BUSINESS ANALYSIS REPORT:

COSTS AND BENEFITS OF SPONSORING FAMILY PLANNING SERVICES FOR EMPLOYEES OF C.V OBOR MAS JAYA JAXARTA, INDONESIA

TECHNICAL INFORMATION ON POPULATION FOR THE PRIVATE SECTOR
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This work was funded by Contract No. AID/DPE 3035-C-00-5047-00 between John Short & Associates, Inc. and the United States Agency for International Development, through Subcontract No. JSA-TIP-0406-88 between John Short & Associates, Inc. and the Atma Jaya Foundation.

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Preface

This report describes the benefits and costs which would result from the provision of family planning services by C. V. Obor Mas Jaya 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 C. V. Obor Mas Jaya 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 C. V. Obor Mas Jaya, a beverage manufacturer located in North Jakarta, Indonesia. The intent of this analysis is to assess whether or not it would be beneficial for C. V. Obor Mas Jaya 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 C. V. Obor Mas Jaya couples is already below 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 35 women surveyed who wanted no more children, 11 (31.43%) were using either traditional or the least effective methods of birth control or none at all.

- C. V. Obor Mas Jaya provides benefits to female employees. There are 173 such women who are in their child-bearing years.

- Every female employee pregnancy will cost the company Rp. 207,500, including the delivery costs and maternity leave.

- In the most recent year, C. V. Obor Mas Jaya employee couples had 37 babies. The analytic model predicts that if employee desires for reduced fertility were realized in three years, births could be reduced by up to 15 births per year, saving the company as much as Rp. 3,112,500 per year in childbirth related expenses.

- The analytic model projected an increased use of contraception from the current 37.57% to 63.58% 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 C. V. Obor Mas Jaya through a mobile arrangement, for which Rp. 3000 would be charged per year per participating family planning user.

- Counting this as the cost to C. V. Obor Mas Jaya, C. V. Obor Mas Jaya would save a total of Rp. 5,139,000 over four years, a benefit-to-cost ratio of 4.73:1.

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 C. V. Obor Mas Jaya. 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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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 C. V. Obor Mas Jaya 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.

C. V. OBOR MAS JAYA

C. V. Obor Mas Jaya is located on Jalan Karang Bolong Raya No. 6 B, Ancol Jakarta Utara, in the Penjaringan subdistrict of northern Jakarta. Founded in 1969, it produces "mosquito killer drugs". It is a private enterprise, employing 942 men and women.

Company Employees

The majority (61.25%) of the 942 C. V. Obor Mas Jaya employees are male, of whom 24 are top managers, middle managers and supervisors. Of the 365 female employees, one is a supervisor, and one is top management.

All employees receive medical benefits for themselves, but health care coverage for spouses and children is provided only to employees of supervisory status and above. Table 1 shows statistics relating employee status to benefits provided by the company.

TABLE 1
EMPLOYEES BY CLASSIFICATION AND SEX

	EMPLOYEES							
STATUS	MALE		Benefit	FEMALE		Benefit	TOTAL	
	N	%	Status	N	%	Status	N	%
TOP MANAGERS	6	1.04%	A	1	0.27%	A	7	0.74%
MID MANAGERS	7	1.21%	A	0	0.00%	A	7	0.74%
SUPERVISORS	23	3.99%	A	1	0.27%	A	24	2.55%
WORKERS	541	93.76%	B	363	99.45%	B	904	95.97%
TOTAL	577	61.25%		365	38.75%		942	100.00%

Source: Company Survey

Table 2 presents the age distribution and marital status of female employees. There are 173 married female employees, of whom 67.7% are below the age of thirty. These women are women at risk of unwanted and/or mistimed pregnancies.

TABLE 2
FEMALE MARRIED EMPLOYEES BY AGE

AGE	FEMALE MARRIED EMPLOYEE	%	FEMALE UNMARRIED EMPLOYEE
< 20	19	10.98	49
20-24	66	38.15	47
25-29	32	18.50	61
30-34	31	17.92	25
35-39	18	10.40	7
40-44	7	4.05	3
>44	0	0.00	0
TOTAL	173	100.00	192

Source: Company Survey

While 192 of the 365 C. V. Obor Mas Jaya 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 120 married women who were surveyed, 63.33% have no education, while 5.00% have graduated from High School or college. In spite of the wide differences in educational background, however, knowledge of contraception and family planning are almost universal, as is discussed later in this report.

