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BUSINESS ANALYSIS REPORT:

COSTS AND BENEFITS OF SPONSORING FAMILY PLANNING SERVICES FOR EMPLOYEES OF PT. SINAR ANCOL JAKARTA, INDONESIA

TECHNICAL INFORMATION ON POPULATION FOR THE PRIVATE SECTOR
JOHN SHORT & ASSOCIATES, INC.
COLUMBIA, MARYLAND, U.S.A.
Jackson H. Day, M.P.H.

ECONOMICS FACULTY, ATMA JAYA UNIVERSITY
Drs. Suwandhi, S.E., Study Coordinator

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ECONOMIC FACULTY RESEARCH TEAM

ADVISORS:	DRA. MARIANA SETIADARMA
	DRS. JUSUF UDAYA
COORDINATOR:	DRS. SUWANDHI
SECRETARY:	DRS. JAMES SIMANJUNTAK
MEMBERS:	DRS. SUGIHARTO
	DRS. NUGROHO
	DRS. TARMIDI HASSAN
	DRS. TRULY SIHOMBING
	DRS. OMRY T. SIMORANGKIR
	DRS. HARAPAN SIMAMORA
	DRA. MARGARETHA HKS
	DRA. LUCKY YUNIA
	DRA. WIVINA H. WIDYA
	DRS. HIMAWAN
	DRA. MARGARETHA S.
	DRS. TEDDY TJIPTADI
	DRS. FRANS BARUALLO
	IR. EDY SUPRIYADI
	SUGENG WALUYO, BST
CONSULTANTS:	JACKSON H. DAY, M.P.H.
	DR. PAUL RICHARDSON

Preface

This report describes the benefits and costs which would result from the provision of family planning services by PT. Sinar Ancol to its employees. The report is the result of a study conducted by the Economics Faculty of Atma Jaya University, in association with the *TIPPS* (Technical Information on Population for the Private Sector) Project.

Information for this study was provided by company management, and, through a survey, by its employees. We would like to thank the owner, managers and employees of PT. Sinar Ancol for their cooperation in providing the information upon which this report is based.

EXECUTIVE SUMMARY

The TIPPS (Technical Information on Population for the Private Sector) Project has collaborated with Atma Jaya University to produce this business analysis of PT. Sinar Ancol, a detergent manufacturer located in North Jakarta, Indonesia. The intent of this analysis is to assess whether or not it would be beneficial for PT. Sinar Ancol to obtain for its employees the family planning services offered by the Atma Jaya Hospital.

Important information produced, and conclusions reached, by the analysis include the following:

- Fertility of PT. Sinar Ancol couples is approximately the same as the Indonesian average. However, many employees wish to space or limit their family size. This could be an area of health care savings for the company since, of the 54 women surveyed who wanted to space or limit their children, 34 (62.96%) were using either traditional or the least effective methods of birth control or none at all.

- PT. Sinar Ancol provides benefits to female employees. There are 129 such women who are in their child-bearing years.

- Every female employee pregnancy will cost the company Rp. 150,000, including the delivery costs and maternity leave.

- In the most recent year, PT. Sinar Ancol female employees had 28 babies. The analytic model predicts that if employee desires for reduced fertility were realized in three years, births could be reduced by up to 16 births per year, saving the company as much as Rp. 2,400,000 per year in childbirth related expenses.

- The analytic model projected an increased use of contraception from the current 45.74% to 77.52% over a three year period of time. A shift in contraceptive method use, from less effective to more effective methods, was also projected.

- Atma Jaya Hospital can offer to provide family planning services to PT. Sinar Ancol through a mobile arrangement, for which Rp. 3000 would be charged per year per participating family planning user.

- Counting this as the cost to PT. Sinar Ancol, PT. Sinar Ancol would save a total of Rp. 3,957,000 over four years, a benefit-to-cost ratio of 3.98:1.

The contents of this report demonstrate that there is a demand for quality family planning services, for spacing or for limiting child-bearing. The very positive benefit-to-cost ratio, the low cost of services, and the high quality of services from Atma Jaya Hospital make an investment in family planning quite attractive for a company like PT. Sinar Ancol. An investment in the health of workers can produce substantial financial rewards in increased productivity and cost-savings in health benefits.

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INTRODUCTION

Indonesian National Interest in Family Planning

The national family planning program of Indonesia, since its inception in 1980, has succeeded in substantially increasing the number of contraceptive users within the country. This success has been the result of a strong political will, active community participation and a flexible strategy that is responsive to changing needs.

However, revenues of the Government of Indonesia have declined in recent years due primarily to a price drop in its petroleum exports. This has forced smaller allocations of funds for all government programs, including family planning and health. As a result, the private sector is being encouraged to increase its participation in sponsoring family planning and health care programs for its employees.

The objective of this privatization effort is to shift a portion of the resources of private industry to provide family planning services for its employees and their eligible dependents, especially in the urban centers.

Privatization, as a program strategy, is based on a network of private clinics, hospitals and practitioners and builds on the interests of private industry in promoting and protecting the health and welfare of its employees. This strategy has not been well exploited, although the private sector is the preferred source of family planning information and contraceptive services by urban clientele.

Although the decision-makers of most privately owned companies understand the government's efforts to promote family planning, they are often unaware of the relationship between family planning, employee health, and employee benefit expenditures. Existing employee benefit packages generally do not include family planning, although they generally do include employee medical care and 90 days of paid maternity leave.

Role of Atma Jaya Hospital

Atma Jaya Hospital (AJH) is a private hospital located in the Penjaringan Subdistrict of North Jakarta. AJH has been actively providing motivational and contraceptive services for several years as part of a postpartum family planning program.

AJH seeks to be the center of a growing network of factory-based health and family planning services in the Penjaringan area. AJH has been able to heavily subsidize the service it has provided in the past, but for a variety of reasons, it cannot continue to do so. In the future, AJH hopes to better meet community needs by expanding its services while encouraging community institutions such as factories to increase their support of services which benefit their employees.

There are 88 such industrial establishments in the Penjaringan area, each of which employs between 50 and 1,100 workers. Altogether, approximately 16,000 people are employed in these factories, and approximately 40 percent represent couples in need of family planning assistance.

