

LEMBAGA KOORDINASI KELUARGA BERENCANA NASIONAL
ALAN LET. JEN. M.T. HARYONO - JAKARTA 10002

OFFICIAL FILE

0270.

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Jakarta, 25 Juni 1985

Lampiran : -
Perihal : Final Evaluation of USAID
Project 497 - 0270 Family
Planning Development and
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Dengan hormat,

Sehubungan dengan surat saudara No. II/1263 tanggal 22 Mei 1985 pe-
rihal tersebut diatas, maka dengan ini kami memberikan tanggapan -
sebagai berikut :

1. Kami menyambut baik dan menyampaikan penghargaan serta terima kasih banyak kepada Pemerintah Amerika Serikat, khususnya kepada USAID yang telah memberikan bantuan yang sangat berharga untuk mendukung keberhasilan program keluarga berencana Nasional di Indonesia.
2. Draft Final Evaluation of USAID's Family Planning Development - and Services Project (497 - 0270) pada umumnya sangat baik. Ka- mi merasa gembira karena isi laporan tersebut merupakan masukan yang sangat berharga untuk pelaksanaan program selanjutnya dan untuk membina kerjasama yang lebih erat dimasa mendatang.
3. Khusus mengenai demographic impact, kami sangat gembira bahwa - program KB atas bantuan USAID telah dapat menurunkan tingkat - fertilitas di Indonesia.

Menurut laporan tersebut tingkat Fertilitas Total Fertility Ra-
te (TFR) pada tahun 1984 telah turun menjadi 3,00 (halaman 23)
dan Crude Birth Rate (CBR) turun menjadi 29,6 (halaman 17, ta-
bel 10).

namun penurunan fertilitas ini berbeda dengan perkiraan BKKBN
dan BPS. Menurut perkiraan BKKBN pada Rapat Kerja Nasional (Ra-
kernas) 1984 yang lalu TFR tahun 1984/85 berkisar antara 3,7 -
4,2 dengan nilai tengah 4,1 dan CBR berkisar antara 29,1 - 32,4
dengan nilai tengah 31,8.



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- Perkiraan BPS antara tahun 1981 - 1985 tingkat fertilitas CBR adalah 53,72 dan TFR 4,26. Nampaknya perkiraan fertilitas oleh USAID lebih rendah dari perkiraan kami dan BPS, terutama TFR cukup banyak perbedaannya. Oleh sebab itu kami mohon dan sarankan agar perkiraan TFR dapat ditinjau kembali menurut provinsi sehingga tidak menyolok perbedaannya dengan perkiraan kami dan BPS. Selanjutnya presentase peserta KB aktif terhadap pasangan usia subur, menurut laporan tersebut 65 % (halaman 17, tabel 10) pada tahun 1984, sedangkan menurut feed back BKKBN bulan Maret 1985 adalah 62,6 %. Karena itu mohon penyesuaian selanjutnya dari laporan tersebut.
- Pada tabel 1 tentang TFR disebutkan sumbernya adalah Conroy, 1984, p.13, setelah kami teliti ternyata sumbernya adalah Biro Pusat Statistik : Proyeksi Penduduk Indonesia 1980 - 2000, Jakarta Juli 1983, halaman 24.
4. Mengenai Public Expenditure Impact of The Indonesian Family Planning Program, menurut pengamatan kami dihubungkan dengan demographic impact, mohon disesuaikan dengan peninjauan kembali demographic impact. Pada laporan yang disusun oleh Dennis N. W. Chao pada tabel 1 dinyatakan bahwa jumlah penduduk Indonesia tahun 1980 pada projection A. 151.445.000 dan projection B. sebanyak 154.514.000 (halaman 4, tabel 1). Angka-angka jumlah penduduk ini berbeda dengan hasil Sensus Penduduk 1980, dimana jumlah penduduk Indonesia sebanyak 147.490.298. Perbedaan ini cukup besar, sehingga laporan tersebut mohon disesuaikan dengan hasil Sensus Penduduk 1980.
- Pada halaman 3, Tabel 5 halaman 19 dan appendix tabel A - 10 dikatakan bahwa total expenditure on FPP from its current level of 66,6 billion rupiahs, mohon ditambahkan, bahwa biaya ini belum termasuk biaya dari Pemerintah Daerah, Unit Pelaksana, organisasi masyarakat non pemerintah dan volunteer. Selain itu Expenditure agar dibagi menurut kategori capital investment dan biaya operasional.
- Pada halaman 18 "Saving" yang diperhitungkan hanya untuk "Health and education sector", disarankan agar diperhitungkan juga saving untuk pangan, sandang, perumahan, sumber alam dan Public Service lainnya.



