA project evaluations scheduled for the fourth quarter of CY 1984, first quarter of 1986, fourth quarter of 1987 and the second quarter of 1989. This schedule may vary to accommodate changes in the implementation schedule.

In addition, major evaluations will be undertaken in the third year and after the project's conclusion to assess its success in approaching the stated fertility goals and in utilizing private sector resources for this important social effort.

PID Issues

The issues quoted and answered below are from 81 STATE 189888, the telegram sent after the APAC approved the PID for the Social Marketing/Communications Project on July 9, 1981, and from a memorandum dated July 21, 1981 from Mr. Tim Seims to Gary Merritt. This memorandum is assumed to be the "further advice" alluded to in Item 9 below.

A. Issues from the APAC PID approval cable are as follows:

1. The PP should indicate how the increased demand for locally produced contraceptives to be generated during the life of the project will be met by the manufacturers. This would appear to be particularly a problem with condoms. Assume no pharmaceuticals are to be locally produced under this project.

Detailed studies have been undertaken of local production capacities for condoms, orals and IUDs. See particularly Section V.C., Summary of Analysis on Production of Contraceptives, and the full analysis in Annex E. Briefly, ample production capacity exists in India now to accommodate the most optimistic projections of demand increases. Oral contraceptives are presently produced within India by six private sector (multinational) firms and one public sector firm. Indigenous private firms have the capacity to produce orals, although their facilities are being used for other pharmaceutical products. No project assistance will be directed toward production of any contraceptive products, but the Government of India will continue to procure locally manufactured contraceptives for use in its social marketing and free distribution programs which the project is supporting in other ways.

2. Price Structure: The distribution system appears to need adjustment so that the returns to distribution and sales in the private sector encourage sales promotion, perhaps including broader government subsidies.

The project specifically addresses this concern as a central element. The new Contraceptive Marketing Organization will be the central point of management for procurement, distribution and promo-

tion of contraceptives through commercial channels and through the government's system of health centers and clinics. The CMO will procure all necessary contraceptives on behalf of the Government at competitive prices; for the social marketing component, the CMO will sell contraceptives ex-factory to commercial distributors below cost, at a price low enough to provide adequate margins to the distributors. One method being considered for establishing these ex-factory prices involves potential distributors submitting competitive offers to the CMO. These offers would contain the price they are willing to pay per unit in return for being granted the concession for distributing contraceptives in a given area. This would permit distributors to compete for the business, proposing prices which would provide them adequate margins for operating and for maximizing their profits, within the limits imposed by competition.

The project does not seek to increase government subsidies. Instead, it is planned to reduce costs at the point of manufacture and at various points along the distribution chain by selectively reducing or eliminating government levies and other restrictions which affect firms functioning in the family planning arena. We believe this is a sounder approach to profitability than direct subsidization.

3. Market Penetration: (The PP should indicate) plans for increasing sales in rural areas.

One of the first tasks of the CMO will be preparation of detailed marketing plans targeted primarily to rural areas. A preliminary plan was prepared as part of the project development process and is available for review. The plan was prepared primarily to reach reasonable estimates of advertising costs for purposes of project budgeting. Although the CMO is expected to prepare and implement its own plan, the preliminary document will be provided for background use. Based on successes already achieved by Indian marketing organizations in penetrating rural areas with a wide variety of consumer products, we believe the prospects can be equally good for contraceptives.

4. Information, Education and Communication: The APAC supports a heavy investment in the preparation and distribution of family planning information booklets that explain all available family planning methods and could provide the basis for "informed consent" where the alternative of sterilization is chosen. Movement of the GOI in the direction of promoting

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reversible methods of contraception is applauded. It is expected that before the booklets and other materials are prepared, research will have been completed which provides some indications of why people, differentiated among groups and areas, resist family planning generally or particular methods when they are aware of their availability and purpose. The PP should make use of all IEC lessons learned in the current IRHP Project as well as utilize information from Operations Research Group and other IEC studies.

The IEC component of the project, as expected, does support intensive and wide distribution of information materials explaining all temporary family planning methods. This material provides the basis for consideration of alternatives to sterilization. Materials will be prepared both for nationwide distribution and for targeting to specific areas, cultural and ethnic groups and income levels. The targeted materials will be directed to variations among groups in receptivity to family planning. The project was developed with the benefit of continuous consultation with the IRHP project officer who is a member of the Mission Project Committee; studies prepared by ORG and other firms and institutions were used extensively. See Bibliography, Annex H.

5. Research: Research should support project's other two components, while being technologically innovative and not duplicative where advances already made elsewhere.

Research plans developed for this project were carefully prepared with the assistance of some of the foremost authorities in the field of reproductive immunology. Research activities will draw on advances made elsewhere whenever appropriate and will adapt such advances to the conditions in India.

6. Project Budget: The PP should address the staffing impact of the project on GOI central ministries, e.g. if significant proportion of project funds were to be used on salaries of additional staff, this should be justified in detail as balanced against funding for other organizational improvements.

The project involves some divestiture of responsibility for social marketing and free distribution of reversible contraceptives from the central Ministry of Health and Family Planning. This responsibility, including the function of procurement, will be taken on by a semiautonomous organization formed under the Societies Act of 1860 and operating largely outside of government regulations and constraints. Staffing of central ministries will accordingly decline slightly. See Section III.C. Operating costs including salaries for the CMO are estimated to total the equivalent of \$15 million over the project life. AID funds are budgeted to cover approximately \$6.0 million of this total, to be provided as a declining share of annual costs over the project.

7. PP Preparation: A long lead time will be necessary for the recruitment of U.S. experts for the design team. It would also appear to be especially valuable to make use of the services of Indian experts on marketing and operations research to work jointly with U.S. team members complementing their skills.

Extensive use was made of Indian marketing and operations research talent during preparation of this project

8. Mission Implementation: The PP should spell out in detail the means by which the Mission, with its limited technical staff in this field, will be able to implement and monitor existing and proposed projects at the national, regional and state levels. It is also hoped that some concentration of new project activities will occur in the five states which constitute the project area of the current IRMF Project.

Mission implementation and monitoring responsibilities and capabilities have been thought through carefully. See Sections III and IV and Section VIII, Annex F.4. Briefly, USAID's Family Planning Development Officer will spend roughly one third of his or her time on this project. In addition, a communications specialist is being recruited for the Mission who will likewise spend one third of his or her time on the project. Also, an FSN professional is being recruited for the project, and the Mission may contract with marketing consultants to assist in monitoring and/or evaluation.

9. Further Advice: S&T/POP/FPSD will transmit more advice on issues for PP preparation concerning social marketing in a letter to Dr. LeSar, including comments on (a) logistical and financial implications of the field force required for marketing of oral contraceptives, (b) use of marketing expertise, and (c) improving the management capacity of NIRODH Program.

B. The following points are excerpted from Seims to Merritt memorandum dated July 21, 1981.

1. Firstly, it appears to me that what you are proposing is the creation of a specialized, government owned pharmaceutical company which targets its marketing on the non allopathic medical practitioners.

The project helps to establish a semi autonomous marketing organization with the authority to procure goods and services. It is not in the business of manufacturing anything, and it is not government owned. It will, however, receive all funds for procurement of contraceptives from the government, as well as funds for advertising and promotion. The organization will not be constrained by government procurement regulations and procedures or salary schedules. Staff salaries and other expenses will be paid largely from revenues it receives from contraceptive sales.

2. What are the logistic and financial implications of the sizeable field force that would probably be required to market oral contraceptives through licensed medical practitioners?

It is not currently envisioned that the organization will have its own field marketing force, but rather that it will distribute through existing market channels. The CMO will provide the opportunity to firms already in the business in India to market oral contraceptives profitably, by providing the products below cost.

3. What are the current and prospective attitudes of the various types of licensed medical practitioners towards oral contraceptives and towards each other, e.g., would each type require separate brands?

Attitudinal surveys were conducted during project development. Briefly, wide variations were found among the various types of medical practitioners and between rural and urban areas. Traditional practitioners, especially in rural areas, knew the least about contraception and various methods and were the most mis-informed. The IEC component of the project as a result is directed toward these groups.

At present we do not believe separate brands of orals are required for various types of medical practitioners. The CMO may, however, conclude otherwise as it prepares its marketing strategy.

4. Will the GOI cut through the red tape that would be expected to inhibit the new brand and new product introductions that would be necessary to fully and effectively exploit the sales force and marketing organizations that would be created?

GOI "red tape" is not expected to be a problem. For condoms the matter of red tape does not arise; for orals, the two low-dosage formulas that have already been approved for the government family planning program will be used. These formulas are medically sage and effective. So long as approved formulas are used, lengthy approvals are not required.

5. How can the management capacity of the NIRODH staff be expanded or supplemented to meet the requirements of this project?

Responsibility for the NIRODH program will be transferred to the CMO. Its capacity will be the direct concern of its governing board and its Managing Director. Some of the NIRODH staff presently in the Ministry may be transferred to the CMO, if they wish to go and if they are accepted by the CMO.

ANNEX B
PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title and Number Family Planning Communications and Marketing; 386-0485

Narrative Summary	Objectively Verifiable Indicators
<u>Goal:</u> Reduce fertility of young married couples and rate of population growth	Reduction in the net reproduction rate from 1.67 to 1.4 by PACD.
Purpose: Increase use of safe, readily available, inexpensive, non-terminal methods of fertility regulation.	Prevalance of temporary contraceptive increased from 6% of eligible couples to 20% of eligible couples by PACD.
Outputs: Semi-autonomous, non-profit society to promote interests of contraceptive producers and marketers, and consumers.	Contraceptive Marketing Organization with one central office and five regional offices in place and functioning.
Strengthened GOI Information Education, Communication Program.	12 communications specialists and 100 trainers trained; 5000 extension educators retrained; 2 mass media programs launched per year.
Improved capability to analyze demographic data and social and economic factors related to mortality and fertility.	Results of research by Registrar General and U.S. institutions published; individuals trained in statistical sampling, computer data systems, and demographic analysis;
Improved capability to conduct bio-medical research.	4 Indian Institutions involved in collaborative biomedical research with U.S. institutions.
Inputs: Support to development of Contraceptive Marketing Organization (CMO).	\$6.00 million expended to support administrative cost of CMO.
Support for promotion and advertising of contraceptives.	\$25.5 million expended to finance promotion and advertising.
Training in IEC	5000 workers participate in training courses/seminars; 200,000 registered private practitioners exposed to information on reversible family planning measures.
Indo-U.S. collaboration in demographic and bio-medical research.	Indo-U.S. collaboration takes place.

Life of Project
From FY 83 to FY 90
Total U.S. Funding \$48 million
Data Prepared May 27, 1983

Means of Verification	Assumptions
Decennial Census; Sample Registration System; Contraceptive Prevalence Surveys, IRHP Surveys	Increasing proportion of Indian couples will desire more delay and spacing of pregnancies.
Distributor Information; Commodity Movement Records from GOI Program; Contraceptive Prevalence Surveys.	Public and Private sector IEC promotion campaigns will be adequate to increase demand for fertility regulation systems will exist.
Articles/Memorandum of Association central and regional offices and staff; data and prescribed reports.	GOI will establish autonomous marketing organization for fertility regulation; GOI will recruit staff at levels of emoluments sufficient to attract high executive talent.
Reports from Training Institutes certified by MOHFW; field visits.	GOI task force on communications strategy will be active throughout project life.
Reports and Publications from ICMR, Dept. of Science and Technology, Planning Commission, RG/Census Commission and population institutes.	Staff will be available for collaborative activities; mutually beneficial relationships between U.S. and India institutions will be established.
USAID Financial Records; GOI Financial Records; Marketing Organization Financial Records.	U.S. and GOI proposed funding levels and project design are approved by the respective governments and expenditures proceed on a timely basis.

BOX

Annex C

PROJECT CHECKLIST

Listed below are statutory criteria applicable generally to projects with FAA funds and project criteria applicable to individual fund sources: Development Assistance (with a sub-category for criteria applicable only to loans); and Economic Support Fund.

CROSS REFERENCES: IS COUNTRY CHECKLIST UP-TO-DATE? Yes.

HAS STANDARD ITEM CHECKLIST
BEEN REVIEWED FOR THIS PROJECT? Yes.

A. General Criteria for Project

1. Continuing Resolution Unnumbered: FAA Sec. 653(b); Sec. 634A. (a) Describe how Committees on Appropriations of Senate and House have been or will be notified concerning the project; (b) is assistance within (Operational Year Budget) country or International organization allocation reported to Congress (or not more than \$1 million over that figure)?

(a) Formal Notification to Congressional committees was given in AID's FY 1983 Congressional Presentation. To the extent additional funds are required or funding categories shift, proper congressional notifications will be made; (b) yes.

2. FAA Sec. 611(a)(1). Prior to obligation in excess of \$100,000 will there be (a) engineering, financial and other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?

(a) Yes, see project implementation plan; (b) Yes, see cost estimate and financial plan.

3. FAA Sec. 611(a)(2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?

Not applicable.

4. FAA Sec. 611(b); Continuing Resolution Sec. 501. If for water or water-related land resource construction, has project met the standards and criteria as per the Principles and Standards for Planning Water and Related Land Resources dated October 25, 1973?

Not applicable.

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5. FAA Sec. 611(e). If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability effectively to maintain and utilize the project?

Not applicable.

6. FAA Sec. 209. Is project susceptible to execution as part of regional or multilateral project? If so, why is project not executed? Information and conclusion whether assistance will encourage regional development programs.

This is not a multilateral project although other donors are providing family planning assistance and AID is coordinating with them. Due to the differences in attitudes toward family planning throughout the region, this project would not be feasible as part of a regional project.

7. FAA Sec. 601(a). Information and conclusions whether project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce and (f) strengthen free labor unions.

(a) Not applicable; (b) yes, by sponsoring an analysis of government regulations and taxes which impinge upon firms involved in the production, distribution and sale of contraceptives and by recommending changes; (c) not applicable; (d) yes; (e) indirectly, yes, by creating an environment in which technical efficiency is rewarded; (f) not applicable.

8. FAA Sec. 601(b). Information and conclusion on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).

U.S. technical assistance will be provided under the project; in addition, collaboration between U.S. and Indian scientists will be supported.

9. FAA Sec. 612(b); Sec. 636(h). Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized to meet the cost of contractual and other services.

The Government of India will contribute the equivalent of \$358 million to the costs of the project and is contributing sufficient amounts of local currencies for contractual and other services. (See item 10 for U.S. owned currencies).

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10. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release?

The U.S. owned rupees are being used for various U.S. government agencies' programs and administrative support.

11. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?

Yes.

12. Continuing Resolution Sec. 522. If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity.

Not applicable.

Funding Criteria for Project

1. Development Assistance Project Criteria

a. FAA Sec. 102(b); 113: 281a. Extent to which activity will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institutions; (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (e) utilize and encourage regional cooperation by developing countries?

b. FAA Sec. 103, 103A, 104, 105, 106. Does the project fit the criteria for the type of funds (functional account) being used?

c. FAA Sec. 107. Is emphasis on use of appropriate technology?

d. FAA Sec. 110(a). Will the recipient country provide at least 25% of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or has the latter cost-sharing requirement been waived for a "relatively least-developed country")?

e. FAA Sec. 110(b). Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to the Congress been made, and efforts for other financing, or is the recipient country "relatively least developed"?

(a) This project will involve the poor in development by increasing the availability to them of contraceptives and by increasing their awareness of the utilization of contraceptives; (b) not applicable; (c) this project entirely supports Indian self help in fertility control; (d) this project will directly promote the participation of women in the national economy by freeing them from unplanned pregnancies and the ensuing long term consequences; (e) not applicable.

Yes, the project fits the criteria for the Section 104 funds being used.

Yes.

Yes.

Not applicable.

f. FAA Sec. 122(b). Does the activity give reasonable promise of contributing to the development of economic resources or to the increase of productive capacities and self sustaining economic growth?

Yes.

g. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civil education and training in skills required for effective participation in government processes essential to self-government.

The project addresses the need to decrease the birth rate in order that existing and future populations can have available to them sufficient food, adequate housing, reasonable employment opportunities, and satisfactory access to physical and institutional resources. The project will utilize the country's intellectual resources and provide training.

2. Development Assistance Project Criteria (Loans Only).

a. FAA Sec. 122(b). Information and conclusion on capacity of the country to repay the loan including reasonableness of repayment prospects.

India's foreign exchange reserves are currently \$4.865 billion. The loan component of this project, \$34 million, is well within the government's capability to repay.

b. FAA Sec. 620(d). If assistance is for any productive enterprise which will compete in the U.S. with U.S. enterprise, is there an agreement by the recipient country to prevent export to the U.S. of more than 20% of the enterprise's annual production during the life of the loan?

Not applicable.

3. Project Criteria Solely for Economic Support Fund Support Fund

This section not applicable.

ANNEX D GOI Request for Assistance

UNCLASSIFIED

Department of State

INCOMING TELEGRAM

~~ACTION~~
COPY

PAGE 01 NEW DE 24451 301216Z 8008 081575 AID1921
ACTION AID-00

ACTION OFFICE ASDP-03
INFO AAAS-01 ASEM-02 ASDP-02 FM-02 ASTR-02 RELO-01 MAST-01
ASBI-02 /010 AI 1130

INFO OCT-00 CIAE-00 EB-08 DODE-00 NEA-07 OES-09 /059 W
384255 301217Z /38

P 301213Z NOV 83
FM AMEMBASSY NEW DELHI
TO SECSTATE WASHDC PRIORITY 8035

UNCLAS NEW DELHI 24451

AIDAC

FOR ASIA/PD

E. O. 12356: N/A
SUBJECT: FAMILY PLANNING COMMUNICATIONS AND MARKETING
PROJECT (386-0485)

REF: STATE 337873

QUOTED BELOW IS GOI REQUEST FOR ASSISTANCE LISTED AS
ANNEX D IN SUBJECT PROJECT PAPER (COPY POUCHED ON
AUGUST 30, 1983). QUOTE

DEAR MR. CYLKE,

- GOVERNMENT OF INDIA HEREBY REQUEST A LOAN OF
DOLLARS 10 MILLION AND A GRANT OF DOLLARS 6.8 MILLION
FOR THE FAMILY PLANNING COMMUNICATIONS AND MARKETING
PROJECT, WHICH HAS BEEN UNDER DISCUSSION WITH USAID IN
RECENT MONTHS. GOVERNMENT OF INDIA WOULD PROVIDE OR
CAUSE TO BE PROVIDED THE EQUIVALENT OF DOLLARS 24 MILLION
FOR THIS PROJECT INCLUDING COSTS BORNE ON AN IN-KIND
BASIS.

2. I SHALL BE GRATEFUL, IF NECESSARY ACTION TO
AUTHORIZE THE LOAN AND GRANT AMOUNTS SPECIFIED
ABOVE, COULD KINDLY BE TAKEN URGENTLY.

YOURS SINCERELY,

SIGNED (S. SUNDAR)

END QUOTE. WE ARE ALSO POUCHING ANOTHER COPY OF THE
ABOVE LETTER. BARNES

ANNEX E PROJECT ANALYSES

1. Advertising in India	81
2. Information, Education and Communications	98
3. Recent Population Trends in India	129

ANNEX E.1.

ADVERTISING IN INDIA

The diversity of India is manifested in virtually every facet of the environment. This heterogeneity may proffer to the tourist a fascinating, kaleidoscopic spectacle or serve as a perennially gratifying source of research to the social scientist, but to the advertising practitioner this multi-faceted diversity has the potential of becoming the communicator's nightmare.

The Challenge of Diversity

How does one communicate in a country which has 16 officially recognised languages and over 800 dialects? How does one accept, as a daily discipline, the idea of simultaneously creating national campaigns in 10 to 15 languages without losing the essence of the advertising message? Only 30% of the populace speaks the most widely used language, Hindi - and the character of this language itself changes every 200 miles.

How does one begin to understand a market of 684 million people, three-fourths of whom still live in rural India encompassing over 600,000 villages? Even if the relevant market is defined as urban India, the magnitude of the tasks cover 156 million people living in 3,245 cities and towns.