In association with the University Research Corporation, Atma Jaya University is conducting a Family Planning Operations Research Project. The purpose of the project is to develop, analyze, test and recommend solutions for improving the cost effectiveness and accessibility of factory-based family planning services. It will assess the financial viability of linking a private general hospital with a network of privately owned businesses to provide support services for family planning and health care for employees and their dependents.

Role of *TIPPS*

TIPPS (Technical Information on Population for the Private Sector) is designed to encourage private, for-profit companies to invest in family planning services for their employees and their employees' eligible dependents. *TIPPS* measures the demand for family planning (births spacing) services, analyzes the cost and benefits of such programs to a participating company, and offers recommendations for instituting and maintaining the programs.

An employee survey is conducted, management views are examined, and the company's requirements are carefully analyzed to determine the company's costs; both the costs of failing to provide family planning services to employees and their eligible dependents, and the costs of providing such services in-house. An individual analysis provides the following information:

- Current levels of maternity-related behaviors (births, contraceptive use, etc.) among female employees, wives of male employees, and other eligible dependents.
- Current annual company expenditures for maternity-related benefits.
- Potential demand for family planning by company employees and their eligible dependents.
- Potential health benefits for female employees, wives of male employees, and their children through improved birth spacing and reduction of unwanted and high risk pregnancies.
- Probable costs to the company of providing family planning services, in terms of personnel, training, equipment, supplies, education, and administration.

- Probable financial benefits to the company due to reduced expenditures for hospitalization, maternity leave, absenteeism due to illness among employees and their dependents, and other categories of employee costs related to pregnancy, child-bearing, and child health.
- Company benefits-to-costs ratios, including cash flow, present discounted value of future savings, pay-back period, and internal rate of return.

The *TIPPS* approach to the cost-benefit analysis of providing family planning services in the industrial context is based on the following assumptions:

1. A sizable proportion of the company's labor force either does not use contraceptives at all and/or uses the less effective contraceptive methods. As a consequence, many pregnancies are unwanted and/or mistimed.

2. Unwanted pregnancies incur high costs to the employer in terms of legislated or contractually-mandated maternity leave, child care, treatment of the complications of illegal abortions, salary supplements, and absenteeism related to the impaired health of female employees. Some portion of male employee absenteeism may be due to their need to care for wives who suffer the same ill effects of unwanted, mistimed, or aborted pregnancies.

3. The promotion and provision of company-sponsored family planning services can and does increase contraceptive use and improves the contraceptive method mix, thereby reducing the incidence of unwanted and/or mistimed pregnancies and illegal abortions.

4. The cost incurred by family planning services is more than compensated for by cost reductions in maternity-related services and health care for employees and dependents, leading to a positive benefits-to-costs ratio, greater employee productivity, and other mutual employer-employee benefits.

Objective Of This Report

The objective of this report is to ascertain the desirability of company subsidization of family planning services for its employees and their eligible dependents. In-depth interviews of employees and management provided the data used in the report to determine the demand for such services.

In addition to demonstrating the advantages which are available to a factory by providing family planning services for its people, the analysis may uncover ways of improving the cost-effectiveness of other employee benefit programs.

The study will demonstrate to PT. Sinar Ancol that the economic benefits derived from participation in family planning exceed the costs incurred by subsidizing family planning services. Even small and medium-sized businesses can expect to accrue significant savings in the costs of their employee benefits programs by promoting family planning among employees and their eligible dependents.

PT. SINAR ANCOL

PT. Sinar Ancol is located on jalan Pluit Raya B 29, Kecamatan, Penjaringan Sub-district, North Jakarta. Founded in 1952, Pt. Sinar Ancol produces "soap and cream detergent". It is a private enterprise, employing 577 men and women.

Company Employees

The majority (52.86%) of the 577 employees at PT. Sinar Ancol are male, including 27 of the top managers, middle managers, and supervisors. There are 272 female employees, and none of these are of supervisory or higher status.

All of the employees receive health care benefits for themselves, but there are no benefits available for their spouses and children. Table 1 shows statistics relating the employee status to the benefits provided to him or her by the company.

TABLE 1
EMPLOYEES BY CLASSIFICATION AND SEX

EMPLOYEES								
STATUS	MALE N	MALE %	Benefit Status	FEMALE N	FEMALE %	Benefit Status	TOTAL N	TOTAL %
TOP MANAGERS	4	1.31%	B	0	0.00%	B	4	0.69%
MID MANAGERS	8	2.62%	B	0	0.00%	B	8	1.39%
SUPERVISORS	15	4.92%	B	0	0.00%	B	15	2.60%
WORKERS	278	91.15%	B	272	100.00%	B	550	95.32%
TOTAL N	305			272			577	
%	52.86%	100.00%		47.14%	100.00%		100.00%	100.00%

Source: Company Survey

Notes:

1. Benefit Status A: Both employees and their dependents receive benefits
2. Benefit Status B: Employees only receive benefits

Table 2 presents the age distribution and marital status of female employees. There are 129 married female employees, of whom 84.5% are below the age of thirty. These women are women at risk of unwanted and/or mistimed pregnancies.

TABLE 2
AGE AND MARITAL STATUS OF FEMALE EMPLOYEES

AGE	FEMALE EMPLOYEES MARRIED N	UNMARRIED N	TOTAL N	TOTAL %
< 20	0	0	0	0.00%
20-24	35	101	136	50.00%
25-29	39	42	81	29.78%
30-34	35	0	35	12.87%
35-39	13	0	13	4.78%
40-44	7	0	7	2.57%
> 44	0	0	0	0.00%
TOTAL N	129	143	272	100.00%
%	47.43%	52.57%	100.00%	100.00%

Source: Company Survey

Although 143 of the 272 female employees are presently unmarried, one can expect that most will marry. This indicates that the need for family planning services will increase over the years as this group of women marry and become women at risk.

Of the 110 married women who were surveyed, 42.73% have no education, while only 3.64% have graduated from high school. In spite of the differences in educational background, however, knowledge of contraception and family planning are almost universal, as is discussed later in this report.

Table 3 displays shows the educational backgrounds of the married female employees at PT. Sinar Ancol.