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5. Mengenai An Institutional Assessment of USAID Support to The Indonesia National Family Planning Program 1980 - 1984 yang menilai pelebagaan program KB telah berhasil pada umumnya, kami sambut dengan senang hati, dimana bantuan USAID memegang peranan penting dalam pelebagaan tersebut. Namun pada daerah perkotaan dan Luar Jawa Bali menurut laporan tersebut kurang berhasil (halaman 51), hal ini kami sadari, dan selanjutnya mohon bantuan USAID yang lebih besar untuk mendukung keberhasilan pelebagaan selanjutnya. Saran-saran untuk penyempurnaan pelebagaan ini, kami akan berusaha menampungnya untuk pelaksanaan di masa mendatang. Pada halaman 3 disebutkan bahwa : rapid expansion of the Indonesian family planning program has led to a growing bureaucratization, threatening the vigor and flexibility that undergird past program success. Dimohon agar kalimat ini diubah dengan : rapid expansion of the Indonesia family planning program has led to a continuing improvement of administration and management as well as encouraged the vigor and flexibility by community approach and total regional approach as the key for past program success. Pada halaman 23 disebutkan bahwa : It Should be noted that this and many of YKB's other activities have been hampered by BKKBN and city government red tape and delays. Disarankan untuk dihapus atau dirubah redaksinya menjadi : Beberapa kegiatan YKB mengalami kelambatan karena YKB kurang memahami "procedures, rules and regulations" yang disepakati antara pemerintah Indonesia/BKKBN dengan USAID. Pada halaman 28 disebutkan bahwa : The Relationship between BKKBN and KLH is not yet entirely clear and their respective perception of role differentiation vary. Disarankan pernyataan ini dirobah karena hubungan antara BKKBN dan KLH adalah jelas. Dimana KLH mengkoordinir kebijaksanaan kependudukan yang bersifat luas/makro seperti tingkat kelahiran, kematian, migrasi, tenaga kerja, lingkungan hidup dan lain-lain.

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Dengan demikian Menteri KLH mengkoordinir kebijaksanaan kependudukan yang dilakukan oleh BKKBN, Departemen Kesehatan, Departemen Transmigrasi, Departemen Tenaga kerja Departemen Pendidikan dan Kebudayaan, Departemen perindustrian, Departemen Kehutanan dan lain-lain yang menyangkut kependudukan dan lingkungan hidup. Sedangkan BKKBN mempunyai peranan utama untuk menurunkan fertilitas dan kegiatan pembantuan lainnya yang berkaitan mendukung penurunan fertilitas dan terwujudnya norma keluarga kecil yang bahagia dan sejahtera.

Adanya perbedaan target penurunan fertilitas crude birth rate 22 tahun 1990 (halaman 28) telah mendapat kesepakatan dengan Bappenas, Menteri KLH, BPS dan BKKBN, dimana angka CBR pada akhir Pelita IV 1989 dibuat berdasarkan trend 1971 - 1980, sedangkan penurunan fertilitas CBR menjadi 22 tahun 1990 adalah berdasarkan pengarahan Bapak Presiden Soeharto, dengan pertimbangan semakin cepat turun fertilitas semakin baik dan hal ini merupakan syarat untuk take off pembangunan nasional pada Pelita VI tahun 1994 - 1999.