Table 3 displays the educational backgrounds of the married female employees at C. V. Obor Mas Jaya.

TABLE 3
YEARS OF EDUCATION COMPLETED

EDUCATION COMPLETED	N	%
No School	76	63.33%
Primary School	34	28.33%
Middle School	4	3.33%
High School	4	3.33%
College	2	1.67%
TOTAL	120	100.00%

Source: Company Survey

The majority (75.83%) of the women surveyed have been married ten years or less, with 21.67% having been married for only one year. Thus, the married female labor force at C. V. Obor Mas Jaya is young, as shown in Table 2, and is just beginning family life; a time when women normally commence and add to their families. For most of this group of women, the major interest in family planning services will be in family spacing rather than family limitation.

Table 4 shows the number of years the surveyed women have been married.

TABLE 4
YEARS MARRIED

YEARS MARRIED	N	%
1	26	21.67%
2	10	8.33%
3	5	4.17%
4	10	8.33%
5	9	7.50%
1- 5	60	50.00%
6-10	31	25.83%
11-15	13	10.83%
16-20	11	9.17%
>20	5	4.17%
TOTAL	120	100.00%

Source: Individual Questionnaire

Benefit Structure And Cost Of Benefits

C. V. Obor Mas Jaya 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. While managers and supervisors do receive some benefits for dependent spouses and children, such benefits are not provided to sub-supervisory personnel. Second, the benefits related to fertility are intended to assist with delivery costs, and provide three months salary. All benefits related to fertility are paid in the year of the pregnancy and birth; there are no additional benefits for which C. V. Obor Mas Jaya is liable as the infant grows.

Table 5 displays the benefits currently offered to C. V. Obor Mas Jaya employees.

TABLE 5
FERTILITY-RELATED BENEFITS OFFERED TO EMPLOYEES AND DEPENDENTS

BENEFIT	EMPLOYEES		DEPENDENTS			
	MALE	FEMALE	SPOUSE	CHILDREN	PARENTS	OTHERS
SALARY BENEFITS						
Maternity Leave	-	90 DAYS	-	-	-	-
Ill Children	1 DAY	1 DAY	-	-	-	-
HEALTH CARE						
Factory clinics	-	FREE	(1)	(1)	-	-
Maternity	-	-	(2)	(2)	-	-
Ill Outpatient	-	(3)	(1)	(1)	-	-
Pharmaceuticals	-	(3)	(1)	(1)	-	-
SOCIAL WELFARE						
Social Services	-	-	-	-	-	-
Housing	-	-	-	-	-	-
Education	-	-	-	-	-	-
Recreation	-	-	-	-	-	-

Source: Company Survey

Notes:

1. Reimbursement for healthcare cost is made to dependents of white collar workers only. Amount paid is 50 Rp. Whereas workers must go to Atma Jaya hospital to be reimbursed, white collar dependents can go to other facilities as well.

2. Maternity care is provided to wives of white collar employees only. Amount is individually determined, but more than Rp 20,000.

3. Will be paid if the amount does not exceed one month's salary.

In the year of a child's birth, the employed mother receives 90 days paid maternity leave and a lump sum maternity benefit payment. The average wage for the 90 day leave in 1987 was Rp. 187,500, and the maternity payment was Rp. 20,000.

Table 6 illustrates benefits paid by the company to its employees during each year of a dependent child's life.

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

AGE	TYPE OF BENEFIT			TOTAL
	MATERNITY HEALTHCARE BENEFIT	MATERNITY THREE MONTH PAID LEAVE	SOCIAL WELFARE (No Benefits)	
0	20.000	187.500	0.000	207.500
1 - 21	0.000	0.000	0.000	0.000
TOTAL	20.000	187.500	0.000	207.500

Source: Company Survey

Note: Rp. 20,000 is not presumed to cover the full cost of delivery, etc.

DEMAND FOR FAMILY PLANNING

Methodology For Estimating Demand

A survey questionnaire was administered to married female employees of C. V. Obor Mas Jaya 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 C. V. Obor Mas Jaya.