TABLE 3
YEARS OF EDUCATION COMPLETED

EDUCATION COMPLETED	TOTAL	%
No School	47	42.73%
Primary School	47	42.73%
Middle School	12	10.91%
High School	4	3.64%
College	0	0.00%
TOTAL	110	100.00%

Source: Individual Questionnaire

The majority (70%) of the women surveyed have been married 10 years or less, with 39.09% having been married less than 5 years. Thus, the married female labor force at PT. Sinar Ancol is young, as shown in Table 2. This indicates a need for family planning to assure proper birth spacing for those who are starting and adding to their families, and to assure the desired family size for those who want no more children than they already have.

Table 4 shows the number of years the surveyed women at PT. Sinar Ancol have been married.

TABLE 4
YEARS MARRIED

YEARS MARRIED	TOTAL	%
1	8	7.27%
2	12	10.91%
3	7	6.36%
4	5	4.55%
5	11	10.00%
1- 5	43	39.09%
6-10	34	30.91%
11-15	14	12.73%
16-20	9	8.18%
>20	10	9.09%
Total	110	100.00%

Source: Individual Questionnaire

Benefit Structure and Cost of Benefits

PT. Sinar Ancol provides health care coverage for its employees. Two critically important features of the benefit structure must be noted. First, the benefits are offered to employees only, and not to dependents. Second, the maternity benefit is three months' salary.

The company also provides benefits intended to assist with delivery costs, but these are considered only as "gifts", not as rights of the employee. Such "gift" benefits are not included as input to the HOST Model. All maternity benefits are paid in the year of pregnancy and birth, and there are no additional benefits for which PT. Sinar Ancol is liable as the infant itself progresses into childhood. Table 5 displays the benefits currently offered to PT. Sinar Ancol employees.

TABLE 5
FERTILITY-RELATED BENEFITS OFFERED TO EMPLOYEES AND DEPENDENTS

BENEFIT	EMPLOYEE		SPOUSE	CHILDREN	PARENTS
	MALE	FEMALE			
SALARY BENEFITS					
Maternity Leave	-	X	-	-	-
Child's Illness	-	-	-	-	-
HEALTH CARE BENEFITS					
Hospitalization	X	X	-	-	-
Maternity	-	X	-	-	-
Illness - Outpatient	X	X	-	-	-
Pharmaceuticals	X	X	-	-	-

Source: Company Survey

In 1987, the company paid Rp. 900000 for maternity benefits. Each of six female employees received 90 days paid leave, and the average maternity leave wage was Rp 150.000. Table 6 illustrates benefits paid by the company to its employees during each year of a child's life.

TABLE 6
ANNUAL COSTS OF FERTILITY-RELATED BENEFITS
(in 000 Rupiahs)

AGE OF CHILD	MATERNITY HEALTHCARE BENEFIT	MATERNITY THREE MONTH PAID LEAVE	SOCIAL WELFARE (No Benefits)	TOTAL
0	0.000	150.000	0.000	150.000
1-21	0.000	0.000	0.000	0.000
TOTAL	0.000	150.000	0.000	150.000

Source: Company Survey

Notes:

1. The maternity leave benefit was obtained by totaling the leave payment actually paid during 1987 (Rp. 900,000) and dividing it among the six female employees to whom it was paid.

DEMAND FOR FAMILY PLANNING

Methodology For Estimating Demand

A survey questionnaire was administered to married female employees of PT. Sinar Ancol during March, 1988. The questionnaire collected information on the following topics:

- Personal Characteristics
- Attitudes Toward Family Planning
- Fertility
- Fertility Regulation
- Use of benefits

While the survey was used incidentally to acquire information concerning characteristics of these women which could not be obtained directly, the survey results were used primarily to estimate demand for family planning services at PT. Sinar Ancol.

Table 7 displays the numbers of actual respondents to the survey in contrast to the survey universe.

TABLE 7
SURVEY UNIVERSE AND POPULATION SURVEYED

CATEGORY	SURVEY UNIVERSE	TARGET SAMPLE	INTER-VIEWED	PERSONS INTERVIEWED AS % OF UNIVERSE	PERSONS INTERVIEWED AS % OF TARGET
Employees					
a. Male	305	0	0	0.00%	0.00%
b. Female					
Unmarried	143	0	0	0.00%	0.00%
Married	129	129	110	85.27%	85.27%
By Age					
15-19	0	0	0	0.00%	0.00%
20-24	35	35	29	82.86%	82.86%
25-29	39	39	34	87.18%	87.18%
30-34	35	35	28	80.00%	80.00%
35-39	13	13	12	92.31%	92.31%
40-44	7	7	7	100.00%	100.00%
TOTAL	577	129	110	21.28%	85.27%
Dependents					
Husbands	129	0	0	0.00%	0.00%
Wives	266	0	0	0.00%	0.00%
TOTAL	395	0	0	0.00%	0.00%
Male	434	0	0	0.00%	0.00%
Female	538	129	110	20.45%	85.27%
TOTAL	932	129	110	11.32%	85.27%

Source: Company Survey

The 577 PT. Sinar Ancol employees have 395 spouses - 129 husbands and 266 wives. Since the spouses receive no medical benefits, they have not been included in this analysis.

Since the universe itself is relatively small, no effort was made to obtain a random sample; instead, the research team attempted to interview all female employees. Those who were not interviewed were those who were either unavailable or unwilling to be interviewed.

Current Employee Family Planning Practices

In 1987, company management reported 28 births to the 129 married female employees, an annual fertility rate of 217 births per thousand women. Company management did not record the age of the mothers; however, from the survey we estimated births and pregnancies over the last two years and derived percentages from which we could estimate the births in 1987 to mothers in each group. The estimated number of births is shown in Table 8.

TABLE 8
NUMBER OF BIRTHS AND CURRENT PREGNANCIES

AGE OF MOTHER	SURVEY RESPONDENTS BIRTHS IN 1987	1988	CURRENTLY PREGNANT	TOTAL N	%
15-19	0	0	0	0	0.00%
20-24	2	0	6	8	47.06%
25-29	3	0	3	6	35.29%
30-34	1	0	1	2	11.76%
35-39	0	1	0	1	5.88%
40-44	0	0	0	0	0.00
TOTAL	6	1	10	17	100.00%

Source: Individual Questionnaire

Note: The 17 births and pregnancies to the sample population over two years should not be confused with the 28 births to the universe population in one year.