Pada halaman 35 disebutkan bahwa : Unrealistic targets - encourage special promotions (Called Safaris) and other gimmicks that probably contribute more to temporary statistical bumps than to genuine contraceptive prevalence. Hal ini tidak seluruhnya benar, sebelum ada safari ada kecenderungan program level off, dengan adanya safari diajak banyak peserta KB, diakui drop out lebih tinggi dari pada sebelumnya, tetapi resultante-nya prevalence dapat dinaikkan pada level yang lebih tinggi dan dapat dicegah level off.



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Demikianlah tanggapan kami atas draft laporan penilaian USAID Project 0270, semoga bermanfaat untuk penyempurnaannya.

a.n. Deputi Bidang Perencanaan
dan Analisa Program



Kepala Biro Analisa
Pelaksanaan Program

Sahala Pandjaitan, SKM

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1. Kepala BKKBN Pusat (sebagai laporan)
2. Wakil Kepala BKKBN (sebagai laporan)
3. Para Deputi

AN EVALUATION OF AID'S ROLE

IN

INDONESIAN FAMILY PLANNING, 1980 – 1984

by

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Introductory Chapter
by

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June 1985

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Preface:

The Indonesian Family Planning Program is widely recognized as one of the most successful family planning programs in the world. Since 1968 the United States has provided technical and financial assistance to the program through its Agency for International Development (AID). This present report recognizes the well-documented evidence of the program's performance and identifies reasons for its success and areas of concern for the future. The major purpose of the report, however, is not to evaluate the Indonesian program itself, but to assess AID's assistance to that program and to identify the lessons that can be learned from the improvement of family planning assistance both in Indonesia and elsewhere. Therefore the evaluation primarily concerns the role played by USAID/Jakarta and does not include detailed analysis of the population assistance program as it operated in AID/Washington.

This report is a companion piece to the 1979 evaluation of AID/Washington and USAID/Jakarta assistance to the family planning program entitled "AID's Role in Indonesia Family Planning: A Case Study with General Lessons for Foreign Assistance" by James R. Heiby, Gayl D. Ness and Barbara L.K. Pillsbury (A.I.D. Program Evaluation Report No.2, December 1979). As such, it takes an in-depth look at a major GOI policy decision that USAID/Jakarta was instrumental in promoting in 1974, thereby changing the tenor and speed of the previous clinic-based program to a highly successful community-based one. That policy determination, known as Village Family Planning (VFP), was initially analyzed in the 1979 evaluation. The current evaluation springboards from the 1979 study and is primarily a retrospective analysis of the 1980-1984 period's expansion of the VFP experience, or model, on Java and Bali, its further expansion to the outer islands and, more recently, its utilization in urban areas.

This report is the final evaluation of the Family Planning Development and Services Project (No.0270). Since 1978 it has been funded by \$27.92 million, over half of which has been used to provide direct supplemental grant funding for local cost program implementation in selected provinces. This flexible mechanism is widely recognized as a major contributor to program success. A major share of the remaining funds have been used in indirect support of VFP through the provision of technical assistance, commodities and training. A related project included in this evaluation is the recently concluded \$56.1 million Oral Contraceptive Loan (No.0271). In addition, this evaluation should also serve as a stimulus to review selected "Sources of Strength", "Sources of Concern" and "Lessons Learned" presented in the 1979 study.

A number of recommendations presented here have already been incorporated in the new \$23.4 million continuation project, Family Planning Development and Services II (No.0327). This project, although not a subject of this evaluation, represents a thoughtful response to

much that has been learned by BKKBN and USAID in the course of Project 0270 implementation. As such, the conduct of activities funded under the project should go far in institutionalizing administrative and program capacities within BKKBN.