How does the communicator find the common threads to communicate in a country where 45% of the people live below the poverty line, while the top 5% enjoy an affluent life style?

In this land where the Goddess of Learning is revered, only 36% of the people are literate - and yet the communicator has to find ways of reaching out to the others. In some States, the level of illiteracy may be as high as 74% (Bihar) or 76% (Rajasthan).

Religion could be a binding force since 80% of the people are Hindus, but the adherents of other major religions are integrally woven into Indian society and they are present in large numbers. For example, the 11% of India's population who are Muslims represent nearly 75 million people, which makes India the world's fourth largest Muslim country. The Christian population of nearly 18 million people is as large as the population of the Netherlands or the combined populations of Finland and Belgium.

Hinduism itself plays host to the caste system, with the consequent divisions of sects and sub-sects vitiating the concept of a unifying religion.

Each culture in India has a different way of looking at the same thing. And the communicator has to find the common links that mean the same thing to different people.

The cultural diversity of India is reflected in various ways. For example, the concept of food varies significantly from region to region. The saree is draped in at least nine different ways and headgear is worn in many different styles. Even if the advertising idea is right, one can blunder in the execution and thus alienate a lot of people in the process.

Add to this diversity the fact that there is no all encompassing medium like television in the West, and the difficulty of advertising in India begins to be understood.

The Search for Binding Cues

Is there a way out of this maze? Is there a way of transcending this diversity? Can the same message be made relevant and meaningful to this heterogeneous audience - probably the largest heterogeneous market in the world?

The Indian advertising practitioner's experience has shown that it is in fact possible to communicate meaningfully to this heteromorphous market. Underlying this diversity are many common threads that have an almost universal shared meaning and significance. These common threads, or binding cues, provide a rich opportunity for the communicator to reach out to mass audiences. Some of the cues that the advertising practitioner uses are:

1. Symbols

In a land where literacy levels are low, the advertising man is at an obvious disadvantage. He has therefore had to redefine conventional literacy to include in its scope the concept of visual literacy. For when one begins to think in terms of visual literacy, symbols emerge as a strong cue for communication.

In India, symbols pervade every facet of the people's lives. At election time, voters recognise political parties by their symbols, virtually every God or Goddess is associated with a symbol, and the religion or caste of most people can be identified by some symbol or another that they choose to wear on their person.

And of course, many brands are identified by their symbols. For example, Monkey brand toothpowder is known as "Bandar Chap" because "Bandar" is the Hindi word for monkey and "Chap" means symbol.

Visual literacy naturally extends to packaging and advertising symbols as well. Thus Santevini tonic is identified as the "Jaliwala" tonic because of the plastic net (called "jali" in Hindi) in which the bottle is always sold. Indian advertising has tapped the potential of symbols for communication. For brands that span the length and breadth of the country - such as washing products, matchboxes or cigarettes - the symbols communicate the very essence of the brand message. One brand of washing powder, for example, uses a lightning bolt to symbolize whitening power. Symbols in India are used not only in the conventional manner of the West, as strong advertising properties designed to build recognition for a brand and its message, but also as the very basis of communication.

2. The Indian Heritage

Another cue emerges from the vast Indian heritage of history and mythology. India is a melting pot of diverse cultures which have over a period of time been assimilated and integrated into the national consciousness. As a result, Indian myths and historical figures and events have become truly national property, and every Indian can relate to them. History and mythology provide a rich treasure trove of metaphors that Indian advertising has drawn upon to communicate messages. For instance, the relationship between Emperor Akbar and his famous courtier, Tansen, has been used as surrogate for the conventional relationship between the man suffering from a headache and the voice of authority recommending a particular brand of analgesic. The fable of the temptress who attempts to seduce a sage away from his meditation provides a meaningful point of departure for the flavor message of a brand of tea.

3. Personalities with Star Value

Like any other country, India has its own share of heroes and heroines, larger than life figures who command national attention and adulation. These personalities with star value are drawn from many fields such as films, sports and music.

4. Role Models

In addition to using personalities with star value, Indian advertising also uses role models. The doctor, the school master, even the mother-in-law can be used to provide the voice of authority and credibility to a message.

5. Film - The Opiate of the Masses

In India, the cinema medium is the opiate of the masses. India has one of the largest film industries in the world, producing over 400 films annually. The influence of film in India is all pervasive: it affects the way people speak, dress, carry themselves and even fight in the streets! The film medium is a binding influence that cuts across language and cultural barriers. The Hindi film is popular all over India, even in states where Hindi is not spoken. Over the years advertising has drawn upon the Hindi film. In addition to using film stars in commercials, Indian advertising has employed either the particular style popularised by Hindi films, or used certain characters made famous in one film or another. Thus, a brand of suitings uses in its commercials an interesting collage of James Bond and Bruce Lee, served up in what is called the typical Indian "masala" style. Or again, a brand of biscuits uses a character - a dacoit - from India's longest running Hindi film ever.

6. Basic Human Emotions

Who was it that said, "We're all the same underneath aren't we?" People are people all over the world and respond with the same basic human emotions. Therefore, many of the cues that trigger love or hate or fear or envy are indeed universal.

Indian advertising has drawn upon these cues to build the appropriate aura of feelings around brands. In some cases the specific twist to the creative treatment may be uniquely Indian, but in all cases the feeling is universal.

These cues are typical, but only part of the repertoire that is used to communicate in the Indian environment. There are many other universal cues that the Indian advertising practitioner has at his disposal. For example, the entire system of values can be taken as a strong cue, as can the aspirations of people which can be manifested through the desire for more modern, efficient products in their daily lives.

Diversity as Opportunity

In addition to being a challenge, the diversity of India also provides a rich opportunity for segmentation and positioning. Consider one aspect of this diversity: the Western and the Indian ethos that co-exist in the urban Indian environment. Marketing men have used this great divide to create new brands based on either a Western or Indian concept, within the same product category.

For example, in the toothpaste market, Close-up, with its Westernised brand imagery, co-exists with Neem, an indigenous brand of herbal toothpaste. In the face cream market, Pond's Vanishing Cream sits alongside Vicco Vajradanti's turmeric cream.

In those cases where the competing brands are physically similar, Western or Indian advertising has often been used to create an individual brand identity. Thus, for instance, in the moulded luggage market two brands, V.I.P. and Aristocrat, have exercised Western and Indian appeal respectively to position themselves through their advertising.

Market Segmentation

As the diffusion of technology continues to eliminate functional differences between brands, the use of psychographic segmentation is widespread. In the fiercely competitive textile market advertising positioning has been used to distinguish brands of sarees aimed at the modern, sophisticated, 'liberated' woman from the saree brands positioned for the traditional, domesticated woman.

In the brown powder segment of the health beverage market, Bournvita and Nutramul are two brands that have taken polar opposite routes to communicate their nourishing properties. Bournvita's advertising focuses on the role of the mother nurturing her children while Nutramul emphasises the process of toughening up the child by the father figure.

The experience of some of the front line marketing companies in India has demonstrated that belief cues are powerful instruments of persuasion, these cues often helping shape the personality of brand. In the toilet soaps market, for instance, companies have been able to establish distinct personalities for individual brands -- not to mention solid market shares -- almost entirely through the skillful use of belief cues. This is so despite the fact that all brands of toilet soap perform just one basic function: cleansing of the body.

Consider how Liril and Lux Supreme, two brands of toilet soap marketed by the same manufacturer (Hindustan Lever) are successfully positioned in different segments entirely through belief cues. Liril is positioned in the freshness segment and Lux Supreme in the complexion care segment and the cues for both these brands reflect their individual positionings. For example, Liril is green (the color that suggests freshness) while Lux Supreme is pink (a color associated with complexion care). Liril uses advertising props like a lemon and waterfall to suggest freshness, while Lux Supreme uses a rose and a mirror, cues traditionally linked with complexion care (see table below).

Each cue for either Liril or Lux Supreme is in harmony with the other cues for that brand and is consistent with that brand's positioning. Moreover, the cues of the two brands aren't interchangeable. Thus, it would be as discordant to show Lux Supreme's mirror and ornate silver dish in a leafy green outdoor situation as it would be to show Liril's waterfall against a magenta background.

INTEGRATED BELIEF CUES

<u>Brand</u>	<u>Liril</u>	<u>Lux Supreme</u>
Positioning Cues:	Freshness	Beauty/complexion care
Colour scheme in advertising	Green, Yellow	Magenta
Situation	Leafy green outdoors	Rich, indoor setting
Model	Young, outgoing, carefree, enthusiastic, vivacious, attractive	Beautiful, young, sophisticated, with controlled expressions
Props	Lemon, waterfall	Ornate silver dish, droplets of perfume falling into cream jewelry, rose, mirror
Music in advertising commercials	Modern, punchy	Soft, moody
Product design	Green, marbled soap	Pink, super-fatted (creamy lather) soap
Mood	Vibrant	Soft

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When a brand has its consumer franchise ranging across different strata of people, as is often the case in India (and would be so for a family planning product), it becomes necessary to adapt the brand's basic message and theme to harmonise with each target audience segment. This is achieved in various ways.

Keeping regional differences in mind, Forhans toothpaste, for example, has its radio commercials executed in five different styles of Hindi in order to exploit the nuances of the language and blend with the culture of different Hindi speaking zones. Lux toilet soap with its theme of 'The beauty soap of the film stars' uses in its advertising every year as many as fifty film stars, the use of the film stars varying by region and popularity.

Lifebuoy soap, another brand that sells across the country, has three advertising commercials to go with its different market segments. Lifebuoy expresses its basic advertising theme of 'Where there's health, there's Lifebuoy' with the help of three different sports: there's 'kabbadi', a very popular Indian sport, for the smaller towns; football is used in Lifebuoy's advertising films meant for the mid-markets; and volleyball is shown for the upmarket towns and cities.

Surf detergent powder has introduced a 40 gram sachet pack, meant for rural audiences. The interesting aspect is that the advertising for Surf's sachet pack is completely different from Surf's box-pack advertising in urban India. The sachet pack's advertising is essentially a demonstration film outlining the step-by-step method of washing with Surf to get the best whitening results (the kind of film Surf used 20 years ago in urban India), while the urban film adopts the theme 'Mothers who care use Surf - and it shows'. Thus, the sachet pack has not been considered as just one more pack size in the Surf range, but it has been given the status of a separate brand positioned for a different market.

Beyond Consumer Product Advertising

Advertising over the last two decades has made an impact on areas far beyond the scope of consumer products. Take industrial marketing, for example. With the emergence of competition in many product categories, industrial advertising has gone beyond simple product feature announcements into positioning and image building, and it uses all the elements of persuasive communications. This is evident in a wide range of categories such as office intercoms, elevators and even mini-computers.

In today's tight money markets, Indian companies are drawing upon the skills of professional communicators to sell their equity issues to investors or to draw funds from the public in the form of high interest fixed deposits or debentures. At the same time, development corporations are also using advertising to persuade companies to locate their operations in industrially backward regions.

Corporate advertising today reflects the increasing involvement of companies with important national issues such as energy conservation, relevant technology, the fight against communalism and the uplift of the weaker sections of society.

The volume of public service advertising in India has increased significantly in recent years. The issues which have been tackled range from blood donation to helping spastics and raising public consciousness about cruelty to animals. We have also seen the use of a full fledged, professional marketing approach for the promotion of cancer check-ups. This campaign was meant to overcome some fundamental fears that people have about cancer and its effectiveness has been specifically measured in quantitative terms.

Advertising by industry associations or bodies to present an industry point of view or to advocate a specific case with Government or opinion leaders is also in evidence.

Advertising has also been harnessed by the Government and the public and private sectors to communicate new ideas and practices in key areas such as the modernisation of agriculture, family planning and nutrition education. It is in this role that Indian advertising has assumed greatest relevance as an input for economic growth.

The Role of Research

Underpinning the increasing sophistication of Indian marketing and advertising is the use of research. Qualitative research in India has been used for purposes as wide ranging as exploring attitudes towards breastfeeding and contraception to discovering belief cues for toilet soaps, identifying the brand imageries of 5-star hotels or assessing consumer responses to alternative positionings for a brand. Qualitative research becomes particularly necessary when it comes to finding the Indian language equivalents for certain terms in English such as the concept of 'plaque' in oral hygiene or 'astringent' in cosmetics or 'spray-dried' in foods.

In qualitative research, a variety of techniques has been used such as brand personification, thematic apperception tests and the elicitation of respondent reactions to visual stimuli (such as pictures portraying alternative user imageries).

On the quantitative side, the Indian marketing man is familiar with usage and attitude studies, retail store audits, brand tracking studies, consumer panels, product testing, pre and post advertising research and cluster analysis and multidimensional scaling research studies.

Some of the leading Indian marketing research practitioners have been trained by and have held responsible positions in research companies in the U.S.A. and U.K.

Media

India has taken major strides in developing a media data base. The country's first national readership survey was done in 1971, the second in 1978 and the third one is now at the field research stage. In fact, the 1983 readership survey will be the largest national readership survey in the world in terms of sample size as well as the universe of publications covered. In India, the readership surveys also provide information on the public's exposure to radio, cinema and television. Press media optimisation and evaluation models using the computer data tapes of the national readership surveys have been developed indigenously after research on the models used in the West. Other landmark research studies in the country include All India Radio's Time Budget Survey (1976), Radio Listener's Survey (1981) and the TV audience Survey (1977 and 1981), to name a few.

Media Research

The National Readership Survey, 1971 was the first major attempt to measure the reach potential of the country's three important media: Press, Cinema and Radio.

<u>Media</u>	<u>Urban Adults</u>	<u>Rural Adults</u>	<u>All Adults</u>
Percentage reach of:			
Press	37	7	13
Cinema	48	13	20
Radio	30	7	12

Source: NRS I

The overall reach, either severally or jointly, was very poor. The gap was alarming even in Urban India. According to the Second National Readership Survey, 1978 designed to measure reach in urban India only, the situation has improved considerably. The net reach of the four media was around 85% in 1978. Although no comparable figure is available for the 1971 Survey, it can be assessed from the increase in reach in each of the media, as indicated in the table below:

Reach of Media (Urban Adults)

<u>Media</u>	<u>1971</u>	<u>1978</u>
Press	37%	53%
Cinema	48%	70%
Radio	30%	53%
Television	NA	12%

Source: NRS I and II

Although the second National Readership Survey did not cover rural India, a study by Clarion Advertising in 1981 (The Rural Market) indicates the following reach potential of major media in rural India.

Media	Rural Community:			
	Landless Labour	Marginal Labour	Small Farmers	Other Farmers
Percentage reach of				
Newspaper	7	23	38	37
Magazine	3	9	17	22
Radio-Primary Channels	46	41	63	59
Commercial Channels	13	16	27	29
Cinema	12	30	33	27

Source: The Rural Market

The gap is still alarmingly high. Considering that social communication such as for Family Planning needs to be extended effectively not only beyond the extra-urban area but also deep into the heart of over 600,000 village centers, there is a pressing need to identify and develop location and non-conventional media right from the beginning. There is a need to develop these rural media for programmes such Family Planning.

Media Rate Inflation

Over the years in India, as in other countries of the world, all major media have experienced considerable rate of escalation. The table below indicates the level of inflation.

Media Inflation Index

<u>Media</u>	<u>1973</u>	<u>1979</u>	<u>1982</u>
Press	100	205	340
Cinema	100	140	225
Radio	100	136	340
Television	NA	100	180
Outdoor	100	165	220

Source: Hindustan Thompson Associates

An annual inflation in media costs of 15-20% is expected for the next few years. The above inflation index reflects a general picture. In actual practice, the inflation rate for brands is higher since most brands tend to have larger ad sizes and greater ad frequency in the major media vehicles which also happen to be the more expensive ones.

Rural India

Although the bulk of the country's advertising expenditure is directed at urban India, rural India is becoming of increasing importance for branded goods advertising. Today, a sizeable portion of the offtake of several product categories is accounted for by sales in rural areas (see table below) even as the rural penetration of consumer durables is on the upswing (see charts on the following page).

Rural India's Share of Total Offtake

	<u>Percent Share of Rural India</u>
Analgesics	50
Razor blades	48
Washing soap	47
Toilet soap	45
Packaged tea	40
Batteries	40
Optical whiteners/blues	35
Detergent cakes and bars	29

Source: ORG Retail Audit

The electrification of villages, the adoption of modern methods of agriculture, the spread of the concept of family planning, the growing availability of manufactured goods are all aiding the modernisation of rural India.

The rural consumer has to be approached differently from his urban counterpart. The difference in mindsets of the two can be seen, for example, in the indicators of affluence and modernity (see table).

Indicators of Affluence/Modernity

<u>Urban</u>	<u>Rural</u>
TV set	Transistor radio
Car/Motorcycle/Scooter	Bicycle/moped
Refrigerator	Pumpset
Travel	Use of improved farming techniques
Eating out	Banking savings

Most rural advertising is concerned with inputs for modern agriculture, dairy farming, poultry breeding, cattle and crop insurance, as well as for staples like tea, soaps and cigarettes and 'bidis'.

Marketers and advertising agencies have tailored their communications approach to suit the needs of the rural consumer. For example, sales of Eveready's brass torch declined when consumers discovered the product was not made of brass. This was so despite the fact that the torch incorporated product improvements like a

plastic reflector. Research also revealed that the rural Indian was prepared to pay more than the urban Indian for a torch that was durable. In 1975 the Eveready torch was changed to become an all-brass torch and was positioned for "life-long" durability. This gave birth to the 'Jeevan Sathi' (i.e. lifelong partner) advertising theme which is still used today.

Advertising to the rural consumer involves a great deal of preparatory study because of regional differences in language, culture, attitudes and conditions. Thus, when Hindustan Thompson Associates undertook the development of an advertising programme for Madras Fertilizer Limited in South India, the agency's account management, creative and media teams had intensive personal interaction with farmers and villagers. Subsequently, regionalised communications reflecting local conditions were created. The programme also included the use of unconventional media such as puppet shows to communicate the brand message.

The use of unconventional media such as puppet shows is necessary because of the limited reach of mass media and the illiteracy of the villager. In rural communications programmes, a variety of localised media such as publicity vans, folk entertainment media, touring cinemas, fairs and festivals, wall paintings and posters in community centers are generally used.

Supporting the advertising of Madras Fertilizers' brand Vijay Fertilizer were field demonstrations and trials. These were aimed at demonstrating the benefits of using the brand and were also intended to achieve social endorsement by the opinion leader farmers in each village. The demonstration plots further served the villagers as reference points for monitoring their own progress.

Several research studies have shown that a variety of media (conventional and unconventional) is usually required before an innovation is accepted by the rural Indian. USAID funds would be important not only for promoting family planning in India but also for developing unconventional media which could then be used for other projects aimed at uplifting India's rural community.

Industry Billings

In 1981, industry billings in measured media (press, cinema, radio, and television) were Rs.2,520 million, up by 480% over 1971 industry billings of Rs.525 million. (See table below).

<u>Industry Billings in Measured Media</u>		
<u>(Rs. Million)</u>		
	1971	1981
Press	448	2090
Cinema	37	120
Radio	40	140
Television*	-	170

*Television went commercial in 1976

Source: Hindustan Thompson Associates

In addition to the measured media expenditure figure of Rs.2,520 million, must be added the expenditure on outdoor advertising, point-of-sale material, direct mail, printing, production, etc., which is estimated to be around Rs.756 million i.e. around 30% of the measured media expenditure. Total industry billings in 1981 would therefore be around Rs.3,276 million (Rs.2,520 + Rs.756 million).

Industry billings between 1971 and 1981 have grown largely because of media cost inflation and the entry of new advertisers and brands.

The major advertised product categories in 1982 were textiles, cosmetics, cigarettes/'bidis', kitchen appliances, tea/coffee, milkfoods, soft drinks, fans, banks, tires and fertilizers and farm equipment.

The estimated advertising expenditure of the country's top ten advertisers (including expenditure like outdoor advertising, printing, production etc.) is shown in the following table.