It was then possible to multiply the 28 total births which occurred in 1987 by the percentages obtained in Table 89 and obtain an estimate of the number of mothers in each age group, as shown in Table 9. It was also possible to calculate the marital age-specific fertility rate for women at PT. Sinar Ancol, and compare these rates to those for Indonesia as a whole. The rates at Sinar Ancol ranged from a high of 376 in the 20-24 age group to a low of 94 in the 30-34 group. However, the overall fertility rate for PT. Sinar Ancol was not significantly different from the national level.

Table 9 displays the current marital, age-specific fertility rates for both the married female employees at PT. Sinar Ancol and for Indonesia as a whole.

TABLE 9
CURRENT (BASELINE) FERTILITY

AGE	WOMEN AT RISK	BIRTHS LAST YEAR (SURVEY UNIVERSE)			BASE MARITAL AGE SPECIFIC FERTILITY RATE	
		(1)	(2)	RND	(3)	
5-19	0	0.00%	0.00	0	0.000	100.30
20-24	35	47.07%	13.18	13	376.471	275.80
25-29	39	35.29%	9.88	10	253.394	273.00
30-34	35	11.76%	3.29	3	94.118	183.80
35-39	13	5.88%	1.65	2	126.697	103.10
40-44	7	0.00%	0.00	0	0.000	47.00
TOTAL	129	100.00%	28.00	28	217.054	213.90

Source: Individual Questionnaire

Notes:

1. Percentages from Table 8
2. 28 Births reported in 1987 times percentages.
3. Number of births divided by women at risk times 1000.

As one might expect from this young population, family size is currently small, with an overall average number of live births of 1.47 per family, which is lower than the population replacement level. An age specific breakdown of this average is displayed in Table 10.

TABLE 10
TOTAL CHILDREN STILL LIVING, BY AGE OF MOTHER

# OF CHILDREN PER MOTHER	TOTAL SAMPLE # OF MOTHERS (M)	TOTAL SAMPLE # OF CHILDREN (C)	BY AGE 15-19 (M)	15-19 (C)	20-24 (M)	20-24 (C)	25-29 (M)	25-29 (C)	30-34 (M)	30-34 (C)	35-39 (M)	35-39 (C)	40-44 (M)	40-44 (C)
0	32	0	0	0	7	0	8	0	10	0	2	0	5	0
1	29	29	0	0	11	11	10	10	3	3	5	5	0	0
2	32	64	0	0	11	22	9	18	8	16	4	8	0	0
3	5	15	0	0	0	0	2	6	3	9	0	0	0	0
4	6	24	0	0	0	0	3	12	2	8	0	0	1	4
5	6	30	0	0	0	0	2	10	2	10	1	5	1	5
TOTAL	110	162	0	0	29	33	34	56	28	46	12	18	7	9
AVERAGE NUMBER OF CHILDREN PER MOTHER		1.47	0.00		1.14		1.65		1.64		1.50		1.29	
WOMEN IN UNIVERSE		129	0		35		39		35		13		7	
ESTIMATED TOTAL NUMBER OF CHILDREN		189.63	0.00		39.90		64.35		57.40		19.50		9.00	

Source: Individual Questionnaire

Note: Estimated total number of living children includes dependent children and adult children.

The average number of children for mothers at PT. Sinar Ancol is below the population replacement level, and reflects the young age of these mothers. But more important than current family size is the desired family size to which these women aspire. While some mothers express a wish for as many as five children, the average number of children desired is 2.31, slightly higher than the population replacement level, less than the generally sought family size in Indonesia as a whole, and many fewer children than these mothers are likely to have without effective family planning protection.

Table 11 displays the estimated number of children desired by the PT. Sinar Ancol employees.

TABLE 11
TOTAL CHILDREN DESIRED, BY AGE OF MOTHER

# OF CHILDREN PER MOTHER	TOTAL SAMPLE # OF MOTHERS (M)	TOTAL SAMPLE # OF CHILDREN (C)	BY AGE 15-19 (M)	15-19 (C)	20-24 (M)	20-24 (C)	25-29 (M)	25-29 (C)	30-34 (M)	30-34 (C)	35-39 (M)	35-39 (C)	40-44 (M)	40-44 (C)
0	16	0	0	0	3	0	3	0	7	0	0	0	3	0
1	6	6	0	0	0	0	1	1	5	5	0	0	0	0
2	41	82	0	0	14	28	5	10	9	18	10	20	3	6
3	26	78	0	0	8	24	13	39	3	9	1	3	1	3
4	17	68	0	0	4	16	9	36	4	16	0	0	0	0
5	4	20	0	0	0	0	3	15	0	0	1	5	0	0
TOTAL	110	254	0	0	29	68	34	101	28	48	12	28	7	9
AVERAGE NUMBER OF CHILDREN DESIRED PER MOTHER		2.31	0.00		2.34		2.97		1.71		2.33		1.29	
WOMEN IN UNIVERSE		129	0		35		39		35		13		7	
ESTIMATED TOTAL NUMBER OF CHILDREN DESIRED		297.87	0.00		82.07		115.85		60.00		30.33		9.00	

Source: Individual Questionnaire

Note: Missing values have been statistically imputed.

The actual contraceptive practice of these women is, therefore, of considerable interest. Projecting from the 110 women surveyed to all 129 married female employees, an estimated 59 women (45.74%) are using some form of family planning. Further, most of these women are using a very secure family planning method.

Table 12 displays the actual contraceptive usage of the women surveyed, as well as estimates for the use of family planning methods by the entire married female labor force at PT. Sinar Ancol.