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

TABLE 7
SURVEY UNIVERSE AND POPULATION SURVEYED

EMPLOYEE CATEGORY	SURVEY UNIVERSE	TARGET SAMPLE	INTER-VIEWED	PERSONS INTERVIEWED AS % OF UNIVERSE	PERSONS INTERVIEWED AS % OF TARGET
Male	577	0	0	0.00%	0.00%
Female					
Married	173	173	120	69.36%	69.36%
15-19	19	19	19	100.00%	100.00%
20-24	66	66	28	42.42%	42.42%
25-29	32	32	32	100.00%	100.00%
30-34	31	31	16	51.61%	51.61%
35-39	18	18	18	100.00%	100.00%
40-44	7	7	7	100.00%	100.00%
Unmarried	192	0	0	0.00%	0.00%
TOTAL	365	173	120	32.88%	69.36%

Source: Company Survey

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 37 births to the 173 married female employees, an annual fertility rate of 213 births per thousand women. Company management did not record the ages of the mothers. However, from the survey data, the number of births and pregnancies occurring over the last three years were estimated, and percentages were derived from which it was possible to estimate the births in 1987 to mothers in each age group. The estimated number of births is shown in Table 8.

TABLE 8
NUMBER OF BIRTHS AND CURRENT PREGNANCIES

AGE OF MOTHER	WOMEN IN SAMPLE	BIRTHS IN 1986	1987	1988	CURRENTLY PREGNANT	TOTALS N	%
15-19	19	0	0	0	4	4	10.00%
20-24	28	3	1	1	7	12	30.00%
25-29	32	5	2	0	7	14	35.00%
30-34	16	0	0	0	3	3	7.50%
35-39	18	5	0	0	1	6	15.00%
40-44	7	1	0	0	0	1	2.50%
TOTAL	120	14	3	1	22	40	100.00%

Source: Individual Questionnaire

Note:

1. Number of women interviewed (hereafter to be called "sample") from Table 7.
2. The 40 births and pregnancies in the sample population over the last three years should not be confused with the 37 births to the universe population in one year.

It was then possible to calculate the marital, age-specific fertility rates for women at C. V. Obor Mas Jaya, and compare these rates to those for Indonesia as a whole. The rates for C. V. Obor Mas Jaya ranged from a high of 405 in the 25-29 age group to a low of 90 in the 30-34 age group. While employed women normally have a lower fertility than average, the women at C. V. Obor Mas Jaya exhibit a fertility rate not significantly different than Indonesia as a whole, as shown in Table 9.

Table 9 displays the current marital, age-specific fertility rates for both the married female employees at C. V. Obor Mas Jaya and for Indonesia as a whole.

TABLE 9
CURRENT (BASELINE) FERTILITY

AGE	WOMEN AT RISK: MARRIED FEMALE EMPLOYEE	BIRTHS LAST YEAR: % (1)	N (2)	RND	BASE MARITAL AGE SPECIFIC FERTILITY RATE: OBOR MAS JAYA (3)	INDONESIA
15-19	19	10.00%	3.70	4	194.737	100.30
20-24	66	30.00%	11.10	11	168.182	275.00
25-29	32	35.00%	12.95	13	404.688	273.00
30-34	31	7.50%	2.78	3	89.677	183.80
35-39	18	15.00%	5.55	6	308.335	103.10
40-44	7	2.50%	0.93	1	132.857	47.00
TOTAL	173	100.00%	37.01	37	213.931	213.90

Note:

1. Percentages calculated using sample data in Table 8.
2. 37 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 is an overall average of 1.31 children per family. An age specific breakdown of this average is displayed in Table 10, showing family size increasing with the age of the mother.

TABLE 10
TOTAL CHILDREN STILL LIVING, BY AGE OF MOTHER

NUMBER OF CHILDREN PER MOTHER	TOTAL NUMBER OF MOTHERS IN SAMPLE (M)	TOTAL NUMBER OF CHILDREN IN SAMPLE (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	53	0	19	0	15	0	9	0	5	0	5	0	0	0
1	21	21	0	0	8	8	6	6	6	6	1	1	0	0
2	22	44	0	0	5	10	10	20	1	2	4	8	2	4
3	9	27	0	0	0	0	5	15	2	6	2	6	0	0
4	10	40	0	0	0	0	2	8	2	8	4	16	2	8
5	3	15	0	0	0	0	0	0	0	0	2	10	1	5
6	2	12	0	0	0	0	0	0	0	0	0	0	2	12
TOTAL	120	159	19	0	28	18	32	49	16	22	18	41	7	29
AVERAGE NUMBER OF CHILDREN PER MOTHER		1.33	0.00		0.64		1.53		1.38		2.28		4.14	
WOMEN IN UNIVERSE		173	19		66		32		31		18		7	
ESTIMATED TOTAL NUMBER OF CHILDREN IN UNIVERSE		229	0		42		49		43		41		29	

Source: Individual Questionnaire

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

The low average number of children for mothers at C. V. Obor Mas Jaya (1.33) is far 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 six children, the average number of children desired is 2.35, slightly more than the population replacement level, slightly higher 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 C. V. Obor Mas Jaya employees.