Top Ten Advertisers (1982)

<u>Advertiser</u>	<u>Estimated Advertising product lines</u>	<u>Major advertised Expenditure (Rs. Million)</u>
Reliance Textiles	Textiles	40.0
Hindustan Lever	Soaps, detergents, shampoo, toothpaste edible oils	40.0
ITC Cigarettes	35.0	
Colgate-Palmolive	Toothpaste, Shampoo	30.0
Dunlop Tyres	27.5	
Phillips Audio equipment, Lighting systems, Batteries	25.0	
Union Carbide	Batteries, torches	22.5
Richardson Hindustan	O.T.C. Pharmaceuticals	22.0
Brooke Bond	Tea, Coffee	20.0
State Bank	Banking services	20.0

Source: Hindustan Thompson Associates

There are around 400 advertising agencies in the country ranging from one-man shops to the giant Hindustan Thompson Associates Limited. The billings of the country's top four agencies is indicated in the table below:

Top Four Advertising Agencies Capitalised Billings (Rs. Million)

	<u>1977</u>	<u>1981-82</u>
HTA	109.1	242.9
Clarion	75.6	145.3
Lintas	70.3	120.3
OBM	50.5	102.4

Source: Annual; reports of the agencies

An indication of the advertising expenditure of major brands may be had from the advertising expenditure of Hindustan Thompson Associates' top five brands (see table below)

TOP FIVE BRANDS : HTA

<u>Brand</u>	<u>Advertising expenditure</u> (Rs. million)
Air India	8.0
Horlicks	7.0
Boroline cream	4.2
G;ucon-D	3.5
Vijay Fertilizers	3.5

Five of the country's leading agencies have affiliations with multinational advertising companies: Hindustan Thompson Associates (J.Walter Thompson Co.), Clarion (McCann-Erickson), Ogilvy Benson and Mather (Ogilvy and Mather, Lintas (SSCB:Lintas) and Grant Kenyon and Eckhardt (Kenyon and Eckhardt).

There is continuous exchange of knowledge between these agencies and their foreign affiliates, with several Indian practitioners being sent abroad every year for training and development programmes. Infact, some Indian practitioners now hold fairly senior positions abroad in the offices of these leading advertising agencies.

As a final note to convey the size of Indias major marketing organizations, the following table lists those companies that provide the largest share of NIRODH distribution by their normal business turnover. The first three companies provide about 65% of all NIRODH sales collectively their businesses showed over \$850 million in twelve month sales in the period 1981-1982. NIRODH during this time accounted for about \$7.2 million sales, or less than 1.0% of their total sales. They paid the GOI \$5.75 million for the condoms, thereby obtaining about \$1.5 million for the work of distribution. They invested a small but indeterminate amount of this sum into promotion, mostly through retailer promotions schemes. The companies claim that they only break even, at best in their NIRODH distribution. Some of the companies feel strongly that they could do significantly better if they undertook advertising and promotion in their regions directly and if they were able to invest in more retailer schemes with an improved product.

TABLE 20

Latest Available Sales Turnover of Larger Nirodh
Distributors: Normal Business

(in millions of dollars; Rs.10.00 = \$1.00)

<u>Name of the</u> <u>Organization</u>	<u>Year</u>	<u>Sales excluding</u> <u>excise taxes</u>	<u>Sales including</u> <u>excise taxes</u>
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Private

1.Hindustan Lever	1981	476.76	533.65
2.Indian Tobacco Co.	1982	178.93	579.02
3.Union Carbide	1981	196.93	222.74
4.Brooke Bond	1981	164.57	179.69
5.Tomco	1982	141.55	154.30
6.Lipton Tea	1981	67.53	69.70

Public

1.Indian Drugs & Pharmaceuticals Ltd.	1981	37.17	89.44
2.Smith Stanistreet	1981	6.16	6.16

Source: Key Financial Data on Larger Business Units, by Center for
Monitoring Indian Economy, Bombay October 1982.

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ANNEX E.2.

INFORMATION, EDUCATION AND COMMUNICATIONS

India, the first country to officially announce a national Family Planning (FP) program, has been very successful in one respect: probably around 90 percent of the population is aware of the government's program is aware of it. GOI has utilized the Ministry of Information and Broadcasting (I&B) in support of the Ministry of Health and Family Welfare's (MOHFW) goals. Therein lies the problem. I&B in particular, its Directorate of Advertising and Visual Publicity (DAVP) are best equipped to deliver information designed to create awareness. They are less effective in generating interest, evaluation, trial and adoption of innovations.

As significant a factor when evaluating the delivery of population information, education and communication (IEC) in India is the medical domination of the program. Except at the Center doctors are in charge at every level. They not only supervise and evaluate IEC staff, but oversee the planning of IEC activities within their jurisdiction. Inevitably IEC efforts are biased towards sterilization, in effect largely eliminating those with less than two children, younger couples, and others interested in spacing and delaying births.

This was only too evident during the 1976 "Emergency" when targets for sterilization were attempted by coercive methods. Lingering apprehensions from this period are still significant.

The current administration, however, is committed to voluntarism and broad communication with the people. The Sixth Plan, 1980 to 1985, includes a "Model Plan" for making Family Welfare (a term substituted for FP precisely because of sensitiveness sharpened during the Emergency) a "People's Program. Briefly, it calls for Primary Health Centers (PHCs) for an average 100,000 population (eventually for 30,000) and sub-centers for an average of 10,000 population (eventually 5,000). Some 280,000 multi-purpose workers, both male and female, will be based at the sub-centers. Starting in 1977 the government began the recruitment and training of Community Health Workers, now called Community Health Guides (CHG). CHGs are selected by the village panchayats, and trained for three months in basic health services and provision of family planning information and assistance. The Model Plan calls for one CHG per village, or in larger villages one per 1000 population, by 1985. Rounding out this corps of workers serving at the village level will be 300,000 trained dais (traditional midwives)

India, thus already has in place a veritable army front-line communicators. Unfortunately, the necessary professional IEC staff needed to catalyze their communication potential is largely lacking.

Confidence in bilateral including U.S. assistance is growing among all levels of the Indian bureaucracy. The collegial approach to the discussion of India's population-related problems is yielding results and should continue. It is heartening that India has now given priority to demand creation in its family welfare efforts and is committed to broad program of behavioral change. AID through its own resources and in collaboration with U.S. and Asian regional institutions can make significant contributions to a revitalized IEC effort.

The following summary recommendations recognize that financial resources have not in the past been major deterrent though the IEC proportionate allocation has been consistently low, -- and only three percent in the Sixth plan. International assistance should emphasize innovation.

Crucial to the recommendations is a decision by the GOI willingness to correct serious existing structural and organizational flaws:

1. AID should encourage and support an improved system of IEC strategy development in India

This implies an apex institution at the Center to channel feedback from the target audience at the periphery. This should have reasonable autonomy, and be staffed by specialists capable of presenting data in forms readily understandable by MOHFW and other decision makers. Preferably located in New Delhi, it should be the nodal one in a network of institutions each with specific and well defined responsibilities. It should be the lead institution in terms of IEC training and professional development, the principal organizer of national IEC conferences, high-level consultations, specialized seminars and train-the-trainer activities; and the catalyst for enhanced IEC research and evaluation efforts.

2. The Central Training Institutes (CTI) should be strengthened in their capacity to undertake communication training and program evaluation.

The CITs represent the second level in the pyramid of training professional development and program evaluation resources. Those with particular potential are The Family Welfare Training and Research Center, Bombay; The Gandhigram Institute of Rural Health and Family Welfare, Madurai; The All India Institute of Hygiene and

Public Health, Calcutta; and the Central Health Education Bureau, New Delhi. To these should be added the Indian Institute of Mass Communication, New Delhi and the National Institute of Design, Ahmedabad, both have made contributions to the "Area Programs" supported by international agencies.

3. The Health and Family Welfare Training Centers (HFWTCs) should be strengthened as a principal resource for IEC training of block level staff.

Approximately 12 carefully selected HFWTCs should receive inputs of professional development, supplies and equipment. These form the base of the institutional pyramid and should be considered the front line training resource for block level IEC staff.

4. AID should support the institutional and professional development initiatives described in the foregoing recommendations by providing consultant and advisory services.

To activate the train-the-trainer process necessary to rejuvenate the training institutions at state, district and block level Media and Extension Officers (NEOs) a first step is the provision of fellowships for external study. Both internal and external intensive workshops emphasizing IEC evaluation, train-the-trainer methods and development of training materials should be initiated.

A long-term consultant should be provided to the National Institute of Health and Family Welfare (NIHFW), assuming it is selected as the apex IEC institution. NIHFW and the selected Central Training Institutes should be provided short term consultants as required. AID should take advantage of the favourable relationship between GOI and the Hawaii based University of Hawaii and East-West Center. The Asian and Pacific Program for Development Training and Communication Planning in Bangkok, and the Institution of Mass Communication, University of the Philippines, Quezon City, should also be tapped.

5. AID should support the development and expansion of GOI efforts to inform policy makers and opinion leaders on broad policy issues as well as the provision of family welfare staff with program relevant information.

With modest inputs AID could greatly increase the efficiency of the MOHFW Mass Mailing Unit (MMU). relatively low cost microcomputer equipment and consultant assistance could make it possible to bulk-ship such external publications as those of the Population Council, PIACT, IPPF, PRB and the Population Information Program. The savings could largely offset any expense involved.

NIHFW's documentation unit has great potential for the FP for identifying, retrieving, abstracting, and distributing Indian research results and providing Indian and Asian bibliographics. Here again, microcomputer equipment and short-time consultancies are recommended. Existing mailing lists for external publications should be revised. Special publications directed to policymakers and opinion leaders (including non-government doctors) should also be a priority.

I. INTRODUCTION AND BACKGROUND

This section analyzes the Indian IEC delivery system, and recommends improvements to (1) Strengthen and expand GOI and private sector family planning information and education programs in support of the small family norm, and for greater use of family planning methods with concentration on the high fertility areas. (2) Strengthen and expand MOHFW's central Mass Education and Media (MEM) division and state MEM offices and district and block-level infrastructure.

Both strengths and weakness are analysed of the current GOI system for planning, implementation and evaluating the delivery of information, education and communication (IEC) to (1) the public through mass media, (2) government doctors, administrators, nurses and para-medicals, e.g., through technical literature and training, (3) policy mnakers and leaders in government and (4) the private sector, e.g., allopathic and traditional medical practioners.

The analysis covers center, state and local staff sizes, job types, skills and selection criteria, materials production, training systems, supervisory system, pay system, inter-ministerial coordination, estimate of funding requirements for staff, materials, media use, experience in and capabilities for outside contracting and monitoring, evaluation and research capabilities and constraints.

Also analysed are plans for expanding communication activities as described in the Report of the Task Force on Communication for Health and Family Welfare based on its travel and study in Thailand, Indonesia and Hawaii January 10-26, 1982; and the Task Force and MOHFW prospective plan for utilizing resources of the East-West Center and University of Hawaii for technical consultants, training, identification of other resources, clearing house services and resident advisors on IEC training and planning.

Finally, we review and propose methods for expanding AID supported publications in the family welfare field such as those of the Population Council, IPPF, PIACT, East-West Center, IFRP and the Population Reference Bureau.

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- identification of the most relevant publications;
- preparation of a master list using existing lists;
- development of publication specific sub-lists;
- evaluation of establishing a population and development
- journal and/or other new publications for leaders and
- opinion makers.

The development of master list is presently incomplete.

II. OBSERVATIONS AND FINDINGS

A. The Communication Process

It is necessary to review the elements in the communication process to assess the system by which the GOI seeks to change public behavior on Family Planning. This is necessary also to define the relationship between the health and medical staff in the FP Program; and the infinitely smaller number of workers who could be by any stretch definition be called professional FP communicators. It is also necessary to describe the relationship between these two groups, on the one hand with the Government and on the other with their varied audiences. Finally, it is useful in assessing the relationships between Government and policymakers, media representatives, the professional health/medical infrastructure and opinion makers both within and without the Government. The communication process consists of the following elements:

The Source

The ultimate policy body, i.e. GOI, through various institutions and agencies.

The Message

The purpose interpreted in actionable terms.

The Channel

The means of delivering the message(s) to the intended receiver(s).

The Receiver

The individual(s) to whom messages are directed.

The communication process also includes feedback in which the Source remains informed of the impact of Messages on the Receiver. Other factors such as the influence of treatment (design) of the Messages on the Receiver. Other factors such as the influence of treatment (design) of the Message on its impact are important but not essential to this analysis.

1. Family Planning (FP) Message Delivery

India has been successful in creating awareness of family planning (FP): about 90 percent of the population is aware of family planning. However, "aware of what?"

There are several possible levels of awareness:-

- a. that GOI is interested in FP,
- b. that GOI offers FP services,
- c. that GOI offers such services, and how and where to obtain these.

Mass media channels through such devices as triangle, the four faces poster, and a variety of others created awareness perhaps for some receivers at all three levels. However, the potential effect on behaviour involves additional stages of interest, evaluation, trial and adoption. Also the Indian FP messages are largely non-rational as perceived by the intended audience (Receivers). To contend that a small family is a happy family lacks logic in terms of a rural couple concerned about hands to accomplish agricultural work or children to provide security in their old age. Such messages reduce credibility of the source. The messages have been propagandistic and confined to the information component of the communication process largely omitting education and communication.

The GOI's credibility was damaged substantially during the Emergency by a partly coercive approach to sterilization. The current emphasis is on voluntarism, extension and the self-interest of the receivers particularly in the context of primary health care. Messages now deal with a wider range of health related problems such as early age of first pregnancy, short-interbirth interval, large completed family size, low birth weight, high incidence of birth injury and asphyxia, neonatal tetanus, septicemia, malnutrition, diarrhoea, respiratory infections, immunization and malaria, filaria etc. Integrated Health and Family Welfare Project staff are developing specific actionable messages such as:-

- delay marital fertility
- prolong contraceptive use following childbirth irrespective of the sex of the child
- improve diet during pregnancy
- decrease heavy physical work during pregnancy
- take iron and folic acid supplements during pregnancy

- report problems early during pregnancy
- seek trained obstetrical care for all deliveries
- keep newborn lying on side to prevent aspiration
- seek care form health centre at the earliest sign for tetanus
- start breast feeding within 1 or 2 hours of delivery
- start supplementary feeding of infants at approximately 6 months.

Emphasis is on messages for the general public, the ultimate users. Obviously different messages are necessary for other groups e.g. policymakers.

2. Channels Available for Family Welfare Messages

The major analysis of GOI's Family Welfare Message delivery system is reserved for the section dealing with source since the recommendations accompanying this report relate closely to structural and organizational issues. However, any discussion of channels must take note of the mechanism of message delivery. The IEC component of GOI's Ministry of Health and Family Welfare (MOHFW) is strongly oriented to mass media as implied by the title of the relevant unit, Mass Education Media. The senior officer of the unit is routinely deputed from the Ministry of Information and Broadcasting (I and B) usually the Division of Advertising and Visual Publicity. All mass media channels are under the purview of I & B, and two major areas (Radio and Television) are controlled by it.

While MOHFW makes the decisions of what channels to employ as well as family welfare policy, their designing various channels is done by I & B. A detailed discussion of I and B activities in family welfare is contained in the "Indian Report of Mission on Needs Assessment for Population Assistance" by UNFPA, February 1979. The channels available are:-

- All India Radio
MOHFW supports Family Welfare Cells in 36 of 84 AIR Stations
- Films Division
MOHFW supports the production of Family Welfare films on subjects of its choosing. A decision was made to establish a film production unit within MEM, but not implemented. The Sixth Five Year Plan document calls for the All India circuit in 16 languages to decentralized production.

-- Television

Seven urban transmitters have been established and five others were available during the SITE experiment. With the planned Indian satellite, SITE will be reactivated.

-- Directorate of Field Publicity

It operates 221 mobile units, 30 of which have specific responsibility for FP planning. The staff organize film shows, exhibitions and entertainment.

-- Directorate of Advertising and Visual Publicity

This produces a variety of printed materials in 13 major languages, but stresses English and Hindi. At the state level it is also responsible for hoardings and advertisements

-- Songs and Drama Division

This operates 16 offices. There is substantial evidence that state level MEM officers utilize it for incorporation of FP messages into traditional media.

At the Centre level both campaign and printed materials intended for opinion leaders and for lower echelons FP staff are produced and mailed. In addition to the campaign, publication and audio-visual media officers of the Program Wing, the Mass Mailing Unit (MMU) employs editors, graphic artists and press operators. MMU has one million addresses in 84 categories, ranging from Members of Parliament to Panchayat leaders. The ultimate decision on what to be printed and to whom to send is that of an Additional Secretary, MOHFW, who is ex-officio Commissioner, Family Welfare.

The major change in channels from the early days is in interpersonal and group methods. These are used within the framework of the Block and depend largely on support of GOI's front line health workers by the Block Extension Educator (BEE). The opinion leaders Training Camp (OLTC) is a current priority of Secretary, MOHFW, who is ex-officio Commissioner, Family Welfare.

The major change in channels from the early days is in interpersonal and group methods. These are used within the framework of the Block and depend largely on support of GOI's front line health workers by the Block Extension Educator (BEE). The Opinion Leaders' Training Camp (OLTC) is a current priority for reaching villagers individually and in small groups. The stress is on village opinion leaders. GOI's aims to reach 1.68 million such in 42,000 OLTCs, four each in 75 percent of villages by the end of the 6th Plan.

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3. Potential Receivers of Family Planning Messages

The Needs Assessment Report of the UNFPA cited above defined five major receiver (audience) groups:

- a. national leaders, politicians and other decision makers;
- b. health and family welfare program planners and their counterparts in related sectors;
- c. the official service delivery system made up of doctors, multi-purpose workers and parallel MEM specialists and their counterparts in related sectors;
- d. unofficial community leaders including contact farmers, Gram Sevikas, women leaders, panchayat leaders, community health workers ayurveds, business leaders, etc.;
- e. actual and potential acceptors, segmented by age, sex, marital status, acceptor status, present and previous family welfare program exposure and response, media exposure and preference, language, religion, educational and economic status, geographical location (rural, urban, tribal).

To these should be added a media, PVO and business and professional representatives. Until recently, the GOI was not well equipped to reach at least two of these, i.e., community leaders, and actual and potential acceptors. The decision to train multipurpose workers and recruit and train village level volunteers significantly enhances GOI capabilities to impact these groups. Those in the service delivery system and Health and FP Program planners are generally able to benefit from printed materials. The national leader/decision maker and opinion leader groups also call for specially produced materials.

4. The Source of FP Messages

The source both in terms of the content and intent is GOI. It enunciates development policy through Five Year Plans, and largely delegates responsibility for implementation to MOHFW. The responsibility for designing specific messages is passed down the hierarchy to state, district, block and village level. This however represents, as the following analysis will reveal, an idealized view of the process.

IEC activities within MOHFW are the responsibility of the Division of Mass Education and Media (MEE), which in turn is divided into (1) program wing -- consisting of publications, audio visual media officers, extension educators, a researcher and a photographer and (2) the Mass Mailing Unit (MMU) consisting of editors, graphic artists, press operators and handling and mailing staff. Since message design and channel selection is largely delegated to I & B it must be considered as integral to the source. The mechanism for developing a coordinated FP communication strategy is largely missing, as discussed later.

To adequately describe GOI as the source of family welfare messages, some detail of the model plan for creation of facilities and provision of services under area programs established in 1979, is necessary. This plan is comprehensive, and some of its provisions are not directly applicable to an analysis of FP IEC. Of special relevance, however, is GOI's plan to intensify efforts at the local level.

The new plan involves establishing Primary Health Centers (PHCs) for an average 100,000 population (eventually for 30,000) and subcenters for an average of 10,000 population (eventually 5,000). Some 280,000 Multipurpose Workers, male and female will operate out of the subcenters. Starting 1977 GOI began recruiting and training of Community Health Volunteers, now Community Health Guides (CHG). The CHGs are selected by the village panchayats and given three months basic health and FP training. The model plan calls for one trained CHG per village by 1983 or in larger villages one per 1000 average population. Also at the village level are trained dais (mid wives) for Maternal and Child Health Care (MCH) and FP services.

Some 200,000 VHGs and 300,000 dais have been trained. They form a veritable army of front line communicators.