TABLE 12
CURRENT RATES OF CONTRACEPTIVE USE BY METHOD

AGE RANGE	15-19	20-24	25-29	30-34	35-39	40-44	TOTAL
TOTAL WOMEN AT RISK	0	35	39	35	13	7	129
NUMBER OF WOMEN SURVEYED	0	29	34	28	12	7	110
SAMPLE AS PERCENT OF UNIVERSE	0.0%	82.86%	87.18%	80.00%	92.31%	100.00%	85.27%
TRADITIONAL METHODS (1)							
a. Traditional Users (Sample)	0	2	3	4	0	1	10
Estimated Users (Universe)	0	2	3	5	0	1	11
SECURE METHODS							
a. Injection Users (Sample)	0	6	14	7	4	0	31
Estimated Users (Universe)	0	7	16	9	4	0	36
b. Pill Users (Sample)	0	0	0	4	0	0	4
Estimated Users (Universe)	0	0	0	5	0	0	5
c. IUD Users (Sample)	0	0	0	2	0	0	2
Estimated Users (Universe)	0	0	0	3	0	0	3
d. Implant Users (Sample)	0	2	0	0	0	0	2
Estimated Users (Universe)	0	3	0	0	0	0	3
PERMANENT METHODS							
a. Tubectomy Users (Sample)	0	0	0	0	0	0	0
Estimated Users (Universe)	0	0	0	0	0	0	0
b. Vasectomy Users (Sample)	0	0	0	0	1	1	2
Estimated Users (Universe)	0	0	0	0	1	1	2
TOTAL (2) Users (Sample)	0	10	17	17	5	2	51
Estimated Users (Universe)	0	12	19	21	5	2	59
Estimated Users as % of Universe	0.00%	34.29%	48.72%	60.00%	38.46%	28.57%	45.74%

Source: Individual Questionnaire

Notes:

1. Traditional methods include Condom, Withdrawal, Rhythm, Diaphragm and Other
2. Totals may not add to those shown due to rounding.

As shown in Table 13, most of the women obtain their family planning services from subsidized sources and more than half (55.6%) of the women who indicate a source for their family planning method named Atma Jaya Hospital as their source.

TABLE 13
SOURCE OF FAMILY PLANNING SERVICES

SOURCE OF METHOD	N	%
PUBLIC/GOVERNMENT		
Public Hospital	3	6.67%
Health Centr	7	15.56%
Other	4	8.89%
PRIVATE		
Atma Jaya Hospital	25	55.56%
Factory Clinic	1	2.22%
Medical practice	3	6.67%
Other	2	4.44%
TOTAL	45	100.00%

Source: Individual Questionnaire

Note: Two users of sterilization and four users of traditional methods do not require family planning commodities.

Indicators Of Employee Demand

Repeated surveys of a variety of populations in Jakarta indicate that knowledge of modern, effective family planning methods is virtually universal -- testimony to women's interest and to the effective information, education and communication programs supported by agencies working under the broad coordination of the National Family Planning Coordinating Board, BKKBN. As a result, the first component of demand, from a marketing perspective -- product knowledge -- is present. The second component of demand is fertility intentions.

Table 14 shows the intentions of the surveyed married women working at PT. Sinar Ancol. A look at the family planning methods actually used by this population indicates that many are using methods appropriate to their intentions -- and many are not. Here, too, is an indication of the currently unmet demand for family planning.

TABLE 14
FERTILITY INTENTIONS AND CURRENT CONTRACEPTIVE BEHAVIOR

FUTURE FERTILITY INTENTIONS	TRADITIONAL METHODS		SECURE METHODS		PERMANENT METHODS		ALL USERS		NON-USERS		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
WANT CHILDREN IMMEDIATELY												
Within One Year	1	10.0%	4	10.3%	0	0.0%	5	9.8%	20	33.9%	25	22.7%
Between 1 & 2 Years	0	0.0%	3	7.7%	0	0.0%	3	5.9%	6	10.2%	9	8.2%
TOTAL	1	10.0%	7	18.0%	0	0.0%	8	15.7%	26	44.1%	34	30.9%
SPACERS AND LIMITERS												
Delayed (spacers)												
In two years	1	10.0%	5	12.8%	0	0.0%	6	11.8%	10	16.9%	16	14.5%
No More Children	6	60.0%	13	33.3%	2	100.0%	21	41.2%	17	28.8%	38	34.5%
(limiters)												
TOTAL	7	70.0%	18	46.2%	2	100.0%	27	53.0%	27	45.7%	54	49.0%
OTHER												
God Decides	0	0.0%	6	15.4%	0	0.0%	6	11.8%	4	6.8%	10	9.1%
Don't Know When	2	20.0%	4	10.3%	0	0.0%	6	11.8%	0	0.0%	6	5.5%
Don't know Whether	0	0.0%	3	7.7%	0	0.0%	3	5.9%	2	3.4%	5	4.5%
Other	0	0.0%	1	2.6%	0	0.0%	1	2.0%	0	0.0%	1	0.9%
Total	2	20.0%	14	35.9%	0	0.0%	16	31.4%	6	10.2%	22	20.0%
TOTAL	10	100.0%	39	100.0%	2	100.0%	51	100.0%	59	100.0%	110	100.0%

Source: Individual Questionnaire

Consistent with our previous observations, 22.73% (or 25 women) want children immediately - and we know from Table 8 that 10 of these are pregnant already. An additional 8.18% (or 9 women) are seeking pregnancies in the short term. Neither of these groups, obviously, will have an interest in family planning at this time, although after the anticipated child is born, family planning will be important to achieve proper spacing for any future children.

An additional 49.09% (54 women), however, do not want children immediately. Some of them are "spacers", who want more children after a delay of two or more years, while others are "limiters", who want no more at all. This group clearly requires family planning. In addition, 20.00% (22 women) of the women are unclear whether or when to have children, or feel that "God decides". Special information, education, and communication should be targeted to this group.

Estimates of Service Use

Based upon the indications of unmet demand for family planning services demonstrated in the previous section, our analysis shows that an increase in contraceptive prevalence from 45.74% to 77.52% is both appropriate and achievable for the employed married women at PT. Sinar Ancol.

Table 15 shows this projection.