TABLE 11
TOTAL CHILDREN DESIRED, BY AGE OF MOTHER

NUMBER OF CHILDREN PER MOTHER	TOTAL NUMBER OF MOTHERS IN SAMPLE (M)	CHILDREN (C)	BY AGE 15-19 (M)	(C)	20-24 (M)	(C)	25-29 (M)	(C)	30-34 (M)	(C)	35-39 (M)	(C)	40-44 (M)	(C)
0	12	0	2	0	3	0	4	0	0	0	3	0	0	0
1	5	5	0	0	1	1	1	1	1	1	1	1	1	1
2	59	118	12	24	18	36	12	24	8	16	6	12	3	6
3	23	69	2	6	2	6	10	30	5	15	3	9	1	3
4	17	68	2	8	4	16	5	20	1	4	3	12	2	8
5	2	10	1	5	0	0	0	0	0	0	1	5	0	0
6	2	12	0	0	0	0	0	0	0	0	1	6	1	6
TOTAL	120	282	19	43	28	59	32	75	15	36	18	45	8	24
AVERAGE NUMBER OF CHILDREN PER MOTHER		2.35	2.26		2.11		2.34		2.40		2.50		3.00	
WOMEN IN UNIVERSE		173	19		66		32		31		18		7	
ESTIMATED TOTAL NUMBER OF CHILDREN DESIRED		407	43		139		75		74		45		21	

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 120 women surveyed to all 173 married female employees, an estimated 65 women (37.6%) are using some form of family planning. Further, all but four 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 C. V. Obor Mas Jaya.

TABLE 12
CURRENT RATE OF CONTRACEPTIVE USE, BY METHOD

AGE RANGE	15-19	20-24	25-29	30-34	35-39	40-44	TOTAL
WOMEN AT RISK (1)	19	66	32	31	18	7	173
WOMEN SURVEYED (1)	19	28	32	16	18	7	120
SAMPLE AS % OF TOTAL	100.0%	42.4%	100.0%	51.6%	100.0%	100.0%	69.36%
TRADITIONAL							
Users (Sample)	1	0	0	0	1	0	2
Est Users (Universe)	1	0	0	0	1	0	2
Percent Using Method	33.33%	0.00%	0.00%	0.00%	7.69%	0.00%	3.08%
SECURE							
Injection							
Users (Sample)	0	2	5	3	4	2	16
Est Users (Universe)	0	5	5	6	4	2	22
Percent Using Method	0.00%	26.32%	31.25%	60.00%	30.77%	50.00%	33.85%
Pill							
Users (Sample)	1	5	10	1	0	1	18
Est Users (Universe)	1	12	10	2	0	1	26
Percent Using Method	33.33%	63.16%	62.50%	20.00%	0.00%	25.00%	40.00%
IUD							
Users (Sample)	1	0	1	1	3	1	7
Est Users (Universe)	1	0	1	2	3	1	8
Percent Using Method	33.33%	0.00%	6.25%	20.00%	23.08%	25.00%	12.31%
PERMANENT							
Female Sterilization							
Users (Sample)	0	1	0	0	3	0	4
Est Users (Universe)	0	2	0	0	3	0	5
Percent Using Method	0.00%	10.53%	0.00%	0.00%	23.08%	0.00%	7.69%
Male Sterilization							
Users (Sample)	0	0	0	0	2	0	2
Est Users (Universe)	0	0	0	0	2	0	2
Percent Using Method	0.00%	0.00%	0.00%	0.00%	15.38%	0.00%	3.08%
TOTAL (2)							
Users (Sample)	3	8	16	5	13	4	49
Est Users (Univ) (3)	3	19	16	10	13	4	65
Percent Using Method	15.79%	28.79%	50.00%	32.26%	72.22%	57.14%	100.00%

Source: Individual Questionnaire

Notes:

1. Women at Risk and Women Surveyed are from Table 7.
2. Totals may not equal those shown due to rounding.
3. Estimated Users is obtained by multiplying the percentage of surveyed women who use contraceptives times the number of women at risk.