B. Strength and Weaknesses in the IEC Delivery System

1. Existing Efforts Identify IEC Needs

Many efforts that have been made since 1977 to clarify the problems inherent in the complex IEC component of the MOHFW FP program. Among externally sponsored efforts have been the Needs Assessment for population Assistance by the UNFPA in 1979, the Analysis of Population Policies and Programs by the Population Council in 1982, the Report of the Annual Review of the Integrated Rural Health and Population Project by USAID/India in 1982 (in particular the communication needs assessment by Dr. Michael O'Byrne), the Report by William O. Sweeney on preparations for a needs assessment in the IRHFW Project in 1981, and the many insightful contributions by Geoffrey Salkeld both in his UNFA official capacity and as otherwise.

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On the Indian side, the preparations for the 1981 National Workshop on the Role of Communication for Health and Family Welfare Program entailed a thorough examination of strengths and weaknesses in the system. It is important to note that this was an Indian initiative characterized by close collaboration between MOHFW and a prestigious center institution, the National Institute of Health and Family Welfare (NIHFW). The national workshop was followed by an exercise to assess the training needs and infrastructure requirements to meet those needs. Late in August 1981 the Joint Secretary R. Natarajan convened a meeting of MOHFW officials, representatives of UNFPA, USAID, The East-West Center and the University of Hawaii. From this a working group was formed to consider collaborative activities with the Center and University. Three recommendations were made by the committee:

- a. an IEC force on be formed to make observational visits to relevant institutions in India and other countries including those in Hawaii;
- b. preparation of field manuals for communicators be initiated;
- c. specialized training in communication be provided to key personnel.

The task force was formed late in 1981 and January 1982 made a travel/study tour to Thailand, Indonesia and Hawaii. Discussions in Honolulu focussed on collaborative efforts identify appropriate resources to backstop the GOI FP Program stressing training, research and evaluation.

The next and most recent step in the process of identifying priority IEC needs in India and planning necessary to meet them was a second National Workshop, again organized by the NIHFW in collaboration with MOHFW. While national in the sense of the participating institutions, the focus for implementation was the five states in which USAID supports the IRHPP. The Workshop made recommendations for implementation of the communications (including IEC training) needs assessment, and identified priorities for training materials.

2. Priority IEC Problems at Center, State, District and Block Levels

The following appear the most urgent current population IEC problems:

a. Center Level

1. Planning

- IEC decisions are not being made by IEC specialists
- IEC staff are publicity oriented. There is over emphasis on drives and special events.
- There is no systematic participation of lower level (state, district, block) IEC staff in IEC strategy development.
- IEC staff are often assigned to the Ministry on a temporary basis and thus do not benefit for career advancement on the basis of their performance.
- There is little emphasis on overall strategic IEC planning.
- With the exception of Information and Broadcasting, there is little evidence of collaborative Planning with other sectors as called for in the Sixth Plan.
- There is inadequate attention to audiences other than potential acceptors, i.e., doctors and other opinion leaders, political leaders and staff of the program.

2. Management

- The level of IEC positions in MOHFW fails to reflect the importance of IEC in the FP Program.
- There is no scope for advancement by state IEC officers to center positions.
- State, district and block IEC officers are not adequately informed about the schedule of distribution of IEC materials by the Center.
- There is insufficient delegation of campaign materials development (accompanied by funds) to the states, districts and blocks.
- IEC planning ignores private sector resources.
- The tradition of producing prototypes for reproduction by states is ineffective.

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3. Monitoring and Evaluation

- There is no systematic use of research results in strategy development.
- No systematic way exists to obtain feedback from target audiences.
- There is insufficient pre-testing of materials.

4. Training and Continuing Education

- There is no well defined plan for involving the Central Training Institutes in communication training.
- The relationship between CTIS and Health and Family Welfare Training Centers is ill defined.
- There is no systematic procedure for translating and communicating MOHFW policy vis-a-vis IEC to the training institutions.
- There are no professional development opportunities, e.g., external study provided by the Center to state and district IEC staff.
- There are no training materials specially designed for IEC staff.

b. State Level

1. Planning

- MEM officers often lack background and experience in communication, or have a narrow orientation
- IEC officers lack the authority and resources to develop an overall IEC strategy
- IEC activities reflect a publicity bias
- Except for Information and Broadcasting there is little evidence of inter-sectoral IEC planning
- Due to heavy commitments the MEM officer rarely gets to extension educational efforts
- Materials and messages are biased towards terminal methods.

2. Management

- The development of IEC strategy is overly influenced by doctors
- IEC officers have insufficient financial authority
- Family welfare education and health education are separately operated in some states
- IEC officers typically have insufficient support staff
- Administrative responsibilities preclude regular interaction between state and district level officers
- The grading of IEC officers fails to reflect the importance of communication in the FP Program
- There is little opportunity for promotion
- The MEM officer is insufficiently involved, in an advisory sense, in Center level decisions
- There is little recognition of the potential contribution of private sector resources
- The MEM officer has an insufficient role in the evaluation of the IEC staff at lower levels
- There are no field manuals for IEC staff at district and block level
- Delays in the sanction and disbursement of funds hamper implementation.

3. Training and Continuing Education

- There is little opportunity for professional development through study and training.
- There is little opportunity for professional development through interaction with peers, i.e., IEC officers in other states, at the Center and in relevant institutions outside the state
- There is need for greater participation by MEM officers in the planning and implementation of IEC training at the Health and Family Welfare Training Centers, (HFWTCs)

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-- MEM officers are not actively involved in helping design IEC training in the Central Training Institutes located in their states

4. Monitoring and Evaluation

-- IEC Officers are not trained in evaluation techniques

-- There is little interaction between IEC officers and demographic and communication research centers in terms of operational IEC research

-- MEM officers lack the resources to obtain adequate feedback from IEC activities under their direction, and the authority to use the results in adjusting IEC strategy.

c. District Level

1. Planning

-- The policy of placing responsibility for mass education and media on the DEMO and extension education of the DEE hampers the implementation of an overall IEC strategy

-- There is little advance planning between district and block IEC staff

-- There is often no advance information on shipments of printed material from the Center, and no obvious relationship of these materials to a comprehensive strategy

-- Materials in support of special campaigns, e.g., Family Welfare Month, are shipped to district IEC officers without their adequate involvement in planning

-- District IEC officers are often uninformed in advance of mass media campaigns in their area, e.g., through All India Radio

2. Management

-- There is subtle pressure on IEC officers to concentrate on terminal methods

-- Performance evaluation is made by non-IEC staff

- There is no clear promotion path for IEC officers
- The great majority of district IEC officers are male
- District level support of block level officers is hampered by lack of mobility
- Funds are insufficient and sanctions not quick enough for local production of materials and media input
- Vehicles are frequently put to other use
- Lack of basic equipment precludes access to potentially effective channels, e.g., tape recorders and cassettes can be used on radio as well as in orientation training camps and in interpersonal communication

Films used by the Directorate of Field Publicity are often inappropriate

Much of the material depends too much on the printed word.

3. Training and Continuing Education

- IEC officers are inadequately trained
- IEC officers are inadequately involved in planning and conduct of the work of BEEs
- IEC officers have little opportunity to interact with their peers, within the state and in other

4. Monitoring and Evaluation

- The concept of pre-testing materials is largely undeveloped
- IEC officers are unfamiliar with techniques for assessing feed-back from their audiences
- Block Extension Educators are inadequately used to provide feedback
- IEC officers do not have access to evaluations of efforts similar to theirs.

d. Block Level

1. Planning

- BEEs play hardly any leadership role vis-a-vis peripheral health workers
- BEEs are rarely involved in communication planning and therefore relatively unaware of strategy.

2 Management

- Administrative duties assigned by the medical officer interfere with the priority work of the BEE.
- Medical officers lack understanding of the purpose and importance of IEC
- BEEs usually have no independent transportation and therefore tend to follow the very low travel pattern of the medical officer
- BEEs typically have little if any equipment, e.g., tape recorder, battery operated slide projector, etc.
- BEEs usually have little if any materials from which to produce or encourage others to produce low cost educational tools, i.e., paper, pens, glue, etc.
- Given the status of the medical officer and his influence on the BEE, plus the nature of current target setting, the IEC at the block level is biased toward sterilization
- The typical lack of supplies for non-terminal methods at PHC and sub-centers reinforces the bias toward sterilization
- BEEs are exclusively male
- Minimum qualifications for BEEs vary widely, and incumbents range from matriculates to graduates
- The promotion system in many states precludes recruitment of the most appropriate candidates (those with communication qualifications); and direct recruitment is not permitted. (In at least one state the BEE position is reserved as a promotion channel for health supervisors)

- Printed materials are in short supply at PCHs and rarely available at sub-centers; and of those available most is in English, supplied by DAVP/New Delhi, and few adequately use graphics
- BEEs perceptions of their importance suffers by his knowledge that the medical officer with less seniority is paid at a higher rate
- BEEs by virtue of long tenure in the block sometimes becomes overly identified with certain individuals and groups. In extreme instances he has become involved in political activity
- Failure to fill vacant BEE positions promptly is widespread
- BEE positions are often filled from surplus personnel from other Government departments.

3. Monitoring and Evaluation

- BEEs have little familiarity with or training in obtaining and assessing feedback
- The pressure on BEEs to maintain a high level of IEC activities involving a large populations and area inhibits program evaluation
- BEEs have no training in proper methods in selecting village leaders and opinion makers for advisory Committees and in Opinion Leaders' Training Camps.

4. Training and Continuing Education

- BEEs although typically in place for a number of years receive no regular refresher training
- Minimum qualifications entry level requirements reflect a lack of understanding and appreciation of communication
- There is inadequate recognition or commitment to the current objectives of family welfare as a result of inadequate training
- The typical HFWTC lacks the skill and resources to provide effective communication training

-- BEEs have hardly any opportunity to observe work of counterparts.

Recognition of the need to provide a central service to such specialized audiences as doctors, national and state leaders, opinion leaders and program staff resulted in the establishment of the Mass Mailing Unit in the late 1960s. Two newsletters, Center Calling and Hamare Ghar (our house) are the only continuing series of publications currently being mailed. Center Calling, which is especially appropriate for program staff, is produced in only 40,000 copies, including Hindi and English. Hamare Ghar, designed for lay audiences, is produced in 70,000 Hindi copies.

Special interest pamphlets, e.g. on Orals were mailed in the past year only to 5,000 (of the approximate to be 200,000) doctors. 100,000 copies of a recent statement by the Prime Minister discussing Family Planning month were distributed by MMU. The unit is capable of very large mailings, however, e.g. 700,000 UNICEF kits were mailed over a three-month period during 1982 but in most print runs fall between 50 and 100 thousand copies. Research results appearing in the press are sometimes compiled and mailed in special "Dear Doctor" letters. Consideration is being given to reestablishing the population Research Bulletin last issued in September 1979. Although there are over one million names in 84 categories with MMU there is no computerization, and it can be assumed many of the addresses are inactive.

The overall result is a series of tactics unrelated to any overall strategy.

C. The Key Intervention

Strengthening the training system for IEC personnel at all levels in the Family Welfare Program offers the greatest promise of alleviating many of the communications related problems throughout this report. However, an improved system of communication training is not sufficient by itself to affect the needed changes in the areas of planning, management, monitoring and evaluation. These involve basic GOI policy and administrative decisions. In committing itself to the model program, GOI has expressed its commitment to innovative approaches. In the Area Programs covering 45 districts in 12 states for example, various approaches are being tried.

D. The Universe for IEC Training

The number of staff directly or indirectly involved in the IEC component of the FP Program is very high. The project support for IEC can best cover those who train the trainers, providers and key opinion leaders and decision makers.

The India-wide number of government staff directly involved in IEC is approximately"-

State Mass Education and Media Officers	26
District Extension Educators	641
District Mass Education & Media Officers	351
Urban Extension Educators	609
Block Extension Educators	5226

In addition of course, are the Mass Education and Media staff of MOHFW and media staff in the various division of I and B, as well as support staff at all levels, e.g., artists, projectionists, photographers, etc.

To cope with the large numbers it is essential to train trainers. Thus, the relevant staff of the Central Training Institutes and the Health and Family Welfare Training Centers must be added to this list.

The Task Force Report on Communication identifies the following staff of the Central Training Institutes as the best for training as trainers in communication:-

<u>Institution</u>	<u>Staff Category</u>	<u>Number</u>
The Family Welfare Training and Research Center, Bombay	Social Science Instructors	4
Gandhigram Institute of Rural Health	Professor Health Education	1
	Rural Health Educator	1
	Lecturers, field work	2
	Audio-visual Officer	1
	Social Science Instructor	1
	T O T A L	6
All India Institute of Hygiene & Public Health Calcutta	Professor of Preventive Medicine	1

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	Asst. Prof., Health Education	1
	Audio-visual Medical officer	1
	T O T A L	3
Central Health Education Bureau, New Delhi	Deputy Director, Training	1
	Deputy Asst., Director General, Health Education	1
Central Health Education Bureau, New Delhi (continued)	Deputy Asst., Director General field area	1
	Deputy Asst. Director General, exhibitions	1
	Senior Editor Health Education Officer	1
	T O T A L	6
National Institute of Health and Family Welfare, New Delhi	Asst. Professor, Communication	1
	Asst. Professor Media	1
	Asst. Professor Information	1
	Asst. Professor, Hindi	1
	T O T A L	4

In addition to the officially designated CTIs there are several institutions which have either been involved in communication support of state family welfare programs, or by virtue of their work should be considered resource centers. The report of the National Workshop lists:-

Communications departments at the Universities of Bangalore, Bombay, Ahmedabad, Calcutta, Varanasi, and Hyderabad.

The Institute of Mass Communication, New Delhi.

The National Institute of Rural Development, Hyderabad.

The Indian Space Research Organization, Ahmedabad.

Agricultural Extension Institutes at Nilokheri, Anand and Rajendranagar.

National Institute of Design, Ahmedabad.

Association of Advertising Agencies of India, Bombay.

Indian Institute of Management, Ahmedabad.

All India Film and TV Institute, Pune.

Special Projects at Jamkhed, Silur, Tilonia, Vellore, Nadia.

The pattern of staffing in the 46 existing HFWTCs is established by Government and is uniform and at present includes:

Health Education Officer	1
Health Education Instructors	4
Social Science Instructor	1
Total Available for Training (6 x 46)	276

The current plan is to supplement the staff with both a Communication and Management specialist.

E. The Content of IEC Training

The training curricula for CTI staff and in particular the staff of NIHFV if it is to be designated the apex institution for IEC training and research, should include attention to communication theory including approaches to changing behavior. Stress should be on technology transfer, group dynamics, psychology of learning, use of media, communication planning and evaluation techniques. Emphasis at the HFWTC level where state, district and block level staff are trained should be on the following:

a. studying the community:

identifying specific local needs, identifying local resources for communication, planning communication activities;

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- b. extension techniques:
identifying opinion leaders, collaborating with other development leaders, organizing opinion leader camps, organizing advisory committees and building community support;
- c. using media at local level:
producing simple printed materials, using audio-visual equipment, extending the effectiveness of radio, producing simple teaching aids, planning;
- d. improving entrepreneurial communications
helping fieldworkers plan their work, supervision and support, counselling techniques, organizing PHC-level retraining courses for field workers;
- e. management aspects of Family Welfare staff work:
planning, organizing and supervising, appreciation of the roles of Family Welfare managers and field workers, training skills.

F. Area Program Training Initiatives

Considerable momentum has already been established on IEC training in the AID Area Projects. This had direct bearing such training on a broader scale. The National Workshop in August 1982 mentioned earlier focussed on three purposes for the communications needs assessment, two of which stress training:

- a. identifying the job functions of block and district communication as a means of clarifying their training needs;
- b. developing the mini-kap survey as a technique to obtain feedback on local attitudes and knowledge beyond that about sterilization which may have been implanted by GOI workers;
- c. identifying topics on which modular training materials should be developed.

RECOMMENDATIONS

A. AID Should Encourage and Support an improved System of IEC Strategy Development in India

The key element will be an apex institute under central government auspices; greater delegation of training responsibilities other Central Training Institutes (CTIs) and the Regional Health and Family Welfare Training Centers (RHFWTCs) and greater delegation of communication responsibilities all down the line of communication personnel.

Two initiatives in the Area Programs are of special relevance to the development of this system of feedback and evaluation. First, the Communication Needs Assessment (CNA) is in part designed to reveal local attitudes towards family messages. This should be extended to additional districts rapidly. Second, the Mini-Survey, a tool of CNA designed to involve the Block Extension Educator (BEE) in collaboration with the peripheral health workers in a continuous process of assessing the status of behavioral change at village level. This procedure should become a basic element of the overall system.

B. AID Should Support the Development of the Apex Principal Resource Institution for Population IEC

The apex institute should be the nodal one in a network, each with defined responsibilities in line with their best capabilities. The apex institute would be the lead institution for population IEC training and professional development, and thereby responsible for national conferences, high-level consultations, specialized seminars and train-the trainers activities. It should advise on decisions concerning professional development of Government IEC staff including external study.

The apex institutions should have analysts headed by a specialist in IEC research and evaluation. Its responsibility should be to assemble, analyze and interpret feedback from the field, process it into formats readily understood by policymakers and present these on a regular basis to MOHFW and the Communication Board which coordinates interministerial planning. These analysis should incorporate the latest research results systematically collect from the Demographic Research and Communication Action Centers, Population Centers, etc. An advisory group representing key communication teaching, research and action agencies, private sector advertising agencies and non-government voluntary agencies involved in Family Welfare related activities should be formed to regularly interact with the staff of the unit.

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The institute should be able to conduct research in support of its training objectives, as well as to assess current IEC research in process elsewhere.

It should serve as the nodal point for all agencies involved in training and IEC activities.

AID support for it should strengthen its contributions to CTIs and RHFWTs in training trainers and coordinating the production, use and evaluation of training materials.

The institutions and agencies involved in the IEC component of the Area Programs should be considered field laboratories for key center program participants and the subjects of collaborative research.

AID should contribute to professional development opportunities for its staff provide appropriate supplies and equipment and make available professional consultants both short and long term.

The obvious institution for development as the apex is the National Institute of Health and Family Welfare (NIHFW).

C. The Central Training Institutes Should be Strengthened In Their Capacity to Undertake Communication Training and Program Evaluation

The CTIs form the second level in training and program evaluation. Two additional institutions have particularly appropriate skills and should be added to those actually designated CTIs:

The Institute of Mass Communication, New Delhi, and The National Institute of Design, Ahmedabad. The CTIs thus far most directly involved in population IEC include, in addition to NIHFW:

The Family Welfare Training and Research Center, Bombay
The Gandhigram Institute of Rural Health, Gandhigram
The All-India Institute of Hygiene and Public Health, Calcutta
The Central Health Education Bureau, New Delhi
Strengthening CTIs is essential to link IEC strategy with the training, continuing education and evaluation functions at the state level. Both IIMC and NID have participated in state programs

CTIs already have formal responsibility for training specific categories of staff including District Medical Officers, District/Deputy Extension and Media Officers and trainers of health and family welfare training centers as follows:

CTI

NIHFW, New Delhi

CHEB, New Delhi

FWTRO, Bombay

AIHPPH, Calcutta

RHTC, Najafgarh, Delhi

States for Training

Rajasthan and UP

Bihar, Punjab, Haryana,
Himachal Pradesh

Gujarat, AP Maharashtra and
M.P.

West Bengal, Assam

Kashmir, Orissa

There will be occasions when block, i.e. in this context PHC level Medical Officers need training

There will be occasions when block, i.e. within context PHC level Medical Officers need training. As mentioned, CTIs should be developed to impart IEC training to their at CTIs or RHFWTCS.

To fulfill these new responsibilities substantial inputs will be necessary in terms of professional development, equipment and supplies and facilities.

CTIs and related IEC institutions should, like the apex institute, develop special relationships with the Area Programs in so that their training and evaluation activities are pragmatic.

D. The Regional Health and Family Welfare Training Centers Should be Strengthened as a Principal Resource for IEC Training of Block Level Staff

There are currently 46 RHFWTCS, at least one in each state; the Sixth Plan hopes to add 16. Those trained include PHC Medical Officers, BEEs, Health Supervisors and peripheral health workers.