TABLE 15
PROJECTED CONTRACEPTIVE USE THREE YEARS AFTER PROGRAM LAUNCH

AGE	15-19	20-24	25-29	30-34	35-39	40-44	TOTAL
WOMEN AT RISK (1)	0	35	39	35	13	7	129
Current Prevalence (2)	0.0%	34.3%	48.7%	60.0%	38.5%	28.6%	45.74%
Current Users	0	12	19	21	5	2	59
Target Prevalence	0.0%	71.4%	71.8%	80.0%	92.3%	100.0%	77.52%
Target Users	0	25	28	28	12	7	100
TRADITIONAL METHODS							
Target Method Mix	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Target users	0	0	0	0	0	0	0
SECURE METHOD - PILL							
Target Method Mix	0.0%	0.0%	10.3%	0.0%	0.0%	0.0%	4.0%
Target users	0	0	4	0	0	0	4
SECURE METHOD - INJECTION							
Target Method Mix	0.0%	54.3%	51.3%	48.6%	46.2%	28.6%	64.0%
Target users	0	19	20	17	6	2	64
SECURE METHOD - IMPLANT							
Target Method Mix	0.0%	17.1%	0.0%	0.0%	0.0%	0.0%	6.0%
Target users	0	6	0	0	0	0	6
SECURE METHOD - IUD							
Target Method Mix	0.0%	0.0%	10.3%	17.1%	15.4%	0.0%	12.0%
Target users	0	0	4	6	2	0	12
PERMANENT - STERILIZATION							
Target Method Mix	0.0%	0.0%	0.0%	14.3%	30.8%	71.4%	14.0%
Target users	0	0	0	5	4	5	14
TOTAL (3)							
Target Method Mix	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Target users	0	25	28	28	12	7	100

Notes:

1. Women at risk from Table 2.
2. Percent using contraception from Table 12.
3. Numbers may not total those shown due to rounding.
4. Method Mix adapted from Table 12.
5. Users (method and age specific) calculated by multiplying age-specific users by method mix.

In addition to an increase in the number of women using some form of family planning, it should be possible to encourage many women to change from less effective to more effective methods. This change is shown in Table 16.

TABLE 16
CHANGES IN METHOD MIX DURING FIRST THREE YEARS OF FAMILY PLANNING

CATEGORY	BASE	YEAR 1	YEAR 2	YEAR 3	% DISTRIBUTION BASE YEAR	% DISTRIBUTION TARGET YEAR
a. TOTAL NUMBER OF USERS	59	74	87	100		
- Numerical Change		15	13	13		
- Per Cent Change		25.42%	17.57%	14.94%	45.74%	77.52%
b. TRADITIONAL	11	6	0	0	18.64%	0.00%
- Numerical Change		-5	-6	0		
- Per Cent Change		-45.5%	-100.0%	0.0%		
c. SECURE METHODS						
1. Injection	35	45	57	64	59.32%	64.00%
- Numerical Change		10	12	7		
- Per Cent Change		28.6%	26.7%	12.3%		
2. Pill	5	5	4	4	8.47%	4.00%
- Numerical Change		0	-1	0		
- Per Cent Change		0.0%	-20.0%	0.0%		
3. IUD	3	7	10	12	5.08%	12.00%
- Numerical Change		4	3	2		
- Per Cent Change		133.3%	42.9%	20.0%		
4. Implant	3	4	5	6	5.08%	6.00%
- Numerical Change		1	1	1		
- Per Cent Change		33.3%	25.0%	20.0%		
d. PERMANENT METHODS	2	7	11	14	3.39%	14.00%
- Numerical Change		5	4	3		
- Per Cent Change		250.0%	57.1%	27.3%		
TOTAL USERS (1)	59	74	87	100	45.74%	100.00%
- Numerical Change		15	13	13		
- Percent Change		25.4%	17.6%	14.9%		

Sources: Base period contraceptive users from Company Survey. Years 1 and 2 figures calculated by HOST model as interpolation between base and target. Year 3 figures calculated by HOST model from Target Contraceptive Prevalence and Target Method Mix.

Note: 1. Totals may not add to those shown due to rounding.

As a result of these changes, the *TIPPS* analysis predicts that over a period of four years, the number of births occurring to the employed married women of PT. Sinar Ancol will decrease as shown in Table 17.

TABLE 17
FAMILY PLANNING PROGRAM IMPACT ON BIRTHS: FIRST FOUR YEARS OF PROGRAM

PERIOD	EXPECTED (No program)	EXPECTED (With program)	DIFFERENCE (Births Averted)
Base Period	28	28	0
Program Year 1	28	28	0
Program Year 2	28	22	6
Program Year 3	28	17	11
Program Year 4	28	12	16

Source: Base period births from Company Survey. Other cells from Table FERT in HOST computations

Since each of these births represents a cost to PT. Sinar Ancol in terms of pregnancy leave and maternity health care, as was shown in Table 6, the reduction in births will represent a savings to the company. At the same time, this reduction will be achieved by making available to these women something they want: better control of their fertility in order to exercise their own choice in the number and spacing of their children.

COSTS AND BENEFITS

Potential Arrangement And Cost Of Program

The Atma Jaya Hospital is proposing a variety of service arrangements to the nearly one hundred factories in its catchment area. These proposed packages, as listed below, include not only family planning but also other health services.

1. Acute/occupational outpatient services at Atma Jaya Hospital. These services will be offered to the company for Rp. 5,000 per visit.

2. Prenatal/Delivery/Postnatal Services, with delivery at Atma Jaya and prenatal and postnatal services offered at the company site by a visiting midwife.

3. Preventive Health Services.

4. Support and back-up for a company's existing in-house clinic.

5. Family Planning services, to be provided at the company site by a midwife visiting twice monthly. The price to the company would be Rp. 250 per family planning participant per month, or Rp. 3,000 per participant per year. Since this represents a subsidized price, the family planning service is offered as a supplement to one or more of the other services listed.

The specific proposals will be tailored to the needs of each factory, reflecting both the recommendations of Atma Jaya and also the expressed interests of factory management.

Atma Jaya Hospital carefully developed the price to be charged for these family planning services after an analysis of the actual costs of providing such services. Table 18 presents Atma Jaya's estimates of the non-commodity costs of providing a family planning program at the hospital.