As shown in Table 13, the majority (75.51%) of the women obtain their family planning method from a subsidized source. In fact, over 40% of the women who indicated a source for their family planning method named Atma Jaya Hospital as their source.

TABLE 13
SOURCE OF FAMILY PLANNING SERVICES, BY METHOD

SOURCE	TRADI-TIONAL	IUD	PILL	INJECTION	PERMANENT	TOTAL	%
GOVERNMENT							
Hospital	0	2	0	0	2	4	8.16%
Health Center	0	2	6	2	2	12	24.49%
Other	0	0	0	1	0	1	2.04%
PRIVATE							
A.J.H.	2	2	10	5	2	21	42.86%
Physician	0	0	0	4	0	4	8.16%
Drug store	0	0	0	1	0	3	6.12%
Other	0	1	1	1	0	4	8.16%
TOTAL	2	6	18	17	6	49	100.00%

Source: Individual Questionnaire

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 C. V. Obor Mas Jaya. 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		N	%
WANT CHILDREN IMMEDIATELY												
Within 1 year	1	50.0%	1	2.4%	0	0.0%	2	4.1%	30	42.3%	32	26.6%
Between 1 & 2 Years	0	0.0%	1	2.4%	0	0.0%	1	2.0%	4	5.6%	5	4.2%
SPACERS AND LIMITERS												
Delayed (spacers)	0	0.0%	10	24.4%	0	0.0%	10	20.4%	4	5.6%	14	11.7%
In two years												
No More Children	1	50.0%	8	19.5%	6	100.0%	15	30.6%	6	8.5%	21	17.5%
(limiters)												
OTHER												
God Decides	0	0.0%	1	2.4%	0	0.0%	1	2.0%	13	18.3%	14	11.7%
Don't Know when	0	0.0%	1	2.4%	0	0.0%	1	2.0%	6	8.5%	7	5.8%
Other	0	0.0%	19	46.3%	0	0.0%	19	38.9%	8	11.3%	27	22.5%
TOTAL	2	100.0%	41	100.0%	6	100.0%	49	100.0%	71	100.0%	120	100.0%

Source: Individual Questionnaire

Consistent with our previous observations, 32 (26.6%) of the surveyed women want children immediately - and we know from Table 8 that 22 of them are already pregnant. A small group of women (4.2%) are seeking pregnancy within two years. 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 extremely important to achieve proper spacing for any future children.

An additional 29.2%, 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. Almost half (45.8%) 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 37.57% to 69.36% is both appropriate and achievable for the employed married women of C. V. Obor Mas Jaya. Table 15 shows this projection.

TABLE 15
PROJECTED CONTRACEPTIVE PREVALENCE THREE YEARS AFTER PROGRAM LAUNCH

AGE RANGE	15-19	20-24	25-29	30-34	35-39	40-44	TOTAL
WOMEN AT RISK (1)	19	66	32	31	18	7	173
BASE CONTRACEPTIVE PREV (2)	15.8%	28.8%	50.0%	33.3%	72.2%	57.1%	37.57%
TARGET CONTRACEPTIVE PREV (3)	52.6%	54.6%	78.1%	58.1%	83.3%	85.7%	63.58%
CURRENT CONTRACEPTIVE USERS (2)	3	19	16	10	13	4	65
TARGET CONTRACEPTIVE USERS (3)	10	36	25	18	15	6	110
TRADITIONAL 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 INJECTION							
Target Method Mix	0.0%	25.81%	25.81%	25.81%	16.13%	6.45%	28.18%
Target Users	0	8	8	8	5	2	31
SECURE PILL							
Target Method Mix	15.15%	39.39%	36.36%	9.09%	0.0%	0.0%	30.00%
Target Users	5	13	12	5	0	0	33
SECURE IUD							
Target Method Mix	14.71%	38.24%	14.71%	14.71%	11.67%	5.88%	30.91%
Target Users	5	13	5	5	4	2	34
SECURE IMPLANT							
Target Method Mix	0.0%	0.0%	0.0%	3.23%	5.56%	0.0%	1.82%
Target Users	0	0	0	1	1	0	2
PERMANENT STERILIZATION-FEMALE							
Target Method Mix	0.0%	25.00%	0.0%	12.50%	37.50%	25.00%	7.27%
Target Users	0	2	0	1	3	1	8
PERMANENT STERILIZATION-MALE							
Target Method Mix	0.0%	0.0%	0.0%	0.0%	11.11%	0.0%	1.82%
Target Users	0	0	0	0	2	0	2
TOTAL (3)							
Target Method Mix by Age Group	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Target Users by Age Group	10	36	25	18	15	6	110
Target Users as % of All Users	9.09%	32.73%	22.73%	16.36%	13.64%	5.45%	100.00%