The RHFWTC staff relevant to population communication needs are Health Education Instructors, Health Education Officers and the Social Science Instructors. They require intensive training at CTIs, only possible of course, after CTI key staff have been trained.

Given the number of HFWTCS, specially developed, some based on their strategic location, would be specially developed e.g.

RHFWTC at

Jabalpur
Pune
Ajmer

State for Training

Madhya Pradesh
Maharashtra
Rajasthan

130 X

Kharar
Ahmedabad
Varanasi
Gorakhpur
Kurnool
Cuttack
Kalyani
Madras
Bangalore

Punjab
Gujarat
Uttar Pradesh
Uttar Pradesh
Andhra Pradesh
Orissa
West Bengal
Tamil Nadu
Karnataka

Special attention to selected RHFWTCS should be coordinated with the projected plan to designate 23 RHFWTCS as Basic Training Schools for male Health Workers as counterparts to the ANM schools.

If accepted of this recommendation will develop RHFWTCS as the principal resource for training BEEs, and thus form the base of the training pyramid. As with CTIs, the selected RHFWTCS should receive extra training facilities, equipment and materials. Particular attention should be given to their libraries which currently have few IEC materials.

With the suggested plan the BEE becomes the major focus for retraining, thus the raison d'etre for institutional development.

Geoffrey Salkled has made a useful summary of the functions of BEEs which is an excellent basis for defining their training needs:-

1. identifying specific local needs, resources and constraints;
2. planning communication programs and activities;
3. mobilizing local resources, e.g., local talent, other development agencies, voluntary organizations;
4. managing events and activities such as OTCs and follow-up activities;
5. supporting the communication efforts of the paramedical field workers;
6. evaluation the impact of the communication program in order to report to the district level and improve the work.

To retrain 5226 BEEs to effectively perform as above is a major project. It cannot be done in short 2 or 3 week courses. Nor can they be taken away from their job for long residential courses. A phased process beginning with a 3 to 4 week course, followed by six months of field duty, another 3 to 4 week course and another year of field duty and a final refresher course is suggested as one possibility.

There is considerable interest in India in the Training and Visit (T & V) system used in agricultural extension. The BEE should be considered a key trainer in any adaptation of this within the FP Program, but only after he has been retrained in communication.

E. AID Should Support the Institutional and Professional Development Initiatives Described in the Foregoing Recommendations by Providing Consultant and Advisory Services

1. Professional Development/Training

To rejuvenate the institutions involved and increase the effectiveness of communication training for state, district and block level media and extension officers, a first step should be the provision of fellowships for external study. It is recommended that Seven awards in total for master's degree studies be made to NIHF, CTIs, NID and IIMC staff.

To activate the system without undue delay, additional staff from these institutions plus selected State Mass Education and Media Officers, preferably from Area Programs, should participate in external intensive workshops. Two groups of up to 20 each are suggested, one to emphasize IEC survey and evaluation methods; the other to focus on IEC train-the-trainer techniques, training materials production, and current practices in mounting IEC campaigns.

2. Advisory and Consultations Services

To facilitate development of NIHF as the apex institute, AID should provide a long term consultant for the seven year project period, a communications specialist. He should be given say 3 training visits to the US during the project period (say in '84, '86 and '88). The value of a top-flight fully trained and helped person available throughout the project period and thereafter as a major resource person is obvious to travel extensively within India; and be helped by a few short-term consultants visits by various US specialists.

To facilitate the development of both NIHF and CTIs, short-term consultancies from 4 to 6 months should be provided in training material design and development, evaluation techniques, audio-visual education and low-cost media, extension methods, printing and publication and documentation, information retrieval and dissemination methods.

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GOI has expressed its confidence in the University of Hawaii/East-West Center as a provider of many above services. The Asia and Pacific Programme for Development Training and Communication Planning, (DTCP) Bangkok is excellent for training trainers. The external workshop proposed for this purpose could well be organized by DTCP. The University of the Philippines Institute of Mass Communication (IMC) is perhaps the best source in Asia for Master's Degree study in Population Communication

The Population Institute through the efforts of David Poindexter has been successful in generating GOI interest at the highest levels in Televisa/Mexico's family planning soap operas. Given the demonstrated impact of the Mexican program, AID should encourage and support a collaboration between Televisa and GOI's Ministry of I & B to develop Indian versions of the FP soap opera, not only for TV but Radio and traditional rural entertainment media as well.

The Population Information Program of Johns Hopkins University was recently awarded a five-year contract for IEC field support, which includes needs assessment services, support for country projects, technical assistance (expert consultants), resource center services (prototype materials), meetings and workshops.

F. AID Should Support the Development and Expansion of GOI Efforts to Inform Policymakers and Opinion Leaders on Broad Policy Issues and Provide Family Welfare Staff with Program Relevant Information

With relatively modest inputs AID could significantly assist the Mass Mailing Unit (MMU) of MOHFW. Microcomputer capacity and a short term consultancy are recommended. The publications now being mailed directly to Indian recipients (by the Population Council, Family Planning International Assistance, PIACT, IPPF, PRB, Johns Hopkins and other AID contractors) could then be bulk shipped and mailed by MMU. MMU also mails material to program staff.

To begin with a quarterly US based quarterly mailing (organized through Family Health International (FHI) as per their proposal of January 1983) to 200,000 medical practitioners should certainly be considered, apart from any mailings designed in India for other groups. Within a year or so it should be possible to organize an India-based digest of international material through qualified part-time Indian medical personnel: in envelopes having the legend "With the compliments of the Embassy of United States" for maximum impact as genuine unimpeachable foreign material. This will probably value costs. Budgets have, however, been made assuming markings will continue from the US. Director can be trained in population related methods.

An internship at ESCAP is recommended. A short-term consultant in computerized retrieval and distribution would also be useful.

The mailing lists for publications of the organizations mentioned above should be reviewed and a master list of policy-makers and opinion leaders (including doctors) prepared. AID should support expanded mailing to these groups as well as to key program staff. One important aspect of the Population Council proposal for policy work in India is the generation of publications for this audience, and an India version of the Population and Development review should be considered.

G. AID Should Support Major International Workshops for Medical Practitioners, Chemists, FP officials, Educators and Media Personnel

The Family Health International (FIH) proposals of January 1983 for 5 major workshops in the 5 major cities of India with participation by experts of international known for these groups would address a crucial need of the entire FP Program in India. Such workshop should be held at least twice in the project period, say in '84 and '87.

H. AID Should Support Mini Workshops in Numerous Towns for Medical Practitioners

An external complementary activity to G above would be local workshops for doctors, organized through the town chapters of the Indian Medical Association (IMA). Around 100 of these can be organized every year with participation in many cases by some who have attended the major international workshops. Leading pharmaceutical companies have promised all assistance.

I. AID Should Support Testing of Extension Training and Practice

The most daunting aspect of the Family Planning problem in Indian is that the vast majority of the target population feels and thinks beyond the reach of any normal media, present or conceivable even in the medium-term. There is only one 'medium' to reach them: the veritable army of paramedics represented by the Village level Health workers. These are, so to speak, the vast blade of the scythe - everything else is only the handle. Unless this blade is sharpened, and kept sharp, the total programme must fall significantly below targets.

The only way to achieve and maintain this sharpness is training and re-training, developed and constantly refined by experience on the ground a broad assessment of practical time-frameness and likely costs: it would seem that, allowing for reasonable inflation,

something between \$ 30-35 million will enable every single village level worker, including Trained Dais (midwives) envisaged under GOI's "model plan" to cover every single village in time, can be trained within 7 years. This is possible, basically by progressively training every single trainer at every training level, and these in turn doing the same for every single person in the level below.

Obviously, there could hardly be a more worthwhile expansion of this project after it is established and running satisfactorily. In fact, it should almost certainly be a new project. As obviously, it cannot even be begun sensibly without large-scale experience on the ground under varying conditions, which will take both time and money. The former India really doesn't have; the latter need not be a problem.

There is the most powerful case, therefore, for putting the maximum possible behind Extension Training and Practice Model Testing, particularly based on the T & V system so successful in agriculture. This is the real springboard for the future.

J. AID Should Support the Installation of TVs in Urban PHCs

Especially with the possibility of collaboration by Televisa of Mexico in the doyen of soap-operas of the kind found so successful in Mexico, a large scale experiment with TVs in the urban areas at least would be very valuable, say with some 600-700 sets.

K. AID Should Support Special Feature Writings

Specially commissioned feature articles by journalists and other professionals of great repute and unimpeachable credentials for the lay, both English and Vernacular, would cost relatively little and have immense and widespread effect. Support should include not merely handsome payments, but also in selected cases, travel costs to enable genuine on-the-spot investigation and insights.

L. AID Should Support Distribution of Foreign Publications for Policy Makers, Opinion Framers and Program Staff

This is self-explanatory.

M. AID should Support Production of Layouts, Editing and Printing of of Mass Mailing Material

This is self explanatory.

ANNEX E. 3.

RECENT POPULATION TRENDS IN INDIA

The population of India has nearly doubled during the 34 years since independence, from 344 million in 1947 to 684 million in 1981. The 1981 Census figures disappointed expectations of a marked decline in growth rate during the 1970s in comparison to the 1960s. The population grew by 24.75 percent between 1971 and 1981, a shade less than the intercensal growth (24.80 percent) of 1961-71. The 1981 Census count was 12 million more than the amount projected for this period and used for the Five Year Plans of 1978-83 and 1980-85. In contrast, the 1971 Census count was 14 million less than the projected figure. Some observers believe that the 1971 Census had more deficiencies than the 1981 Census. Others believe that the birth rate since the mid-1960s has not declined as markedly as earlier estimates of fertility and mortality trends suggested.

Fertility prior to 1961 was high and remained virtually constant. Different estimates based on the 1951 and 1961 Census data vary between 42 and 48 per 1,000 population. However, there seems to be some consensus among researchers that the average birth rate for this period was about 45. For 1961-71, the estimates of average birth rate vary between 40 and 42. These estimates imply that the birth rate between 1951-61 and 1961-71 declined by 3-5 points (7-11 percent), though there is enough room for error given the range of estimated birth rates for the 1951-61 period. The picture during the 1970s, however, will not be clear until the fertility tables from the 1981 Census are published (probably in October, 1983).

The age distribution from the 1981 Census required to estimate the average birth rate for 1971-81 is not yet available. The estimates based on the Sample Registration System (SRS) of the Registrar General show that the birth rate declined from 36.8 in 1970 to 33.2 in 1978, that is, by about 10 percent. However, estimates from two surveys conducted by the Registrar General's office show that the total fertility rate (TFR) declined by 20 percent in rural areas, and by 18 percent in urban areas between 1972 and 1978. The SRS estimates of birth rate for the early 1970s, according to some researchers, may be underestimated by as much as 8 percent. The degree of underestimation in birth rates for the late 1970s is not known. An average annual death rate of about 15 and an average annual growth rate of 2.2 percent would imply a birth rate of about 37 for the mid-point of the 1971-81 decade. It would further imply a decline in birth rate between 1961-71 and 1971-81 on the order of 3-5 points. It is quite plausible that the decline in

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birth rate estimated between 1951-61 and 1961-71 continued during the 1970s. If so, the decline in birth rate during the 1970s at least compensated for the decline in death rate during this period and arrested the increase in the average annual growth rate from one decade to the next as observed since 1921.

As described in the Background and Rationale of this Project Paper, the data from the Registrar General's Sample Registration System show important age specific declines during the 1970's. Table 3 in the PP shows adjusted figures for the periods 1972 and 1978, all-India. Table 1 of this Annex shows unadjusted age-specific marital fertility rates from the RG's Office, by urban/rural residence. It is notable that the decline in total marital fertility for rural population was 1.4, equal to the decline for the urban population. This Table is provided as more detailed background.

The rates of population growth vary substantially in different regions and states in India. Among 14 states with a population of at least six million, excluding Assam, total growth between the 1971 and 1981 Censuses ranged from a low of 17.2 percent in Tamil Nadu to a high of 32.4 percent in Rajasthan. The most populous state of Uttar Pradesh, with about 111 million people in 1981, grew by 25.5 percent during the 1970s in comparison to 19.8 percent during the 1960s. The state of Kerala, on the other hand, with about 25 million people in 1981, grew by 19 percent during the 1970s. Eight states showed a decline in intercensal growth for 1971-81 in comparison to 1961-71: Tamil Nadu, Kerala, Orissa, Gujarat, Haryana, Madhya Pradesh, Maharashtra, and West Bengal. The intercensal growth went up in the remaining six states: Andhra Pradesh, Bihar, Karnataka, Punjab, Rajasthan, and Uttar Pradesh. These six states contained nearly half (47 percent) of the country's population in 1981. The extent to which these different patterns of population growth are due to differences in fertility, mortality, interstate migration, or differences in underenumeration in Censuses cannot be fully ascertained at this time.

Shortly after the 1981 census and based solely upon the preliminary headcount, the Perspective Planning Division (PPD) of the Government of India, Planning Commission produced revised population projections. Tables 2, 3 and 4 of this Annex show the results of three sets of projections each using different assumptions about the changes in fertility and reproduction rates. Set II represents PPD's projections based upon attaining the net reproduction rate of 1.00 between the years 1996 and 2001. Sets I and III employ assumptions for NRR of 1.21 and 1.25 respectively. The set I projections are probably the most realistic. Set I

projections provided the basis for USAID estimates of population size by age, and gender, employed in calculations of potential market sizes in technical analysis of the project paper (See Table 4 of this Annex).

TABLE 21

Age-specific Marital Fertility Rates, 1972 and 1978*

<u>Age group</u>	<u>Rural</u>		<u>Urban</u>	
	<u>1972</u>	<u>1978</u>	<u>1972</u>	<u>1978</u>
(1)	(2)	(3)	(4)	(5)
15-19	211.5	175.2	220.6	197.3
20-24	312.9	270.7	312.6	278.4
25-29	302.8	243.4	284.3	204.2
30-34	248.8	181.5	201.2	123.9
35-39	170.1	122.8	123.7	73.4
40-44	94.5	62.0	52.5	28.3
45-49	32.4	26.5	15.5	10.5
Total Marital Fertility (TMF)	6.8	5.4	6.0	4.6

*From, P. Padmanabha, "Population of India: Some Dimensions". in Yojana, 26 January 1983, p. 4.7.

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TABLE 22

Projected Rural-Urban Population as on 1st March
and their Growth rates: 1981-2001

Year	Projected Population (million)			Percentage urban to total	Growth Rate (per cent)		
	Rural	Urban	Total		Rural	Urban	Total
SET I							
1986	559.9	193.1	753.0	25.64	1.41	3.51	1.93
1991	592.9	227.0	819.9	27.69	1.15	3.24	1.70
1996	620.8	264.0	884.8	29.84	.92	3.02	1.52
2001	643.1	303.8	946.9	32.08	.71	2.81	1.36
SET II							
1986	556.3	191.8	748.1	25.64	1.28	3.38	1.80
1991	583.6	223.5	807.1	27.64	.96	3.06	1.52
1996	603.4	256.6	860.0	29.84	.67	2.76	1.27
2001	614.9	290.4	905.3	32.08	.38	2.47	1.03
SET III							
1986	560.5	193.2	753.7	25.64	1.43	3.52	1.94
1991	595.5	228.0	823.5	27.69	1.21	3.31	1.77
1996	625.8	266.2	892.0	29.84	.99	3.10	1.60
2001	650.3	307.2	957.5	32.08	.77	2.87	1.42

From, Perspective Planning Division, Planning Commission "Population Projections in the Light of 1981 Census Provisional Population Totals," 1982.

TABLE 23

Various Demographic Measures of the Projected Population

Year	Birth rate	Death rate	Growth	OPR	TFR	GRR	NRR
1971-1976	39.50	16.52	22.97	0.19	5.6	2.77	2.01
1976-1981	36.56	14.98	21.58	0.17	5.21	2.54	1.90
<u>SET I</u>							
1981-1986	32.80	13.54	19.26	0.15	4.53	2.21	1.70
1986-1991	29.30	12.29	17.01	0.13	3.89	1.90	1.50
1991-1996	26.50	11.28	15.22	0.11	3.38	1.65	1.34
1996-2001	24.00	10.44	13.56	0.10	2.97	1.45	1.21
<u>SET II</u>							
1981-1986	31.34	13.38	17.96	0.14	4.32	2.11	1.62
1986-1991	27.28	12.10	15.18	0.12	3.58	1.75	1.3
1991-1996	23.80	11.11	12.69	0.10	2.97	1.45	1.17
1996-2001	20.58	10.32	10.26	0.08	2.46	1.20	1.00
<u>SET III</u>							
1981-1986	33.01	10.56	19.45	0.15	4.57	2.23	1.71
1986-1991	30.06	12.36	17.70	0.14	3.99	1.95	1.54
1991-1996	27.31	11.33	15.98	0.12	3.50	1.71	1.39
1996-2001	24.60	10.44	14.16	0.10	3.07	1.50	1.25

GFR = General Fertility Rate
 GRR = Gross Reproduction Rate

NRR = Net Reproduction Rate
 TFR = Total Fertility Rate

From, Perspective Planning Division, Planning Commission "Population Projections in the Light of 1981 Census Provisional Population Totals," 1982.

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TABLE 24

Projected Population by Age and Sex as on 1st March India: 1986-2001
SET 1, Perspective Planning Division Projections

A-GROUP	1986 MALE	1986 FEMALE	TOTAL	1991 MALE	1991 FEMALE	TOTAL	1996 MALE	1996 FEMALE	TOTAL	2001 MALE	2001 FEMALE	TOTAL
1	2	3	4	5	6	7	8	9	10	11	12	13
0-4	52823	49882	102705	52369	49491	101860	52032	49209	101241	51315	48565	99880
5-9	50302	46993	97295	50919	47659	98578	50723	47565	98287	50636	47571	98207
10-14	47070	43715	90784	49692	46262	95954	50370	47006	97376	50246	47001	97246
15-19	41694	39124	80818	46464	43011	89476	49120	45604	94723	49858	46424	96282
20-24	37743	34977	72720	40915	38295	79210	45684	42201	87885	48387	44852	93239
25-29	31607	28881	60488	36880	34086	70966	40076	37425	77502	44855	41358	86213
30-34	25551	23705	49256	30801	28045	58846	36039	33203	69242	39270	36570	75840
35-39	21349	20266	41616	24787	22926	47713	29975	27216	57192	35184	32333	67517
40-44	18423	17699	36122	20560	19511	40071	23959	22151	46111	29083	26392	55475
45+	62919	58281	121199	70426	66796	137224	79064	76158	155221	89960	87038	946897
TOTAL	389481	363521	753001	423813	396083	819896	457042	427738	884781	488793	458104	946896

ANNEX F.

SUPPLEMENTAL MATERIALS

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ANNEX F.1.

DRAFT MEMORANDUM OF ASSOCIATION FOR THE CONTRACEPTIVE
MARKETING ORGANIZATION

I. NAME OF THE SOCIETY

The name of the Society is " _____ "

II. REGISTERED OFFICE

The Registered Office of the Society will be situated in the Union Territory of Delhi and for the present it is at _____, New Delhi, or at any place on the recommendation of the governing board of the Society after it has passed an appropriate Resolution in this regard.

III. AIMS AND OBJECTIVES

The objectives of the Society shall be the planning, promotion and implementation of any charitable purpose or purposes of general public utility intended to advance the well-being of the people of India without distinction of caste, community, creed, faith, religion, ethnic group, language or sex. The following, among others, are specific functions of the Society:

(1) To act and function as a non-profit, non-sectarian charitable organization in the general field of family welfare or family planning;

(2) To study, publicize, plan and launch programs addressing problems of population growth, birth control, fertility, family welfare or family planning; to popularize and encourage the use of all appropriate types of ethically, medically and socially permissible birth control methods, drugs, devices, and appliances.