The three-part evaluation--consisting of chapters on institutional effectiveness of the National Family Planning Coordinating Board (BKKBN), the demographic impact of the national family planning program and the public expenditure impact of the program on public health and education--was conducted over a six month period. The demographic impact chapter was completed first by Dr. John A. Ross, Center for Population and Family Health, Columbia University. His work was greatly enhanced through data analysis work by Dr. Terry Hull and Mrs. Lulu D. Bost, colleagues from Australian National University, Canberra, who provided the reformed BKKBN service statistics used in Chapter 3 and in its appendices. Then Dr. Dennis N.W. Chao, Research Triangle Institute, Chapel Hill, North Carolina, completed the public expenditure impact section working directly from Dr. Ross' work. Finally, through field visits and interviews over a four week period (April-May 1985) in selected urban centers and rural Indonesia, the three person team of Mr. Jerry Van Sant (institutional development/management specialist), Dr. Benson Hausman (physician), and Dr. Sri Pamoedjo Rahardjo (sociologist/demographer) completed the institutional effectiveness chapter. High and low performance rural communities were visited in the provinces of West Java and South Sulawesi and the major urban centers of Surabaya, Ujung Pandang, and Jakarta. The field interviews and other sessions were greatly facilitated by the fact that all three team members had residence experience in Indonesia as well as fluency in the language.

Acknowledgements:

During their stay in Indonesia the team acquired a debt of gratitude to many Indonesians. From peasant families to cabinet ministers, Indonesians opened their homes, their offices and themselves to the team.

The BKKBN staff at headquarters and in the provinces gave willingly of their time, energy and interest. They opened their files and records and patiently answered questions and explained systems and procedures. Dr. Haryono Suyono, Chairman of BKKBN, gave access to his entire organization. The provincial BKKBN chairmen who were visited--Dr. Loet Affandi, West Java; Dr. Sudarto, East Java; Drs. Koeslan, South Sulawesi; and Mr. Pandojo Moeljosoetjipto, SH, DKI Jakarta--deserve special acknowledgement for their personal as well as official assistance and hospitality. Through these leaders the team wishes to express deep appreciation to the many BKKBN staff and other officials who provided effective assistance and warm hospitality.

The USAID Population and Health staff--Dr. Emmanuel Voulgaropoulos, Chief, and Mr. Diddy Sudarmadi--deserve special acknowledgement for their assistance and guidance. So too does Dr. William P. Fuller, USAID Mission Director, and Dr. Margaret Bonner and Dr. Tim Mahoney from the USAID Program Office, who gave generously of their time and knowledge. Mrs. Chandrawati Husein and Mrs. Arwani Soeryadi, Indonesian staff of the Offices of Population and Health and Voluntary and Humanitarian Programs respectively, provided much appreciated assistance.

Gratitude is also expressed to Mrs. Karen Seckler for her thorough and patient editorial assistance on this report. USAID/Jakarta and the team is also grateful to Mr. Ed Muniak from AID/Washington's Asia Bureau for the important support and assistance he provided.

Finally, a personal note. It has been a particular pleasure and fitting closure to my tenure in Indonesia to have planned, coordinated and participated in this evaluation. From 1980-1985, Project 0270 has been a constant companion; one to which I owe a debt of gratitude for making my years in Indonesia challenging and meaningful.

David L. Piet
USAID/Jakarta

CHAPTER I

BACKGROUND AND SUMMARY OF AID'S FAMILY PLANNING INVOLVMENT

I. INTRODUCTION

The Indonesian family planning program is one of the most successful in the world. Success of the program can be measured by a declining birth rate, steadily increasing prevalence of contraceptive use and a growing number of outlets for family planning information and contraceptive services. Success of the program can also be measured by the increasing awareness among all political, religious and cultural groups regarding the high costs of rapid population growth and the consequent gradual shift, especially in Java and Bali, in socio-cultural norms regarding family size from negative (pro-natalist) to positive (anti-natalist).