Notes:

1. Women at Risk from Table 7.
2. Base Contraceptive Prevalence and Percentages from Table 12.
3. Target Users and Method Mix Percentages adapted from Table 12.
4. Total may not equal numbers shown due to rounding.

In addition to an increase in the number of women using some form of family planning, it should also 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

DESCRIPTION	BASE	1st YEAR	2nd YEAR	3rd YEAR	% DISTRIBUTION	
OVERALL NO. OF USERS	65	79	95	110		
Numerical change		14	16	15	BASE	TARGET
Percent change		21.54%	20.25%	15.79%	YEAR	YEAR
TRADITIONAL	2	1	0	0	3.08%	0.00%
Numerical change		-1	-1	0		-2
Percent change		-50.00%	-50.00%	0.00%		
SECURE INJECTION	22	26	29	31	33.85%	28.18%
Numerical change		4	3	2		9
Percent change		18.18%	11.54%	6.90%		
SECURE PILL	26	28	31	33	40.00%	31.25%
Numerical change		2	3	2		7
Percent change		7.69%	10.71%	6.45%		
SECURE IUD	8	16	25	34	12.31%	30.91%
Numerical change		8	9	9		26
Percent change		100.00%	56.25%	36.00%		
SECURE IMPLANT	0	0	1	2	0.00%	1.82%
Numerical Change		0	1	1		2
Percent Change		0.00%	100.00%	100.00%		
PERMANENT METHODS						
STERILIZATION - F	5	6	7	8	7.69%	7.27%
Numerical change		1	1	1		3
Percent change		20.00%	16.67%	14.29%		
STERILIZATION - M	2	2	2	2	3.08%	1.82%
Numerical change		0	0	0		0
Percent change		0.00%	0.00%	0.00%		
TOTAL USERS	65	79	95	110	100.00%	100.00%
Numerical Change		14	16	15		45
Percent Change		21.54%	20.25%	17.59%		

Source: Base period contraceptive users from Table 12. Year 1-3 figures calculated by HOST model from Target contraceptive Prevalence and Target Mix.

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 C. V. Obor Mas Jaya will decrease by six, as shown in Table 17. Since each of these births represents a cost to C. V. Obor Mas Jaya in terms of pregnancy leave and maternity care, 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 choices in the number and spacing of their children.

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

PERIOD	EXPECTED BIRTHS No program	EXPECTED BIRTHS With program	NUMBER OF BIRTHS AVERTED
BASE PERIOD	37	37	0
PROGRAM YEAR 1	37	37	0
PROGRAM YEAR 2	37	32	5
PROGRAM YEAR 3	37	37	10
PROGRAM YEAR 4	37	22	15

Source: Base period births from Table 9. Other cells from table Fert in Host Computation

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 only 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 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
ESTIMATED COSTS OF PROVIDING FAMILY PLANNING SERVICES IN-HOUSE