(3) To assist, sponsor, cooperate and collaborate in the improvement, development and implementation of schemes, plans or programs of government, semi-government or any other body, society, institution, organization, agency or combination thereof for promoting the adoption of family planning methods and products;

(4) To support and strengthen the Government of India's plans and programs in the field of health care and family planning;

(5) To participate in the production and distribution of all types of family planning methods and products; to participate in programs to make such goods and services available throughout India;

(6) To collaborate, cooperate, assist and communicate with national and international governments, institutions, organizations or individuals in the field of family planning; to participate in collaborative research, exchange of teachers, scholars, professionals and other experts;

(7) To remove superstitions, misinformation, mistaken beliefs and objections and ignorance connected with the adoption and use of birth control techniques and products;

(8) To publicize or distribute pamphlets, journals and other materials on family planning and related services;

(9) To plan, finance and or implement programs of promotion and advertisement of family planning methods and products;

(10) To participate in programs to disseminate information, provide educational materials and programs and establish and improve communication systems in the field of family planning to support and coordinate with other programs in these areas in India;

(11) To enlist the services of doctors, paramedical personnel, midwives, social scientists, social workers, nurses, teachers and other specialists, consultants and concerned individuals and organizations with or without remuneration.

IV. AUTHORITIES

In furtherance of its aims and objectives, the Society shall have the authority:

(1) To Establish an office in or near New Delhi;

(2) To establish and maintain subsidiary offices or branches in various places of India;

(3) To set up, organize, finance, sponsor or otherwise assist organizations, societies or governments of India in carrying out programs in family planning;

(4) To fund or otherwise support the development or invention of new methods, techniques drugs, devices and appliance for family planning;

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(5) To organize and undertake demonstrations, exhibitions, discussions and lectures;

(6) To negotiate with and enter into agreements with any government or authority including national, state, district, municipal, local and others in the field of family planning and to apply for collect, receive or recover from any such governments, grants, allowances, donations, gifts in cash or kind, contribution, securities, property, rights, concessions and privileges;

(7) To set up, retain and manage assets as an endowment for the benefit of family planning programs and activities;

(8) To acquire, purchase, exchange, lease, sell, manage, mortgage, borrow and lend, land, buildings or any other moveable or immoveable property with all rights pertaining thereof; to operate and manage such properties and buildings;

(9) To invest any surplus funds in deposits with banks or other institutions and to purchase securities with such funds under the applicable laws in force;

(10) To recruit, appoint, hire, promote, reassign, and discharge personnel and to compensate them with wages, salaries and other forms of payment as it sees fit in accordance with law and prevailing practice;

(11) To contract for goods and services, both within India and with foreign entities;

(12) To set up committees, governing boards, working groups or task forces and to make rules and regulations for the conduct and management of the Society and its various activities; to add, amend, vary and rescind any of these;

(13) To enter into agreements of whatever nature for and on behalf of the Society; to negotiate, sign and issue checks, drafts, certificates, receipts, securities and other similar documents;

(14) To use assets and income from any sorts for the advancement of objectives of the Society;

(15) To grant, prize awards, scholarships, travel grants, research grants, stipends and other investments for the advancement and objectives of the Society.

V. LIMITATIONS

(1) The society will not be permitted to be involved in any activity for profits.

(2) The society will not be permitted to engage in activities directly benefiting any political party or group.

VI. DISSOLUTION OF SOCIETY

The Society shall have perpetual succession by its corporate name. But if, in the course of time, there should be a dissolution of the Society and if at that time there shall have remained, after the satisfaction of the Society's just debts and liabilities, any assets or property, moveable or immoveable, of any nature whatsoever, the same shall not be paid out to or distributed among the members of the Society or any of them, but shall be given to some other Society, which Society is to be determined by the votes of not less than three-fifths of the members of the society present, personally or by proxy, at a general meeting, of the Society convened for this purpose at the time of the said dissolution or in default thereof by the principal court of original civil jurisdiction of the District in which the Registered Office of the Society is situate.

VII. GOVERNING BOARD

The governing board of the Society shall be the Board constituted in accordance with the rules and regulations of the Society. The names, addresses, occupations and designations of the present members of the Governing Board to whom the management and affairs of the Society are entrusted as required under Section 2 of the Societies Regulations Act, 1860, read with Punjab Amendment Act, 1957 as extended to the Union Territory of Delhi, are:

Sl.No	Name and Address	Occupation	Designation
-------	------------------	------------	-------------

VIII. DESIROUS PERSONS

We the undersigned persons desirous of forming a Society named _____ under the provisions of the Societies Regulation Act XXI of 1860, as amended or extended to the

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Union Territory of Delhi in pursuance of this Memorandum of Association, do hereby certify that the above is a true copy of the Memorandum of Association of the Society.

S.No.	Name and Address	Occupation	Designation	Signed
-------	------------------	------------	-------------	--------

Witnesses:

	Name	Address
1.		
2.		

New Delhi
Dated

ANNEX F-2

CMO ORGANIZATION

This annex presents a summary of the analysis and recommendations from the extensive consultancy provided to USAID and GOI by Price Waterhouse of India (PW) completed in March 1983.

OVERVIEW

PW's workscope was to prepare a comprehensive design - covering organization, statutory and cost aspects - of the proposed organization for social marketing of contraceptives (the CMO). This analysis was based on data gathered from the following sources : Central and State Governments, companies manufacturing and/or distributing condoms and orals, advertising and market research agencies, private voluntary organizations and Prior analysis by USAID and earlier USAID consultants.

OBJECTIVES, ROLE AND CONCEPT OF THE ORGANIZATION

The proposed organization's essential role would be to create and satisfy a demand for non terminal systems of contraception.

With this perspective, the CMO's working objectives would be to aid and assist Government of India on matters relating to family planning policy, and to design and implement a program for expanding full cost and social marketing of contraceptives.

The following concepts were to determine the character of the organization : commercial outlook on operations; effective level of autonomy; synergy of private sector and governmental strength; ability to serve as a lead institution; compactness in size and structure, and dispersion (de-centralization) of its operating responsibilities.

FUNCTIONAL RESPONSIBILITIES

The organization would operate directly, in the areas of free and subsidized marketing of orals, IUD's and condoms. This would involve the following range and emphasis of functions:

- Direct procurement of contraceptives from manufacturers, maintaining a 'watchdog' role on quality control;
- Distribution planning and implementation, taking up free distribution of contraceptives in as a phased manner;
- Information, education and communication (IEC) Support to MOHFW activities

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-Active conduct of advertising and promotion campaigns through professional agencies and review of their efficacy

-Monitoring, evaluation and planning of the market program, using a well developed market research and information system.

PW examined the viability of various sources of funds available to meet total project costs, i.e. organization plus operational costs. The following criteria were used:

Feasibility, quantum, dependability and effect on autonomy of possible alternative sources.

Recurring grants-in-aid from Government of India appeared by far to be the most important source of funds to the project; supplementary sources that may be possible to develop are : capital grants-in-aid from GOI (non-recurring) to cover initial costs, revenues from contraceptive sales and donations from non-government sources.

PROPOSED FORM OF ORGANIZATION

After considering the features of the alternatives that present themselves, the choice of a form of organization appears to rest between: a registered society, a non-government (non-profit) company limited by guarantee and falling under section 25 of the Companies Act and a statutory company formed by an Act of Parliament.

A statutory company should be ruled out as an immediate option mainly because of its inherent rigidity (e.g. the need to go to Parliament for changes in the charter) and the length of time required for its formation.

While a company and society both present certain advantages, the latter appears to PW to be preferable because it offers greater flexibility through its mandate, and involves fewer statutory requirements.

ORGANIZATION STRUCTURE AND CONTROL SYSTEMS

The organization structure proposed by PW is presented in an Annexure to this chapter. The following are it's salient features.

(1)The Governing Board has been designed with around 12 members, made up of 3 secretaries to Government, 3-4 full time Directors of the Organization and 5-6 representatives of the range of manufacturing/marketing and private interests. Of these 1 director could be a nominee of a donor agency.

(2)The Advisory Council to the Board would have 15-20 members, covering the range of interested groups involved in the organization.

(3)The Marketing Advisory Panel would be a group of 5 eminent marketing professionals, who could act as an advisory resource to the Chief Executive, with two product directors would serve as a 'think-tank' to the organization.

EXECUTIVE LEVEL STRUCTURE

(4)The organization structure proposed differentiates responsibilities clearly along product lines. It appears also to be a more compact and balanced framework than the two main alternatives which are structures involving delineation of responsibilities along functional and market lines.

(5)In the proposed structure there would be two main product departments - catering to condoms and orals/IUDs - using common marketing service - advertising, market research etc.

(6)The structure provides for a decentralised functioning through 5 regional offices - located say, in Delhi, Lucknow, Bombay, Calcutta and Madras. Each regional office would, in conjunction with the concerned state governments and regional agencies form a compact State Level Council to plan and monitor its functioning.

EVALUATION AND CONTROL

(7)It appears to be preferable for the donor agencies to retain the minimal level of physical representation on the organization, that would allow for counselling role when called for and monitoring of the use of its funds. This has been proposed through, inter alia , the following mechanisms:

- representation on the Board of one donor agency nominated director, not necessarily an agency employee
- participation on the annual evaluation committee
- opportunity to formally place policy recommendations before the board
- access to periodically prepare review of operating results.

ANNEX F.3

PRELIMINARY CALENDAR OF PROJECT EVENTS

1. Expanded Marketing and Distribution:

- | | |
|-----------------|--|
| July, 1983 | - Project Agreement Signed |
| August, 1983 | - CMO Selection Committee convened |
| September, 1983 | - CMO Governing Board Members Appointed
- Board convened/Draft Charter reviewed |
| October, 1983 | - CMO registered with GOI as a society
- GOI/Finance capitalizes 1st year of CMO. |
| November, 1983 | - A.I.D. reimburses GOI for 1st year capitalization
- Chief Executive and Marketing Director appointed |
| December, 1983 | - H/Q office established; other H/Q staff recruitment begins |
| January, 1984 | - Remaining H/Q staff recruited
- CMO procurement services to NIHFV begin (IEC)
- Market research consultations begin |
| February, 1984 | - Regional Offices established; recruitment begins
- Responsibility for GOI Social Marketing transferred to CMO
- First year commodity procurement requirements submitted to GOI |
| March, 1984 | - Regional Staff recruitment completed |
| April, 1984 | - Multi-year plan and budget for advertising completed
- Policy studies strategy reviewed by Board
- multi-year plan and budget for market research completed |

- May, 1984 - Multi-year marketing plan completed
- June, 1984 - Second year CMO budget drafted; Board review
- Policy studies begin
- Workshop for marketing and manufacturing companies
- Additional CMO Staff recruited.
- July, 1984 - Partial responsibility for free distribution transferred to CMO
- August, 1984 - Joint NIHFV and CMO multi-year IEC plans completed
- September, 1984 - GOI Provides Second-year capitalization
- A.I.D. reimburses GOI for 2nd year costs
- October, 1984 - CMO completes full multi-year planning exercise
- November, 1984 - First joint GOI, UNFPA and A.I.D. Evaluation Exercise
- February, 1985 - First Annual Marketing Report
- June, 1985 - Third year CMO Budget submitted
- September, 1985 - Third year capitalization provided
- November, 1985 - Second Joint GOI, UNFPA and A.I.D. Evaluation Exercise
- February, 1986 - Second Annual Marketing Report
- June, 1986 - Fourth year CMO Budget completed
- September, 1986 - Fourth year capitalization provided
- February, 1987 - Third Annual Marketing Report
- June, 1987 - Fourth year CMO Budget completed
- July, 1987 - Third Joint GOI, UNFPA and, USAID Evaluation Exercise
- September, 1987 - Fifth year capitalization provided

- February, 1988 - Fourth Annual Marketing Report
- June, 1988 - Sixth year CMO Budget completed
- September, 1988 - Sixth year capitalization provided
- February, 1989 - Fifth Annual Marketing Report
- March, 1989 - Fourth Joint Evaluation Exercise
- June, 1989 - Seventh year CMO Budget completed
- September, 1989 - Seventh year capitalization provided
- February, 1990 - Sixth Annual Marketing Report
- June, 1990 - Eighth year CMO budget completed
- September, 1990 - Eighth year capitalization provided, if required and appropriate

2. Strengthened GOI Communications

- July, 1983 - Project Agreement signed
- August, 1983 - GOI IEC Task Force reactivated and convened
- Appoint NIHFW (or other) as "apex" body for communications training
- September, 1983 - Selection of micro-computer and software (mass mailing at MOHFW; documentation at NIHFW)
- October, 1983 - MOHFW and NIHFW complete 7-year plan for procurement of consultant services in IEC
- Selection of new newsletter for medical practitioners
- November, 1983 - MOHFW and NIHFW initiate consultant services
- NIHFW completes 7-year plan for overseas component of training plan
- December, 1983 - NIHFW identifies first overseas training participants
- January, 1984 - Trainer workshops for CII staff (by NIHFW)

February, 1984

- Radio/TV drama consultancy with Televisa

March, 1984

- Computer-assisted mass mailing to medical practitioners begins
- Computer-assisted NIHFV documentary service begins

April, 1984

- Professional overseas participant training begins

3. Demographic and Development Studies

July, 1983

- Project Agreement Signed

August, 1983

- RG Census Commission plans demographic analysis workshops and training with EWPI; first events detailed

September, 1983

- RG's office specifies multi-year BuCen training and computer technology transfer

October, 1983

- PASA with BuCen amended to include Indo-U.S. collaboration, training, and technology transfer
- A.I.D. centrally-funded contract with EWPI amended to include Indo-U.S. collaboration and training
- RG provides prospective list of participants for initial EWPI and BuCen training, and analytical workshop

November, 1983

- Demographic analyses begin in collaboration with RG and EWPI

March, 1984

- First Workshop in Demographic Analysis held under auspices of Census Commissioner, GOI, with assistance from EWPI specialists

March, 1984

- Two participants from RG to conference in Honolulu of Census Directors

May, 1984

- Workshop results published and disseminated
- Three participants attend 5 week summer seminar at EWPI in "Own Child" methodology

July, 1984

- First four trainees begin at POPCOM, Philippines

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September, 1984

- Three participants begin 10 months training in U.S. (BuCen) in sampling, statistical analysis and computer data systems

March, 1985

- Three participants begin four month training in U.S. (BuCen) in sampling, statistical analysis, etc.

July, 1985

- Participants in U.S. return
- Fifth trainee begins at POPCOM, Philippines

September, 1985

- Three participants begin 10 months U.S. training in sampling, statistical analysis, etc.
- Studies in migration begin, in collaboration between JNU, RG and EWPI.
- Workshop in demographic analysis and projections
- Workshop proceedings published and disseminated

February 1986

- Second South Asia Regional Conference on population trends, cosponsored by GOI, EWPI, (Project funds) and Rockefeller Foundation.

March, 1986

- Two participants from RG to conference of Census Directors in Honolulu

April, 1986

- Three participants begin 4 months BuCen training

June, 1986

- First four POPCOM trainees return

July, 1986

- Participants in U.S. return

March, 1987

- Two participants from RG to Census Directors Conference in Honolulu
- Workshop in migration, using data from study

April, 1987

- Three participants to BuCen for 4 mos.

June, 1987

- Fifth POPCOM Trainee returns

July, 1987

- BuCen participants return

April, 1988

- Three BuCen Participants return

June, 1988

- Sixth POPCOM Trainee returns

July, 1988

- BuCen participants return.

4. Indo-US Biomedical Collaboration

- July, 1983 - Project Agreement signed
- August, 1983 - U.S. biomedical contractor confirmed (PARFR);
- Visit to India; Indian participant in U.S. Task Force selected
- October, 1983 - A.I.D. Contract with PARFR amended to provide support to key U.S. institutions for Indo-U.S. collaboration
- November, 1983 - U.S. Task Force on Immunology of Reproduction convened in U.S.
- Indian specialist visits U.S. labs/vice versa
- January, 1984 - Immunology proposals reviewed by Task Force members
- U.S. Task Force Second Meeting
- February, 1984 - PARFR awards 2 to 3 sub-contracts to U.S. Institutions
- March, 1984 - Transfer of Cryo-preservation technology
- April, 1984 - Selected materials exchanged between Indian and U.S. laboratories
- June, 1984 - Indian specialists visit U.S. labs/vice versa
- PARFR awards 2 to 3 final subcontracts to U.S. institutions
- August, 1984 - Joint Report by Institute of Immunology and PARFR to GOI/Dept. of Science and Technology and to USAID on progress and plans for year 2
- October, 1984 - Third Meeting of U.S. Task Force on Immunology
- Review of future needs (if any) for further bilateral support
- November, 1985 - Fourth Meeting of U.S. Task Force on Immunology
- December, 1985 - Distribution of Research Reports

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ANNEX F.4.

ACTIVITIES AND PROJECTS OF OTHER DONORS

1. The United Nations Fund for Population Activities (UNFPA)

UNFPA has assisted India's family planning program since 1974 through two five-year programs. Under the first, signed in July 1974, it provided over \$42 million to support a variety of national projects, including provision of family planning information, education and training; integration of family planning into the national health system; provision of equipment and contraceptives; and local production of contraceptives.

In June 1980, a second five-year agreement (1981-86) was negotiated for around \$100 million, which UNFPA constraints reduced to \$80 million. In addition to continuing support for some of the national projects, about 60 percent of this supports MOHFW's intensive Area Program in nine districts in Bihar and Rajasthan; this program is intended to develop delivery services to areas where incomes are particularly low.

During the interim period (1980) between the first and second five-year agreements, UNFPA also provided approximately \$2.8 million bridging support to national projects.

Under the current project, UNFPA will give over \$ 30 million more for contraceptives and raw materials.

2. The World Bank

The Bank began its population support to India in 1973, in cooperation with the Swedish International Development Authority (SIDA). By the time the project was completed in 1979, it had provided over \$31 million for a broad framework of health and family planning services in 12 districts in Uttar Pradesh and Karnataka. The project covered construction, vehicles, equipment, training facilities and evaluation. The Bank embarked on a similar five year project in July, 1980, totalling \$40 million. This will support MOHFW's Area Program in nine districts of Uttar Pradesh and Andhra Pradesh. Its focus is on infant mortality, maternal and child health and fertility.

3. Overseas Development Administration (ODA) of the U.K.

From 1977 to 1980, ODA provided approximately \$5.5 million to improve sterilization facilities in 1,000 primary health centers and to equip or build 325 sub-district hospitals. A second ODA project began in July, 1980. This provides about \$20 million over five years to strengthen the rural health and family planning system in five districts of Orissa.

4. Norwegian Agency for International Development (NORAD)

Between 1973 and 1977, NORAD supported the All India Hospitals Postpartum Program and family planning programs in rural areas with about \$5 million. Under a second agreement it provided a further \$26.5 million for the same program between 1977 and 1982. A third agreement began in April, 1981, providing nearly \$4 million to expand the Postpartum Program to 50 subdistrict hospitals.

5. Danish International Development Agency (DANIDA)

DANIDA contributed around \$2.4 million in 1973-81 for buildings for the National Institute of Health and Family Welfare; and \$220,000 between 1976 - 78 for equipment and supplies for the Central Drug Research Institute in Lucknow. In 1980 and 1981, DANIDA negotiated five-year agreements to support MOHFW's Area Program in two States. These provide about \$30 million for ten districts in Madhya Pradesh and Tamil Nadu.

6. Swedish International Development Authority (SIDA)

SIDA provided about \$12 million in 1973-78 for the purchase of contraceptives, and over \$ 400,000 in 1978-81 for vitamin "A" capsules for the maternal and child health program.