Well recognized factors contributing to the success of the program include: high level political commitment, steady economic growth, and a well organized, capably staffed and adequately funded National Family Planning Coordinating Board (BKKBN). Other factors, specifically related to BKKBN include organizational commitment, flexibility, innovative approaches to program planning and implementation, an open management system, and widespread participation in the program at the community level.

BKKBN, a government agency reporting directly to the President, has the stated responsibility for coordinating, planning, supervising and evaluating all aspects of national family planning activities, both public and private. It does not directly provide contraceptive services to the public; rather it coordinates and supplements the work of various other implementing units including government agencies and certain private organizations.

The success of the family planning program to date is indeed remarkable. However, more difficult challenges now face BKKBN as it strives to maintain program momentum and improve program quality. In the coming years, the rapid gains recorded in the first 15 years will not be easily matched, as many of the new acceptors will have to come from segments of the population that the program has found difficult to reach, e.g., cities and remote areas in the outer islands. In addition, the large number of new cohorts of young marrieds soon to be in need of contraceptive services threaten to overwhelm on-going successful programs such as those on Java and Bali. Finally, providing a cost-effective contraceptive mix for new and continuing users will be a major issue for BKKBN to address.

Since 1968, USAID has provided nearly \$175 million in grant and loan assistance to BKKBN for local program costs, technical assistance, domestic and overseas training, contraceptives and other commodities, and research. When the 1979 evaluation was conducted, it recorded the significant gains achieved by the program during the 1970s and highlighted specific areas of concern for the future. This final project evaluation again assesses the overall impact of USAID assistance to the family planning program focusing on the 1980-1984 period. It also assesses the efficiency and effectiveness of program strategies developed by BKKBN with USAID support and addresses future concerns.

The technical body of this report contains three independently authored chapters which all deal with AID's role vis-a-vis the Indonesian national family planning program.

The first of these three technical chapters (Chapter 2), "An Institutional Assessment of USAID Support to the Indonesian National Family Planning Program, 1980-1984", provides an overall assessment of program strategies developed by BKKBN, institutional capacities for implementing these strategies and their cost-effectiveness. Chapter 3, "Demographic Background and Births Averted", analyzes the impact of the family planning program up to 1979 and 1980 and the changes since then through demographic indicators in selected areas and contraceptive prevalence indicators in all areas. The last chapter, "Public Expenditure Impact: Education and Health", is based on the data and findings of the demographic impact chapter. This section analyzes the impact of the program on public expenditures for health and education. These two chapters report that a significant number of births have been averted by contraceptive use and that consequent long-term savings in estimated public health and education expenditures result in a very favorable benefit-cost performance for the family planning program.

Appendices to Chapters 3 and 4 provide those interested in further demographic or public expenditure analysis with a wealth of statistical information. The service statistics information originated with BKKBN and was subjected to various corrections and adjustments. The data were then produced in the convenient formats given in Appendix II. These tables represent a significant new resource as they arrange the full data set more usefully than ever before--yearly rather than monthly. Individual items from the separate monthly service statistics reports were extracted and re-compiled to show time trends and areal comparisons directly.

The remainder of this chapter presents the major points and emphases of the following three chapters.

II. OVERVIEW OF TECHNICAL CHAPTERS

Chapter 2. An Institutional Assessment of USAID Support to the Indonesian National Family Planning Program, 1980-1984:

The technical team that wrote Chapter 2 was requested to address a number of institutional effectiveness concerns related to village and urban family planning. The key concern regarding rural family planning strategies was: is the Java/Bali VFP model, where contraceptive service points are placed in comparatively densely populated areas which are easy or relatively easy to reach and supervise and in which remaining numbers of M/WRA are still sufficient to warrant a service point, flexible enough to handle regional differences both provincially and intra-provincially in the outer islands?