Minutes/Consultation 15 Hours/Day 6 Consultations/Hour 4 Consultations/Week 120 Consultations/Year 6240	COSTS IN THOUSAND RUPIAHS				
		ALLOCATION OF COSTS			
ITEM	TOTAL	FIRST YEAR	ANNUAL FIXED START-UP	ANNUAL VARIABLE NON-COMMOD	ANNUAL VARIABLE COMMOD
PERSONNEL					
Doctor full-time	6000			6000	
Midwife	3600			3600	
Driver/Helper	2400		2400		
TRAINING					
TRANSPORTATION					
Automobile, depreciated over five years					
Fuel					
Car Maintenance					
Car Tax					
Car/Taxi Rental					
EQUIPMENT AND BUILDING					
Depreciation	978		978		
Building maintenance	50		50		
Utilities expense	225		225		
CONSUMABLE SUPPLIES/ADMINISTRATION					
Promotional Material					
Office Supplies					
Gen. Consumable Supplies/Admin.	1750		1750		
SUBTOTAL: COSTS OF PROGRAM	15003	0.00	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 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 C. V. Obor Mas Jaya employees would use. During the first year, *TIPPS* estimates that 65 current family planning users at C. V. Obor Mas Jaya, plus 7 new users, would utilize the family planning program. *TIPPS* also estimates that 201 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 non-commodity costs to be allocated to C. V. Obor Mas Jaya. Based on the first year method mix presented in Table 16, the 72 participating 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. 1,869,570 from all sources for the family planning services required by the women of C. V. Obor Mas Jaya.

TABLE 19
ALLOCATION OF OVERALL COSTS TO OBOR MAS JAYA

Minutes per consultation: 15 Consultations per hour : 4 Hours per day : 6 Consultations per week : 120 Consultations per year : 6,240				TOTAL	FIRST YEAR STARTUP	ANNUAL FIXED COSTS	ANNUAL VARIABLE NON-COMMOD	ANNUAL VARIABLE COMMOD
STARTUP/FIXED COSTS/NON-COMMODITIES				15003		5403	9600	
Divide by Annual Consultations (6240)				2.404		0.866	1.538	
Multiply by Estimated Consultations				201		185	185	
ALLOCATION OF STARTUP/FIXED COSTS/ NONCOMMODITY COSTS TO OBOR MAS JAYA				483.270	483.270	174.039	309.231	
METHODS	USERS	Unit Cost	Units per User					
Traditional	1	0.000	0.0	0.000	0.000			0.000
Condom	0	0.135	80.0	0.000	0.000			0.000
Pill	28	1.000	13.0	364.000	182.000			364.000
Injection	26	1.300	4.0	135.200	67.600			135.200
IUD	16	25.000	1.00	400.000	200.000			400.000
Implant	0	25.000	1.00	0.000	0.000			0.000
Sterilization	1	25.000	1.00	37.500	12.500			25.000
SUBTOTAL	68 (1)			1869.570				924.200
Start-up Commodities (1/2 year supply)					462.100			
First Year Commodities					924.200			
COSTS ALLOCATED TO C. V. OBOR MAS JAYA				1869.570	1869.570	174.039	924.200	824.200

Note: During the first year of the program, 79 couples are expected to use some family planning method, although 7 of these are current sterilized couples and will not require commodities.

Atma Jaya Hospital would not charge C. V. Obor Mas Jaya the full first year cost of Rp. 1,869,570, or Rp. 23,665 for each first year family planning user. At the subsidized rates discussed earlier, Atma Jaya Hospital would charge C. V. Obor Mas Jaya for its 68 participating family planning users, at Rp. 3,000 per year each, a total of Rp. 216,000. This, therefore, represents a total subsidy of Rp. 1,653,570 to the company.

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 45 users (from 65 to 110), with a total of 30 averted births, as shown in Table 17, 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, that much 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	BIRTHS AVERTED	BENEFITS	COSTS	EXCESS OF COSTS OVER BENEFITS	BENEFIT TO COST RATIO (%)
1	0	0	216000	(216000)	N/A
2	5	1037500	261000	776500	2.98
3	10	2075000	303000	1772000	5.85
4	15	3112500	306000	2806500	9.17

Note: Number of Births Averted from Table 17. Costs calculated using data from Table 19.

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 C. V. Obor Mas Jaya would otherwise have to pay.

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

As noted in Table 13, a majority of the surveyed C. V. Obor Mas Jaya employees currently receiving family planning services obtain them from subsidized sources. 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 C. V. Obor Mas Jaya 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	25-34	30-34	35-39	40-44	USERS
TRADITIONAL	1.00	0.00	0.00	0.00	1.00	0.00	2.00
INJECTION	0.00	5.00	5.00	6.00	4.00	2.00	22.00
PILL	1.00	12.00	10.00	2.00	0.00	1.00	26.00
IUD	1.00	0.00	1.00	2.00	3.00	1.00	8.00
STERILIZATION	0.00	2.00	0.00	0.00	5.00	0.00	5.00
1. TOTAL CURRENT USERS	3.00	19.00	16.00	10.00	13.00	4.00	63.00