ANNEX F.5.COST DETAILS FOR PROJECT COMPONENTS

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e. Budget Estimates for Information, Education and Communication.	157
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g. Budget Estimates for Biomedical Research.	164

TABLE 25

a. PROJECTED OPERATING BUDGET ESTIMATES FOR CONTRACEPTIVE MARKETING ORGANIZATION
 (\$ 000 equivalent)

	<u>FY 1984</u>	<u>FY 1985</u>	<u>FY 1986</u>	<u>FY 1987</u>	<u>FY 1988</u>	<u>FY 1989</u>	<u>FY 1990</u>	<u>T O T A L</u>
1. Salaries and Fringe Benefits	495.0	544.5	599.0	659.0	725.0	797.0	876.0	4,695.5
2. Travel and Transportation	440.0	484.0	532.0	585.0	643.0	707.0	778.0	4,169.0
3. Vehicle Leasing	41.6	45.7	50.0	55.0	60.0	66.0	72.0	390.3
4. Vehicle Operations	52.0	57.2	63.0	69.0	76.0	83.0	91.0	491.2
5. Office Expenses (including rent)	280.4	308.4	339.0	373.0	410.0	451.0	496.0	2,657.8
6. Meeting Expenses	66.0	72.6	80.0	88.0	96.0	105.0	115.0	622.6
7. Consultant Fees etc.	66.0	72.6	80.0	88.0	96.0	105.0	115.0	622.6
8. Furniture, Fixtures & Office Equipment	310.0	-	-	-	-	-	-	310.0
9. Start-Up Costs	970.0	-	-	-	-	-	-	970.0
10. Others	10.0	10.0	20.0	20.0	20.0	20.0	100.0	
T O T A L	2,721.0	1,595.0	1,753.0	1,937.0	2,126.0	2,334.0	2,563.0	15,029.0

Rate of Exchange \$1.00 - Rs.10.00.

Source: Based on data contained in Price Waterhouse report on "Design of an Organization for the Social Marketing of Contraceptives", New Delhi, March, 1983.

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TABLE 26

b. Consolidated Budget Estimates for Promotion and Advertising and Publicity Plan

<u>Project Year</u>	<u>Generic^{a/}</u> (1)	<u>NIRODH^{b/}</u> (2)	<u>New Condom</u> (3)	<u>Other Barrier</u> (4)	<u>O.C.</u> (5)	<u>IUD</u> (6)	<u>Fert. Awar.</u> (7)	<u>TOTALS</u>		<u>Total</u> (10)
								<u>GOI</u> (8)	<u>AID</u> (9)	
1984	8.4	1.2	0.3	-	0.3	-	-	9.9	0.3	10.2
1985	9.8	1.4	1.4	0.5	1.0	0.3	0.5	13.1	1.8	14.9
1986	10.9	1.6	1.8	0.7	1.5	0.5	0.7	15.0	2.7	17.7
1987	12.1	1.7	2.2	0.9	1.8	1.0	0.9	16.9	3.7	20.6
1988	14.1	1.7	2.6	1.0	2.1	1.4	1.0	19.4	4.5	23.9
1989	16.9	1.8	3.1	1.0	2.6	1.6	1.0	22.8	5.2	28.0
1990	18.1	1.8	3.7	1.0	3.1	1.8	1.0	24.6	5.9	30.5
TOTAL	90.3	11.2	15.1	5.1	12.4	6.6	5.1	121.7	24.1	145.8

a/ Projected expenditures by GOI largely through mass media under the control of Ministry of Information and Broadcasting, Division of Advertising and Visual Publicity (DAVP) for all family planning activities primarily promotion of the small family norm. This activity will remain with DAVP for generic and special GOI promotional campaigns.

b/ This campaign will be shifted from DAVP to the new CMO. The levels reflect maintenance advertising only for "NIRODH". CMO will also have responsibility for the campaign for the new condom brand.

c/ AID contribution (column 9) is the sum of columns (5) (6) and (7): OCs, IUDs and Fertility Awareness/Traditional Methods.

Note: It is expected that the campaigns for Other Barrier methods will actually be financed directly by the CMO from its revenues (after operating expenses), starting in year 3, but the figures are here attributed to GOI in the event revenues are insufficient.

TABLE 27

Budget Estimates for Marketing and Operations
Research and Evaluation

<u>Project Year</u>	<u>Marketing and Operations Research</u>		<u>Evaluation^{a/}</u>	<u>Total</u>
	<u>GOI</u>	<u>A.I.D.</u>		
	(1)	(2)	(3)	(4)
1984	0.07	0.11	0.05	0.23
1985	0.07	0.10	0.08	0.25
1986	0.07	0.15	0.04	0.26
1987	0.07	0.11	0.09	0.28
1988	0.07	0.18	0.05	0.30
1989	0.07	0.15	0.11	0.33
1990	0.08	0.19	0.11	0.36
T O T A L	0.5	0.99	0.53	2.01

^{a/} This component includes U.S. or other foreign-based evaluation-oriented technical assistance. Major AID-assisted market research will include: quantitative studies of medical practitioners; new rural media; new product testing; testing workshop and training materials for practitioners; consumer attitudes and practices. Major evaluation exercises should be combined with technical assistance, including overseas study tours by senior CMO personnel.

TABLE 28

EXPENDITURES FOR PROCUREMENT OF CONTRACEPTIVES
(\$ Millions)

GOVERNMENT OF INDIA									
DISBURSED		FREE				TOTAL SUB & FREE			
I.U.D.	TOTAL	CONDOM	O.C.	I.U.D.	TOTAL	CONDOM	O.C.	I.U.D.	G.TOTAL
-	6.61	4.40	0.88	0.85	6.13	11.01	0.88	0.85	12.74
-	9.94	4.85	0.98	1.40	7.23	12.83	2.94	1.40	17.17
0.21	14.14	5.56	1.95	1.85	9.36	15.15	6.29	2.07	23.51
0.34	17.72	6.13	2.52	3.05	11.70	17.55	8.47	3.39	29.41
0.89	22.21	7.03	3.89	4.19	15.11	20.58	11.65	5.08	37.31
1.68	28.01	7.74	5.04	6.02	18.80	23.71	15.40	7.70	46.81
2.33	35.70	8.86	6.16	6.98	22.00	28.37	20.02	9.30	57.69
5.45	134.33	44.57	21.42	24.34	90.33	129.20	65.65	29.79	224.64

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TABLE 29

e. Budget Estimates for Information, Education and Communication
Summary of estimated Costs \$ 000's.

Head/Item	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
T. Consultation Services^{*/}									
a) Communication Consultant to N(HFW (Indian - full-time)	-	28	17	24	17	24	17	17	144
b) Consultant visits to help Indian consultant	-	6	5	5	5	5	5	5	36
c) Training Material Design & Development 4-6 months each	-	5	5	5	5	5	5	5	10
d) IEC Evaluation Techniques 4-6 months each	-	5	-	5	-	-	-	-	10
e) Audio-Visual Education & Low-Cost Media 4-6 months each	-	5	-	-	5	-	-	-	10
f) Extension Training including T&V 4-6 months each	-	5	5	-	-	-	-	-	10
g) Printing & Publication 4-6 months	-	5	-	-	-	-	-	-	5
h) Documentation, Information Retrieval & Dissemination (Indian trained abroad) 4-6 months	-	18	-	-	-	-	-	-	18
i) Computerizing Mailing List and Label Generation (including travel) 4-6 months	-	10	-	-	-	-	-	-	10
j) Televisa (Mexico) Consultancy- 6 months. (Team expenses in India only)	60	-	-	-	-	-	-	-	60
k) Advisory Group GOI Comm. Strategy Unit (Travel) (3 days travel + maintenance for 10 persons)	-	2	2	2	2	2	2	2	14
Total Consultation Services	60	145	102	7	7	2	2	2	327

^{*/} Indians unless otherwise specified.

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Head/Item	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
II. Professional Development									
a) Long-Term Training for IEC staff for NIHFW (2 years each in the Philippines) \$24,000 per person total)	-	48	48	12	12	12	12	-	144
		(4 people (1 in 86-87) (1 in 88-89) in 1984-85)							
b) Long-Term for IEC staff for CTI's (2 years each in the Philippines \$24,000 per person total)	-	36	36	12	12	12	12	-	120
		(3 people (1 in 86-87) (1 in 88-89) in 1984-85)							
c) Internship (ESCAP) for NIHFW Documentalist (6 weeks - Bangkok) \$6,000 per person total)	-	6	6	-	-	-	-	-	12
		(1 person)							
d) Train the Trainer Workshop (4 weeks - Bangkok) (20 participants - Travel + per diem = \$3,300 each = \$66,000 + total course charges \$15,000)	-	81	-	-	-	-	-	-	81
e) Training Methods/IEC Campaign Materials Workshop (4 weeks - Hawaii) (20 participants - Travel + per diem \$5,300 each - course charges <u>total</u> by \$15,000 - net.)	-	121	121	-	-	-	-	-	242
Total Professional Development	-	292	211	24	24	24	24	-	599

Head/Item	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
III. Equipment & Supplies									
a) Equipment & library acquisition - NIHFV	-	80	10	10	10	10	-	-	120
b) Equipment for 4 CTIs + 3 equivalents (\$40,000 each)	-	160	120	-	-	-	-	-	280
c) Equipment for 12 HFWTCs (\$30,000 each)	-	180	180	-	-	-	-	-	360
d) Micro-Computer + Software for Mass Mailing Unit	20	-	-	-	-	-	-	-	20
e) Micro-Computer + Software for NIHFV Documentation Unit	20	-	-	-	-	-	-	-	20
Total Equipment & Supplies	40	420	310	10	10	10	-	-	800

IV. Training in Health Communication

a) Train the Trainer workshops at NIHFV for CTI staff (20 participants each - 8 weeks)	6	6	-	-	-	-	-	-	12
b) Train the Trainer workshops at CTIs for HFWTC staff (60 participants - 8 weeks.)	-	15	15	-	-	-	-	-	30
c) Training workshops at HFWTCs for BEEs (3x4 wks + 4 wks Refresher courses + 2 wks retraining at 12 selected HFWTCs for 30 participants each - total travel + re-trained at 12 selected HFWTCs for 30 participants each - total trained & retrained = 1080 per year x 5 yrs. = total No. of BEEs i.e., approx. 5,000 trained)	-	19	19	19	19	19	-	-	95
Health Communications.									
Total training	6	40	34	19	19	19	-	-	137

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Head/Item	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
-----------	------	------	------	------	------	------	------	------	-------

V. Salaries (of special staff)

3 senior posts at NIHFV (say net Rs.36,000 each per yr. = total Rs.108,000 per full yr. = say \$11,000 per full year)

	3	11	11	11	11	11	11	11	80
--	---	----	----	----	----	----	----	----	----

(part year)

Total Salaries	3	11	11	11	11	11	11	11	80
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VI. Contraceptive Update for 200,000 Medical Practitioners from the US

	40	176	187	187	187	187	187	187	1338
--	----	-----	-----	-----	-----	-----	-----	-----	------

VII. 5 major workshops on contraceptive technology for opinion leaders including FP Officials, physicians, Media personnel with Educators International participants (FHI suggests, - we suggest 1 each in 1st and 4th full years of project)

	-	100	-	-	100	-	-	-	200
--	---	-----	---	---	-----	---	---	---	-----

VIII. 100 workshops of 1/2 day each in non metro towns, working downwards by pop. strata each year, through IMA chapters in each, with participation by those having attended major workshops in metros and other large towns progressively - some travel + refreshments costs 2nd - 6th years.

	-	25	25	25	25	25	-	-	125
--	---	----	----	----	----	----	---	---	-----

IX. 4 mailings per year of a 4 page 2 colour leaflet to various special groups other than medical practioners totaling 200,000 i.e. 800,000 mailings per year - est. cost Rs. 1 per mailing piece production + Rs. 1 per mailing postage = Rs. 2 per mailing x 800,000 mailings total per year = Rs.1,600,000 per year = \$160,000 starting 1984.

	-	160	160	160	160	160	160	160	1120
--	---	-----	-----	-----	-----	-----	-----	-----	------

Head/Item	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
X. Test various models of Extension Training and Extension Practice (adopted from T&V system) for Primary Health Workers (Male & Female)	-	126	126	76	176	176	176	124	980
XI. TV for Urban and suburban PHCs	-	50	50	100	-	-	-	-	200
XII. Specially commissioned press features	-	6	6	6	6	6	6	6	42
<u>XIII. Miscellaneous</u>									
a) External Publications for policy-makers, opinion-formers and program staff	1	3	3	3	3	3	3	3	22
b) Design layout, editing and printing: NIHFW	2	4	4	4	4	4	4	4	30
Total Miscellaneous	3	7	7	7	7	7	7	7	52
GRAND TOTAL	152	1558	1229	632	732	627	573	547	6000

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TABLE 30

f. BUDGET FOR DEMOGRAPHIC ANALYSIS & POPULATION STUDIES

I. Collaborative Research with Estimated Total East-West Population Institute (EWPI) USAID Costs

- a. Own-child Methods- 2 Indian technical staff over 2 years
 - 3 month stay per person at EWPI: \$70,000 (including travel, per diem computer time : \$ 8,750/person)
 - EWPI staff to India (twice)
 - 1 analyst - 2 wks
 - 1 programmer - 4 wks. \$ 18,000
 - (salary at EWPI included below)
- b. Projections Analysis at EWPI
 - 2 Indian technical staff over 2 yrs.
 - 2 month stay per person in EWPI \$ 26,400
 - (travel, per diem, computer time : \$ 6600/person)
- c. Migration Studies at EWPI
 - 1 fellow for 10 months or \$ 23,500
 - 2 fellows for 5 months (cost varies with level of individual) (est. \$ 2,150/mo + \$ 2,000 travel) \$137,900

II. Dissemination of Findings

- a. Publication & distribution costs - (special R.G. series on specific \$ 35,000 topics; USAID contribution)
- b. Seminars
 - In-country with participation of 3 EWPI staff 1 wk & local costs \$ 15,000
- c. South Asia Regional Conference on Trends (probably 1986)
 - Rockefeller \$ 25,000
 - AID \$ 60,000
 - GOI \$ 10,000 \$ 60,000 \$110,000

III. Training

A. East West Population Institute	
a. Summer Seminars	
3 Indians for 5 wks. (1984)	\$ 22,800
(at \$ 5,600/per + 2000 travel)	
b. Population Census Conference	
2 Indians for 1 week, 3 conferences	
(census director level)	\$ 15,600
c. Working groups	
3 Indians per workshop	
for 5 weeks, 3 workshops	\$ 60,000
B. U.S. Bureau of Census	
a. CONCOR Workshop in India	
2 BuGen staff for 2-3 weeks	\$ 20,000
b. CONCENTS Worksho as above	\$ 20,000
C. BuGen Training in Sampling,	
Demography, Computers.	
a. 3 per year for 10 months	
for 2 years	\$142,800
b. 3 per year for 4 months	
for 4 years	\$130,800
5 year estimated costs	

\$ 381,600

Total Above Costs

I. Research & Studies	\$137,900
II. Dissemination	\$110,000
III. Training	\$381,600
	<u>\$585,500</u>

IV. Other Costs

EWPI in-house staff and other costs	200,000
BuGen in-house staff & other training costs	100,000
Conversion of COCENTS & CONCOR to GOI computer software Micro-computer system (hardware & software conversion)	50,000
	150,000
	<u>1,085,500</u>

TABLE 31

g. BUDGET ESTIMATES FOR BIOMEDICAL RESEARCH

Studies in sperm specific antigen utilizing LHD-C4	270,000
Studies in sperm antigens identified in infertile patients	250,000
Studies in egg specific antigens	100,000
Immunopathology studies	100,000
Transfer of cryo-preservation technique	10,000
Studies in sperm specific IgA antibodies	140,000
Task force in reproductive immunology	120,000
	<u>1,000,000</u> *****

TABLE 32

ANNEX F.6

PROJECTIONS OF ESTIMATED MINIMUM REVENUES FROM SUBSIDIZED SALES
(IN MILLIONS OF RUPEES)

Fiscal Year	COMMODITIES			TOTAL Rs.	\$ Equivalent (Million)
	CONDOMS	OC	IUDs		
1984	10.80 (216.0)	-	-	10.80	1.08
1985	11.88 (237.6)	-	-	11.88	1.19
1986	12.96 (259.2)	1.75 (7.0)	0.30 (0.3)	15.01	1.50
1987	14.04 (280.8)	2.80 (11.2)	0.50 (0.5)	17.34	1.73
1988	15.12 (302.4)	3.85 (15.47)	1.00 (1.0)	19.97	2.00
1989	16.20 (324.0)	5.95 (23.8)	1.70 (1.7)	23.85	2.38
1990	18.00 (360.0)	8.75 (35.0)	2.30 (2.3)	29.05	2.91
Total	99.00	23.10	5.80	127.90	12.79

Note : Quantities of contraceptives in millions are shown in parentheses.

Rate of Exchange Rs.10 = \$1.00

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Appendix to Chapter 5 of the book Time in India's Development Program, Robert C. Repetto, Harvard University Press, Cambridge, 1971

Data and Assumptions Underlying the Calculation of Present Values of Birth Prevention

1 THE SPECIFICATION OF THE MODEL

Broadly speaking, the conceptual framework used in the calculations are similar to those employed by Enke, Coale and Hoover, and others.¹ The model employed differs in several particulars, however, and these can best be explained with all the variables and relationships in full sight.

A. Variables

The variables that entered the calculations are identified in this section. The data used to measure them are discussed in the next section.

- V_t = the present value of 1000 births prevented in year t .
- r = a time discount rate used to discount future costs and benefits
- i, j, k, T = subscripts denoting time, in years.

1. S. Enke, "The Gains to India from Population Control," *Review of Economics and Statistics* 62 (May 1960) 175; "The Economics of Population Control," *Economic Journal*, 76 (March 1966) 44; A. J. Coale and L. M. Hoover, *Population Growth and Economic Development in Low-Income Countries* (Princeton, N.J., Princeton University Press, 1958).

- $S_{t,j,t}$ = the number of survivors in year j per 1000 persons born in year t
- C = the average annual personal consumption expenditure per 1000 adults in year 1 (Year 1 = 1965/66), expressed in 1960/61 prices.
- $F_{t,t}$ = the average annual personal consumption expenditure per 1000 persons t - i years of age, expressed as a fraction of the average annual personal consumption expenditure per 100 adults.
- $G_{t,t}$ = the average annual outlay on education, housing, water supply, and sanitation attributable to 1000 people t - i years of age, in year t , expressed in 1960/61 prices.
- $H_{t,t}$ = the average participation rate in the labour force of 1000 persons t - i years of age in year t .
- P = the marginal product of 1000 unskilled labourers to the economy in year 1, 1960/61 prices.
- $B_{t,t}$ = the number of children born in year t to 1000 persons t - i years of age.

With these variables in mind, the conceptual framework can first be written as follows, and then explained:

$$V_t = \sum_{j=1}^{T-t} \left\{ S_{t,t,j} (F_{t,t} C + G_{t,t} - H_{t,t} P) + \dots \right. \\ \left. + \sum_{i=1}^{j-1} \left[S_{i,t,i} B_{j-i} S_{j-i,t} (F_{j-i,t} C + G_{j-i,t} - H_{j-i,t} P) + \dots \right. \right. \\ \left. \left. + \sum_{k=j}^{T-t} S_{j,t,k} B_{k-j} S_{k,t,k} (F_{t,k} C + G_{t,k} - H_{t,k} P) \right] \right\} (1+r)^{-j} \\ i=1, \dots, 16$$

In effect, this formula states that the present value of 1000 births prevented in year t is the discounted sum of the annual net costs of the first generation plus the annual net costs of the second generation plus the annual net costs of the third generation. In any year, the net costs associated with the survivors of 1000 persons born in year t are taken to

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be the difference between the expenditure on personal consumption and the specified social services and the value of the productive services rendered by those persons.

For example, according to the first line of the formula, in the year t' there would be $S_{i,t'-i}$ survivors per 100 born in year i . The consumption attributable to that 1000 would have been $F_{t'-i}C + G_{t'-i}$, while the value of the marginal product would have been $H_{t'-i}P$. The product of the net cost times the survivorship ratio gives the costs of the first generation in year t' .

The second line asserts that in the same year there will be additional net costs associated with the survivors of the children born in each year from i to t' to the surviving members of the first generation.

The third line asserts that there will be similar costs associated with the surviving children of the second generation. To the children of the first generation born in each year j , there will be a certain number of children born in each year k from j to t' , and these surviving children's consumption and production are taken into account.