TABLE 18
COSTS OF PROVIDING FAMILY PLANNING SERVICES
NON-COMMODITY COSTS - MOBILE SERVICE

ITEM	COSTS IN THOUSAND RUPIAHS ALLOCATION				
	TOTAL	FIRST YEAR STARTUP	ANNUAL FIXED COSTS	ANNUAL VARIABLE NONCOMMOD	ANNUAL VARIABLE COMMOD
PERSONNEL					
Doctor, full-time	6000			6000	
Midwife	3600			3600	
Driver/helper	2400		2400		
TRAINING	0				
TRANSPORTATION					
Automobile, depreciated over 5 years	0				
Fuel	0				
Car Maintenance	0				
Car tax	0				
Car/taxi rent	0				
EQUIPMENT AND BUILDING					
Depreciation of Equipment & Building	978		978		
Building Maintenance	50		50		
Utilities Expense	225		225		
CONSUMABLE SUPPLIES/ADMINISTRATION					
Materials	0				
Office Supply	1750		1750		
Administration	0				
TOTAL	15003		5403	9600	

Thus, an overall family program at Atma Jaya Hospital, exclusive of commodities, would cost Rp. 15,003,000 per year, of which Rp. 5,403,000 are annual fixed costs and Rp. 9,600,000 are variable, non-commodity costs such as personnel. This program would provide up to 120 family planning consultations per week, or 6,240 consultations per year. Since the cost of family planning commodities would vary with the number of users and by method, they are not included in Table 18.

The analysis of actual costs then turns to the specific family planning services which PT. Sinar Ancol employees would use. During the first year, *TIPPS* estimates that the 59 current family planning users at PT. Sinar Ancol, plus 15 new users, would utilize the family planning program. *TIPPS* estimates that 212 consultations will be necessary to meet this demand. Multiplying this volume times the unit costs calculated above produces the portion of Atma Jaya's fixed costs and noncommodity costs to be allocated to PT. Sinar Ancol. Based on the method mix presented in Table 12, the 74 first-year users are allocated by method. Required family planning commodities are multiplied by the method used to obtain annual commodity costs.

In addition, at start-up, a half-year supply of commodities must be purchased as a necessary advance inventory. In all, *TIPPS* estimates a total first year cost of Rp. 1,589,417 from all sources for the family planning services required by PT. Sinar Ancol. These costs are shown in Table 19.

TABLE 19
ALLOCATION OF OVERALL COSTS TO PT. SINAR ANCOL

ITEM				COSTS IN THOUSAND RUPIAHS ALLOCATION				
				TOTAL	FIRST YEAR STARTUP	ANNUAL FIXED COSTS	ANNUAL VARIABLE NONCOMMOD	ANNUAL VARIABLE COMMOD
ALLOCATION OF OVERALL COSTS				15003		5403	9600	
Divide by 6240 Annual Consultations				2.404		0.866	1.538	
PT Sinar Ancol Est. Consultations 212								
Non-Commodity Allocation to Sinar Ancol				509.717	509.717	183.563	326.154	
FAMILY PLANNING COMMODITIES								
Commodities	First Year Users	Unit Price 000 Rp	Units per User					
Traditional	4	-	0	0.000	0.000			0.000
Condom	2	0.130	80	20.000	10.400			20.800
Pill	45	1.300	13	65.000	32.500			65.000
Injection	5	1.000	4	117.000	117.000			234.400
IUDs	7	25.000	0.33	175.000	87.500			175.000
Implants	4	25.000	1	100.000	50.000			100.000
Tubectomy	5	25.000	1	125.000	62.500			125.000
Subtotal (1)	72			719.800	359.900			719.800
Start-up Commodities @ 1/2 yr supply				359.900				
SUBTOTAL (Commodities)				1079.700				719.800
TOTAL COST TO PT. SINAR ANCOL				1589.417	359.900	183.563	326.154	719.800

Note: The two already sterilized couples will not need family planning commodities; therefore they are not included in either the consultation costs or the allocation of commodities costs.

Atma Jaya Hospital would not charge PT. Sinar Ancol the full first year cost of Rp. 1,589,417. At the subsidized rates discussed earlier, Atma Jaya Hospital would charge PT. Sinar Ancol for approximately 72 family planning users at Rp. 3,000 per year each, or a total of 216,000. This, therefore, represents a total subsidy of Rp. 1,373,417.

Cost Savings From Future Use Of Family Planning: A Prospective Assessment

A prospective assessment of the cost savings of future increases in the number of users and an improved method mix is presented in Table 20. During the first three years, *TIPPS* estimates an increase of 41 users (from 59, as estimated in Table 12, to 100, as shown in Table 15), with a total of 33 averted births by the end of the fourth year.

In the first year of the program, the cost-benefit model shows first year costs and (at the subsidized rate of Rp. 3,000 per user per year), no benefits. Since pregnancies require almost a year for a birth, time must pass before a reduction in births can be attributed to the program.

TABLE 20
PROSPECTIVE ANNUAL BENEFITS AND COSTS OF PROVIDING FAMILY PLANNING SERVICES

YEAR	BENEFITS	COSTS	EXCESS OF COSTS OVER BENEFITS	BENEFIT TO COST RATIO
1	0	216000	(216000)	N/A
2	900000	240000	660000	2.75
3	1650000	267000	1383000	5.18
4	2400000	270000	2130000	7.89

As shown in Table 20, benefits commence in the second year and rapidly increase. Contraceptive targets having been reached in the third year, the optimum annual benefits appear in the fourth year, and both benefits and costs level off thereafter. These benefits consist entirely of savings from maternity leave and maternity payments which PT. Sinar Ancol would otherwise have to pay.

Cost Savings Already Being Realized From Employee Use Of Family Planning: A Retrospective Assessment

As noted previously, a majority of the surveyed PT. Sinar Ancol employees currently receiving family planning services obtain them from the Atma Jaya Hospital. The program at Atma Jaya which enables them to do this is heavily subsidized by a donor agency--and these funds are at present being withdrawn. If alternate sources of funds are not found, it is possible that the family planning program at Atma Jaya Hospital will be canceled.

It is therefore important to calculate the number of births which the employed married women at PT. Sinar Ancol would have each year if no family planning services were used. Table 21A begins the process by estimating the total number of protected couples.