	EFFECTIVENESS OF METHOD	ADJUSTED COUPLE YEARS OF PROTECTION						TOTAL
		15-19	20-24	25-39	30-34	35-39	40-44	CYP
TRADITIONAL	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.02
INJECTION	0.95	0.00	4.75	4.75	5.70	3.80	1.90	20.90
PILL	0.95	0.95	11.40	9.50	1.90	0.00	0.95	24.70
IUD	0.95	0.95	0.00	0.95	1.90	2.85	0.95	7.60
STERILIZATION	0.99	0.00	1.98	0.00	0.00	4.95	0.00	3.88
2.TOTAL ADJUSTED PROTECTED COUPLES		1.91	18.13	15.20	9.50	11.61	3.80	60.15

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

Note: CYP = Couple Years of Protection.

Table 21B 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
	15-19	20-24	25-39	30-34	35-39	40-44	USERS
1. TOTAL WOMEN AT RISK	19.00	66.00	32.00	31.00	18.00	7.00	173.00
2. TOTAL ADJUSTED PROTECTED COUPLES	1.91	18.13	15.20	9.50	11.61	3.80	60.15
3. TOTAL UNPROTECTED COUPLES	17.09	47.87	16.80	21.50	6.39	3.20	112.85
4. AGE SPECIFIC FERTILITY RATE FOR UNPROTECTED COUPLES	216.50	231.88	770.83	129.30	868.54	290.63	327.96
5. EXPECTED ADDITIONAL BIRTHS IN THE ABSENCE OF CURRENT FAMILY PLANNING	0.41	4.20	11.72	1.23	10.08	1.10	19.73
6. ESTIMATED CURRENT BIRTHS	3.70	11.10	12.95	2.78	5.55	0.93	37.01
7. PREDICTED BIRTHS IN THE ABSENCE OF CURRENT LEVELS OF FAMILY PLANNING	4.11	15.30	24.67	4.01	15.63	2.03	56.74
(Rounded values)	4	15	25	4	16	2	57

Notes:

1. Total Women At Risk from Table 7.
2. Total Protected Couples From Table 22A
3. Total Unprotected Couples from Table 22A.
4. Marital Age-Specific Fertility Rate calculated by dividing number of births reported last year by number of unprotected couples and multiplying the product by 1000.
5. Expected Additional Births calculated by multiplying Marital Age-Specific Fertility Rate by Number of Protected Couples.
6. Estimated Current Births from Table 9.
7. Estimated Additional (averted) Births in The Absence of Family Planning are obtained by multiplying the Protected Couples times the Age Specific Marital Fertility Rate for Unprotected Couples.

As displayed in Table 21B, almost 20 additional births each year, with all the associated expenses, would occur if C. V. Obor Mas Jaya employees stopped their current level of family planning.

It was estimated in Table 6 that each birth costs C. V. Obor Mas Jaya Rp. 207,500 Multiplying this number by the 19.73 births shown as already being averted by current users, an estimated Rp. 4,093,975 are already being saved by C. V. Obor Mas Jaya each year.

In order to obtain a truer estimate of the benefits which C. V. Obor Mas Jaya 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 C. V. Obor Mas Jaya due to current family planning practices are included in the calculation, it can be estimated that C. V. Obor Mas Jaya is receiving more than Rp. 22 in benefits for every Rp. 1 expended in costs.

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

YEAR	BENEFITS	COSTS	EXCESS OF COSTS OVER BENEFITS	BENEFIT TO COST RATIO (%)
ADJUSTMENT	4093975			
YEAR 1	4093975	216000	3877975	17.95
YEAR 2	5131475	261000	4870475	18.66
YEAR 3	6168975	303000	5865975	19.36
YEAR 4	7206475	306000	6900475	22.55

Note: Costs from Table 20. Benefits from Table 20 have been added to savings due to current level of family planning practices as shown in Table 21B.

CONCLUSION AND RECOMMENDATION

This analysis illustrates the advantages available to C. V. Obor Mas Jaya, should it decide to participate in the family planning program being offered by Atma Jaya Hospital. At the subsidized rate, C. V. Obor Mas Jaya 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 C. V. Obor Mas Jaya, 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 C. V. Obor Mas Jaya, both in terms which can be measured and in those which are less tangible but equally important.

Jakarta, September, 1988