This explicit statement of the model brings out certain of the underlying assumptions, which are restated verbally below:

1. The conceptual measure of personal and social consumption expenditure employed in this study is the *average* level of consumption per 1000. That is, it is assumed that the expenditures of additional persons will be determined by the stations in society into which they are born, which will determine the kinds of jobs, training, and incomes they will enjoy. On the other hand, the conceptual measure of the value of the product of additional persons in the labour force is the *marginal product* of labour, net of the effects of investment in human resources. These two conceptual measures are not inconsistent; to the extent that persons are born into higher socioeconomic milieus, they gain access to more training and more productive work. Their expenditure standards are thus determined, but the value of their labour must be taken net of the effects of status and training. The effects of status are fortuitous and represent merely a displacement of individuals within the economy. The effects of training are not fortuitous, but the returns to investment in human resources. Such investment at the margin can be assumed to just balance the stream of returns discounted at the social rate of interest, so that neither the investment costs nor the resulting product need be taken

into consideration. The *disposition* of the resulting product, however, in personal consumption by the income recipients is a real resource cost to the economy. Therefore, it is appropriate to use the average pattern of consumption together with the marginal product of labour.

There has been a great deal of discussion about the appropriate measure of labour's marginal product in India, in which much complete and partial unemployment is apparent. The above discussion leads to the conclusion that the marginal product of unskilled labour is relevant for this study. Further, in accordance with the reasoning of such economists as W. A. Lewis and Ranis and Fei, it is apparent that with 80 percent of the labour force deployed in agriculture, and a perfectly elastic supply of unskilled labour to the small industrial sector at the going wage (which may be above the marginal product in agriculture because of some immobility), the productivity of labour in agriculture is the appropriate conceptual measure. Although this conclusion seems to lead straight to the heart of the "disguised unemployment" controversy, it can be argued that a straightforward calculation of the average annual earnings of hired agricultural labour provides a conceptually sound and empirically accurate measure of the value of the marginal labour product in India. Since the multitude of private farm employers certainly do not hire labour as a social service and generally have available other sources of labour within their own families and caste groups, there is no reason to suppose that the earnings of hired labour are systematically higher than the value of the marginal product. On the other hand, it has been estimated that 43 percent of the agricultural labour households hold some land. Land is also available under various tenancy arrangements, and men workers are self-employed for a significant fraction of the year.² Therefore, there tend to be alternative avenues of employment of agricultural labour, and well-defined opportunity costs. This suggests the supposition that the earnings of hired labour cannot systematically be exceeded by the value of the marginal product. If this is true, then there seems no reason not to accept these levels of earning as a valid measure of the marginal product. According to the Agricultural Labour Enquiry Report,³ "The crux of such wage

2. Government of India, Ministry of Labour, *Report on the Second Enquiry into Agricultural Labour in India* (Delhi, 1960), p. 61.

3. *Ibid.*, p. 63.

employment from the point of view of the landholder is the necessity to hire workers and his capacity to pay them. He will naturally employ only such numbers of labourers for such minimum periods as is absolutely necessary for getting the agricultural operations done . . . Before they think of employing hired labour, marginal cultivators make every effort to economise by intensive utilisation of family labour and by exhausting the scope for mutual help."

2. Both the average annual personal consumption per 1000, the value of the marginal product of labour, and the average per capita expenditure on social facilities are assumed to be constant over time. This assumption has been made for computational rather than intrinsic reasons. Reexamination of the calculating model will show that if these three variables C , P , and G_{T-i} grow at the same average annual rate, this rate can be factored out and incorporated into the discount rate r . That is, under this assumption, if the constant average annual growth rate were c , then the discount factor could be written as $[(1+c)/(1+r)]^t$. It is much more arguable that, to a reasonable degree of approximation, per capita consumption and the productivity of labour on the margin will tend to increase at the same rate over a long period of time, if not in the short run. This is, in fact, the maintained assumption. A range of discount rates r has been programmed into the actual computations, so that the implications of alternative growth rates can be investigated.

3. The age pattern of personal consumption expenditure is constant over time. That is, F_{T-i} depends only on $T-i$, the age of the consumer.

4. Similarly, the average participation rate in the labour force is not expected to change over time. This average participation rate, as explained more fully below, is a weighted average of the participation rates for urban men, urban women, rural men, and rural women. Further, the rates have been adjusted for the relative earnings of men, women, and children under fifteen. Thus, one might expect that even if the individual participation rates should remain constant over time, the increasing urbanisation rates would cause a change in the weights. This is certainly true, since approximately 30 to 35 percent of the future population growth is expected to be in urban areas. However, the effects are mitigated by the fact that most of the differences in participation rates between urban and rural areas, for men at least, occur in the early life years, when rural boys are more likely to be in the labour force than urban. However, migration,

which is expected to account for the major part of the increase in urban population,⁴ typically takes place when the migrant is in his twenties.⁵ Therefore, to use the weights for the earlier period is to assume, in effect, that migrants will work like rural boys and then like urban men. As a consequence, the errors due to changes in the weights are not likely to be serious.

5. The birthrate per 1000 persons is assumed to depend only on the age of the persons. That is, the age-specific gross fertility rates are assumed to be constant over time. At first blush, this assumption seems scarcely compatible with the aims of the family planning programme itself. However, it can be justified for the purposes of this calculation, since the use of fertility rates in the estimates is relevant only for calculation of second and third generation effects, which enter only after a minimum lag of fifteen years. Therefore, the values of the age-specific fertility rates assumed are *projections* of an average future rate. It is thus assumed that these future rates will be attained, by implication, regardless of the decisions that are taken currently regarding the family planning programme. If the independence is not assumed, the present value of birth prevention in a sense depends on itself, in that the fewer children parents have, the fewer grandchildren they will have. However, the lower birth rates in the future are expected to be, the less valuable is birth prevention in the present. (In an extreme case, if it were thought that births would cease altogether after twenty years, the value of family planning presently would diminish greatly.)

6. The time horizon for the calculations has been taken at fifty years from the initial time period. This interval is, in one sense too long, in that there is little benefit in projecting many of the relevant variables that far ahead. It is quite long enough in another sense, in that at a reasonable rate of time discount events in that distant future are of but slight importance to current decisions. And, it is sufficiently long for the final effects of our population to manifest themselves fully and for the second generation to manifest themselves to a considerable extent. (The youngest

4. Kingsley Davis, "Urbanization in India—Past and Future," in *India's Urban Future*, ed. R. Turner (Berkeley, University of California Press, 1962).

5. D. Bogue and K. C. Zacharish, "Urbanization and Migration in India," in *India's Urban Future*, p. 42.

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children of the first generation would be five years old at the end of the period and the oldest thirty-five, for parents born in the initial year.)

7. Unlike the earlier calculations of Enke, this model introduces no special provisions for the costs of sacrificing future investment as distinct from future consumption. It is assumed that, on the margin, the stream of returns from investment outlays, discounted at the social rate of interest, would just equal their social costs. Therefore, the resource costs of the consumption outlays of additional population are the same whether these resources would otherwise have been devoted to investment or to consumption.

By implication, the social welfare expenditures included under G are assumed to be in the nature of consumption outlays rather than productive investments. This could be contested for education and housing, which are usually thought to be largely in the nature of "investments in human resources." These considerations have been taken into account. For education, only the costs of primary education have been taken into account as a social charge; higher education has been omitted as a self-liquidating productive investment. This distinction is supported by official policies and estimates. Primary education is to be provided on a free and compulsory basis to all children between the ages of six and fourteen, as their constitutional right and as the requirement of citizenship. Further education is to be provided to the extent possible, in accordance with the manpower requirements of the economy, with respect to both the number of students trained and the areas of training. The views of the planning commission are relevant in this regard: "Whereas education up to the age of fourteen must be universal and justified in itself as a right and requirement of a citizen, education beyond this stage must be primarily a preparation for life's work. The structuring of education would be in close relationship to a broad manpower plan . . . which ensures that at completion of every stage of education there should be avenues of fruitful employment."⁶ This is not to say strictly that primary education does not raise the quality of the labour force, not that increases in population will not, *ceteris paribus*, force the society to provide more facilities for higher education. Both are obviously true. However, since

6. Perspective Planning Division, Planning Commission, *Notes on the Perspective of Development in India: 1960-61 to 1975-76* (Delhi, 1964), p. 239

any division must be made on largely arbitrary grounds, it seems better to adhere to official positions. In any case, errors in the two assumptions would work to offset each other, leading to no obvious bias. Housing has been taken as an item of durable personal consumption and the value of the housing service discounted to the point of construction. There may be some double-counting involved in this procedure, since *rental* outlays would be also included in the category of personal consumption expenditure. However, most housing, especially in rural areas, is owner-occupied. Moreover, as discussed below, an extremely conservative estimate of housing outlays has been adopted, which should largely compensate for any degree of double-counting.

II. THE DATA

The series used on the calculations are presented in Table 34; their derivation and the sources of data are discussed below.

1. *The social rate of interest* The value adopted for this parameter is 10 percent, which is currently the target rate for public sector investments. A good case can be made for a figure in this range,⁷ although 12 percent would have been equally appropriate. For reasons explained above, the calculations have also been carried through using a lower rate of 5 percent.

2. *The age-pattern of personal consumption expenditure* Little empirical information is available on the relative consumption outlays of persons in different age groups, other things held constant. The basic unit for budget studies is the household. Therefore, it was necessary to make an unsupported assumption about the shape of this function, which appears as F in Table 34.

3. *The present annual average adult personal consumption outlay per thousand* Like all values used in the calculations, this has been derived in 1960/61 prices. The method employed was to estimate the average personal consumption outlay per capita and the age distribution of the population. Then, on the basis of the assumed age pattern of consumption spending, it was possible to estimate the average adult per capita consumption outlay. That is, letting $C_i P$ be per capita consumption, C_a be

7. A. Harberger, "Cost-Benefit Analysis and Economic Growth," *Economic Weekly*, 14 (February 1962), 203 ff.

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TABLE 34. Parameters for the Computation of Birth Prevention Benefits

Age of Person	F	G	H	B	
0	0.100	0	0	0	R (1)
1	0.150	0	0	0	(0.05)
2	0.200	0	0	0	
3	0.250	0	0	0	
4	0.250	25,000	0	0	R (2)
5	0.375	25,000	0.038	0	(0.10)
6	0.375	45,000	0.038	0	
7	0.375	45,000	0.038	0	
8	0.375	45,000	0.038	0	P (1)
9	0.375	45,000	0.038	0	(375,000)
10	0.625	70,310	0.038	0	
11	0.625	70,310	0.038	0	
12	0.625	70,310	0.174	0	P (2)
13	0.625	70,310	0.174	0	(500,000)
14	0.625	25,310	0.174	0	
15	0.750	25,310	0.415	0.0359	
16	0.750	25,310	0.462	0.0359	C
17	0.750	25,310	0.462	0.0359	(400,000)
18	0.750	25,310	0.565	0.0359	
19	0.750	25,310	0.565	0.0359	
20	1.000	25,310	0.565	0.0933	
21	1.000	25,310	0.565	0.0933	
22	1.000	25,310	0.623	0.0933	
23	1.000	25,310	0.623	0.0933	
24	1.000	25,310	0.623	0.0933	
25	1.000	25,310	0.623	0.1040	
26	1.000	25,310	0.623	0.1040	
27	1.000	25,310	0.656	0.1040	
28	1.000	25,310	0.656	0.1040	
29	1.000	25,310	0.656	0.1040	
30	1.000	0	0.656	0.0768	
31	1.000	0	0.656	0.0768	
32	1.000	0	0.656	0.0765	
33	1.000	0	0.656	0.0768	
34	1.000	0	0.656	0.0763	
35	1.000	0	0.656	0.0488	
36	1.000	0	0.656	0.0488	
37	1.000	0	0.656	0.0488	
38	1.000	0	0.659	0.0488	
39	1.000	0	0.659	0.0488	
40	1.000	0	0.659	0.0198	
41	1.000	0	0.659	0.0198	
42	1.000	0	0.659	0.0198	
43	1.000	0	0.659	0.0198	
44	1.000	0	0.659	0.0198	

TABLE 34. (continued)

Age of Person	F	G	H	B
45	1.000	0	0.659	0
46	1.000	0	0.659	0
47	1.000	0	0.563	0
48	1.000	0	0.563	0
49	1.000	0	0.563	0

per capita adult consumption, f_t be the consumption of a person t years of age as a fraction of adult consumption, and w_t be the fraction of the population t years of age, then

$$C/P = \sum_t (f_t w_t)$$

Total personal consumption per capita in 1960-61 prices was derived from national income data. This yields an estimate of Rs 16,500 crores. It was assumed that the ratio of personal consumption to national income in 1965-66 was 88 compared to 95 for 1960-61. Current population was estimated to be 495 million, which results in a figure of about Rs 290 for per capita personal consumption.

The age distribution of the population in 1965-66 was taken to be the same as that for 1960-61. This was according to census figures.⁸

0-4	16.27	10-14	11.67	20+	49.47
5-9	13.67	15-19	9.27		

On the basis of the average per adult consumption outlay was estimated to be Rs 400 according to the formula presented above. This is presented in Table 1 A as Rs 400,000 per thousand.

4. *Expenditure on primary education, housing, water supply, and sanitation.* For reasons explained above, only the costs of primary education were included. The capital costs per student have been estimated at Rs 50, assumed to be spread over two pre-enrollment years, and the current costs at Rs 45 per student over the years 6 to 14.⁹

Forecasts of the costs of urban and rural housing from the Perspective Planning Commission estimate that urban housing will cost Rs 1,000 per head in 1960-61 prices including the cost of land and site preparation, over

8. Institute of Applied Manpower Research, *Factbook on Manpower* (Delhi, 1963), p. 13.

9. *Notes for Perspective of Development in India*, pp. 240, 241.

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the Fourth and Fifth Plans.¹⁰ This is admittedly a "modest" provision. For comparison, an earlier estimate was that urban housing, excluding the cost of land at Rs 350 per head, would cost Rs 1,600 per head.¹¹ However, for reasons stated previously, a conservative estimate has been accepted. From the same source, the cost of rural housing has been taken at Rs 200 per head, and the costs of water supply and sanitation in urban and rural areas at Rs 125 per head and Rs 15 per head respectively.¹²

Increased population triggers new housing in India when quarters become crowded, by and large. In particular, it is not so customary for newlyweds to move apart from parents right after marriage. In this study, it is assumed, conservatively, that children do not contribute to crowding before the age of ten. Housing expenditure per thousand is distributed uniformly over the ages ten to twenty-nine, along with the associated expenditure on water supply and sanitation.

It is assumed that 32 percent of the increase in population in India will occur in urban areas, and the urban and rural figures are weighted by 0.32 and 0.68 respectively to arrive at an all-India figure. The results of these calculations are presented as G in Table 34.

5. *Participation rates in the labour force* As explained above, the average participation rate is a weighted average of those for urban and rural men and women, adjusted for differences in the relative earnings of men, women, and children. The basic rates are as follows:¹³

Age group	Males		Females	
	Rural	Urban	Rural	Urban
0-4				
5-11	10.8	1.4	7.1	0.8
12-14	48.7	16.9	29.5	8.2
15	67.5	25.1	33.4	12.5
16-17	75.9	36.6	33.2	14.1

10. Ibid., pp. 250, 251.

11. P. Pant, "Urbanisation and the Long-Range Strategy of Economic Development," in *India's Urban Future*, p. 189.

12. *Notes of Perspective of Development in India*, p. 248.

13. *Factbook on Manpower*, p. 19.

APPENDIX TO CHAPTER 5

Age group	Males		Females	
	Rural	Urban	Rural	Urban
18-21	89.8	69.0	37.9	12.8
22-26	95.1	91.2	41.5	17.1
27-36	96.5	97.9	47.9	20.7
37-46	95.7	97.7	48.7	26.0
47-61	87.1	84.7	34.3	20.6

Moreover, in view of the fact that the major difference in rates between rural and urban workers is in the early years and that much of the future shift of population to urban areas is expected to take place through the migration of persons in their twenties or thereabouts, it was decided that the best approximation available to future participation rates would be that constructed by using the *present* distribution of the population as weights. This gives the appropriately heavy weight to the high participation rates of rural youths who subsequently migrate to the cities, while causing little distortion of participation rates in the later years. These weights are¹⁴ 0.418, 0.098, 0.402, and 0.082. It was also assumed that the relative productivity and earnings of men, women, and children in unskilled agricultural labour is in the ratio 100:75:50, and the individual rates were adjusted accordingly to arrive at a productivity-weighted average, with persons under fifteen taken to be children.

The average age-specific productivity-weighted participation rates calculated on these assumptions are presented in Table 34 as H.

6. *Value of the marginal product of agricultural labour* The average number of days worked by adult male hired agricultural labour changed little over the period 1950-57. In 1956-57 the average figure was 222 days of hired work and 40 days of self-employment,¹⁵ and this figure of 262 days has been adopted as valid for 1965-66.

There are little systematic data on wage rates for hired agricultural labour: The Ministry of Food and Agriculture's monthly publication, *Agricultural Situation in India*, contains each month a number of quotations on day rates for agricultural labour (male) in various locations and

14. Ibid., p. 6.

15. *Report on the Second Enquiry into Agricultural Labour in India*, p. 69.

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farm operations. The unweighted average of these observations for the period July 1964-June 1965 is approximately Rs 2 per day, which has been taken as the average wage rate for adult male labour. In order to convert this to 1960-61 prices, notice has been taken of the fact that much of the wage payment to agricultural labour is in kind, which suggests that the money wage must be constant in terms of the price of farm output. Consequently, the deflator has been chosen as the wholesale price index for cereals, in the absence of an index of farm prices. The wage rate in 1960-61 prices is Rs 1.43 per day, so that the average annual earnings of adult male hired agricultural labour is Rs $1.43 \times 262 =$ Rs 375 per annum. This value, expressed as earnings per 1000, is given as *P* in Table 34. Although this estimate seems conceptually and empirically sound, a higher estimate of Rs 500 per annum has been included in the calculations to test the sensitivity of the results to this parameter.

7. *The birthrate per thousand persons* As explained earlier in this appendix, the relevant measure of the birthrate is a *projection* of the average rate that will hold after a generation. From the structure of the model, it is further required that the rate be expressed in age-specific fertility rates per 1000 persons. It has been assumed that the present age-distribution of fertility, relative to the gross fertility rate, will continue to hold. This distribution is as follows:¹⁶

Age group	Ratio of age-specific fertility rate to gross fertility rate
15-19	0.55
20-24	1.44
25-29	1.60
30-34	1.18
35-39	0.75
40-44	0.30

The projected gross fertility rate used in the study is close to the middle estimate for 1980 adopted by the Expert Committee on Population in their population forecasts for the government of India. That figure was 133 per 1000; the figure used here is 130 per 1000.¹⁷ This figure is used for all future years relevant to the calculations and should thus be taken as an average figure for those years. To convert the age-specific fertility rates

16. Office of the Registrar General, *Vital Statistics of India* (Delhi, 1961), p. xvii.

17. Office of the Registrar General, "Revised Population Projections," MS (Delhi, 1965).

from a per-woman basis to a per-person basis, they were simply divided by two. The resulting series is presented as B in Table 34.

8. *Projected survivorship functions* The specification of the model calls for estimates of the number of persons, per thousand born in each year within the time horizon, surviving in each subsequent year within the time horizon. This calls for a 50 X 50 matrix based on projected mortality rates.

The basic estimates of future mortality rates were provided by the Office of the Registrar General,¹⁸ in the form of survivorship functions for five years of cohorts centered at the midpoint of five-year intervals from June 1963 to June 1978. These functions projected the number expected to survive into the next cohort per thousand in a specified cohort on the specified date.

The year-by-year survivorship functions were estimated from these data by a process of two-way interpolation. First, the data were interpolated by five-year cohorts for the intervening years. Then it was assumed that the five-year average survivorship functions centered on each year were representative of the functions for people born in that year. Thus, reading "diagonally" down the interpolated table, it was possible to derive by another interpolation the expected numbers of survivors out of 1000 people born in each year between 1965 and 1978. This involved, incidentally, the conversion of the data to cumulative form by repeated multiplication of the individual survivorship rates.

The data were extrapolated out to 1981. No further extrapolation was attempted because information was lacking for such an operation.

18. Office of the Registrar General, "Working Paper on Population Projections," MS (Delhi, 1965).

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