TABLE 21

A: CALCULATION OF PROTECTED COUPLES, ADJUSTED FOR METHOD EFFECTIVENESS

METHOD	CURRENT USERS (BY AGE)						TOTAL
	15-19	20-24	25-29	30-34	35-39	40-44	USERS
TRADITIONAL	0	2	3	3	0	1	9
CONDOM	0	0	0	2	0	0	2
PILL	0	0	0	5	0	0	5
INJECTION	0	7	16	8	4	0	35
IUD	0	0	0	3	0	0	3
IMPLANT	0	3	0	0	0	0	3
STERILIZATION	0	0	0	0	1	1	2
1. TOTAL CURRENT USERS	0	12	19	21	5	2	59

METHOD	EFFECTIVENESS OF METHOD	ADJUSTED COUPLE YEARS OF PROTECTION						TOTAL USERS
		15-19	20-24	25-29	30-34	35-39	40-44	
TRADITIONAL	1%	0.00	0.02	0.03	0.03	0.00	0.01	0.09
CONDOM	50%	0.00	0.00	0.00	1.00	0.00	0.00	1.00
PILL	95%	0.00	0.00	0.00	4.75	0.00	0.00	4.75
INJECTION	95%	0.00	6.65	15.20	7.60	3.80	0.00	33.25
IUD	95%	0.00	0.00	0.00	2.85	0.00	0.00	2.855
IMPLANT	95%	0.00	2.85	0.00	0.00	0.00	0.00	2.85
STERILIZATION	99%	0.00	0.00	0.00	0.00	0.99	0.99	1.98
2. TOTAL ADJUSTED PROTECTED COUPLES		0.00	9.52	15.23	16.23	4.79	1.00	46.77

Source: Current Users by Method: Table 12. Effectiveness of Method: Bongaarts

Notes:

1. Current Users from Table 12. Current Users are presumed to have been using their method for one year.
3. Adjusted Couple Years of Protection is obtained by multiplying Current Users Protected by Method times Effectiveness of Method.

Table 21B then calculates the number of unprotected couples, the fertility of the unprotected couples, and the number of births which the protected couples would have if they exhibited the fertility of the unprotected couples instead.

TABLE 21

B: CALCULATION OF NUMBER OF UNPROTECTED COUPLES AND PREDICTED BIRTHS

METHOD	CURRENT USERS (BY AGE)						TOTAL USERS
	15-19	20-24	25-29	30-34	35-39	40-44	
1. TOTAL WOMEN AT RISK	0	35	39	35	13	7	129.00
2. LESS ADJUSTED PROTECTED COUPLES	0	9.52	15.23	16.23	4.79	1.00	46.77
3. TOTAL UNPROTECTED COUPLES	0	25.48	23.77	18.77	8.21	6.00	82.23
EST. CURRENT BIRTHS (UNROUNDED)	0	13.18	9.88	3.29	1.65	0.00	28.00
4. AGE SPECIFIC FERTILITY, UNPROTECTED COUPLES	0	0.517	0.416	0.175	0.201	0.00	0.341
5. EXPECTED ADDITIONAL BIRTHS IN ABSENCE OF FAMILY PLANNING	0	4.92	6.33	2.84	0.96	0.00	15.93
6. PREDICTED BIRTHS IN ABSENCE OF FAMILY PLANNING (ROUNDED)	0 0	18.10 18	16.21 16	6.13 6	2.61 3	0.00 0	43.93 44

Notes :

1. Total Women At Risk from Table 2 (married women only).
2. Protected Couples are calculated in Table 21A.
3. The number of unprotected couples in each age group is obtained by subtracting the adjusted number of protected couples from the total number of couples at risk.
4. The Age-Specific Fertility of the couples who are unprotected is obtained by dividing the number of births by the number of unprotected couples.
5. Multiplying the number of protected couples by the age-specific fertility of the unprotected couples produces the additional number of births which might be expected if the protected couples were not using family planning.
6. When added to the current births of this population, the predicted births have been estimated in the absence of this family planning program. The predicted births, in their rounded form, are entered into the HOST/TIPPS cost-benefit model for combined prospective/retrospective computation.

As displayed in Table 21B, almost 16 additional births each year, with all the associated expenses, would occur if PT. Sinar Ancol employees stopped their current level of family planning.

It was estimated in Table 6 that each birth costs PT. Sinar Ancol Rp.150,000. Multiplying this number by the 15.93 births shown as already being averted by current users, an estimated Rp.2,388,836 are already being saved by PT. Sinar Ancol each year.

In order to obtain a truer estimate of the benefits which PT. Sinar Ancol is obtaining from family planning, compared to the costs, the current cost savings are added to the benefits of projected increases in contraceptive prevalence. Total benefits, including the adjusted benefits, are presented in Table 22. Once the benefits already being received by PT. Sinar Ancol are included in the calculation, it can be estimated that the company is receiving almost Rp. 17 in benefits for every Rp. 1 expended in costs.

TABLE 22
ADJUSTED COSTS AND BENEFITS
ASSUMING NO FAMILY PLANNING AT START

YEAR	BENEFITS UNADJUSTED	BENEFITS ADJUSTED	COSTS	BENEFITS - COSTS	BENEFIT TO COST RATIO
ADJUSTMENT		2388836			
1	0	2388836	216000	2172836	10.06
2	900000	3288836	240000	3048836	12.70
3	1650000	4038836	267000	3771836	14.13
4	2400000	4788836	270000	4518836	16.74

Source: Table 20 with adjustments for births already averted by employee family planning practices, as calculated in Table 21B.

CONCLUSION AND RECOMMENDATION

This analysis illustrates the advantages available to PT. Sinar Ancol, should it decide to participate in the family planning program being offered by Atma Jaya Hospital. At the subsidized rate, PT. Sinar Ancol will experience a positive return on its investment even if only new reductions in fertility of its married female employees are taken into account. The benefit to cost ratio is even greater when consideration is given to the advantages which the company already obtains from current users. The fact that current service levels may be severely reduced if the factories do not pay for the services that Atma Jaya provides, makes the conclusion even stronger.

Elements contributing to this conclusion are the young age of the married women employed at PT. Sinar Ancol, their relatively high fertility, their expressed interest in a small family size, their exceptional knowledge of contraception, and their willingness to use contraception when afforded the opportunity.

Elements which must be considered, but which cannot be measured, include healthier mothers and children, decreased employee absenteeism, and increased productivity when employees are more satisfied with their family lives. Family planning contributes to healthier mothers and children when births are properly spaced. It has a positive impact on employee productivity, and reduces absenteeism due to childbirth, complications of childbirth, and illness of children. A small investment in family planning services will return large dividends to PT. Sinar Ancol both in terms which can be measured and in those which are less tangible but equally important.

Jakarta, September, 1988