The key concern for the urban program strategy was to identify those factors which significantly influence program performance. Previous studies of this issue identified such factors as preference for midwife service/delivery in the neighborhood; low percentage of women delivering in hospitals/clinics (which affects postpartum approaches); high mobility within the city and consequent difficulty in relocating services; preference by women to seek their own contraceptive information/services rather than being approached at home by family planning fieldworkers; and high contraceptive knowledge rate among urban women who therefore desire more choice of contraceptive methods. The team reviewed these studies and assessed the significance of these factors, as well as others which affect program performance. Site visits were conducted in rural West Java and South Sulawesi and the urban centers of Surabaya, Ujung Pandang and Jakarta to examine these issues.

Chapter 2 addresses the following issues regarding program strategies: 1) the extension of the village family planning program to the outer islands; 2) the urban program; 3) planning and delivery of comprehensive contraceptive services, including procurement and production of contraceptives, the logistics system, and the data based service statistics system related to these services; and 4) the manpower development system generally. This chapter also provides an assessment of the key lessons learned from the Indonesian family planning program. Two major areas of concern are lessons applicable to the development of family planning initiatives and those that apply to USAID support for such initiatives. These lessons learned are found at the end of Chapter 2.

Program Strategies

Village Family Planning

From its pilot stage in 1974 through its expansion as a national model, Village Family Planning (VFP) has been the mainstay of BKKBN's program. For the past decade, but especially since 1980, USAID has assisted BKKBN to test, expand, refine and strengthen VFP activities, first in the six Java/Bali provinces, then in the ten large off Java provinces known as Outer Islands I and, thirdly, in selected less densely populated provinces designated as Outer Islands II.

Previous studies indicated a direct relationship between the easy availability and accessibility of information and contraceptive services and the level of contraceptive use. In Java and Bali and certain outer island provinces, such as West Nusa Tenggara and South Sulawesi, this relationship has been borne out by experience. However, trying to provide equity of information and services in other outer island provinces, such as South Sumatra, West Kalimantan, East Nusa Tenggara and other geographically difficult provinces, has resulted in a somewhat different experience.

It has become clear over the last several years of experience with VFP in Indonesia that the basic foundation of any strategy must be the ready availability of information and services. However, the mere increase in number of service points or too heavy reliance on ratios of service points to Married Women of Reproductive Age (MWRA) is too simplistic an approach. From the beginning of village family planning in the mid-1970s, priority attention was given to the 80% of the population living in rural areas. A reliable VFP model was developed in Java/Bali, and that basic model is now being implemented throughout the twenty-seven provinces by BKKBN. This model attempts to provide equity of information and services to every village in Indonesia through a progression of village family planning posts, sub-village posts and acceptor groups.

In each province, regency, sub-district and village, BKKBN strategy is to:

- increase the number of new family planning acceptors and contraceptive prevalence;
- re-recruit program dropouts;
- shift acceptors to the more effective methods of fertility control;
- bring information and services closer to the people;
- increase community participation in the family planning program;

- increase the administrative, supervisory and managerial skills of BKKBN and implementing unit personnel; and
- integrate population and family planning programs into other sectors of community life.

As a model for the provinces on Java and Bali, where populations are dense, transportation and communications widespread, and supervisory staffs larger than on other islands, this style of VFP application has been highly successful. However, when one looks at this same application of the VFP experience in the outer islands, certain problems emerge. In most of the outer island provinces, topography, transportation and communication, size of administrative areas, lack of fieldworkers and other supervisory staff, heterogeneous populations, socio-cultural-religious and economic variations impinge on the successful implementation of VFP along Java/Bali lines. In most respects the philosophy and program implementation remain the same; it is with the provision of information and services that modifications will need to be made. One simple example points up the problem. BKKBN's rule of thumb allows one village family planning post per village for which operational costs are provided. This is fine on Java and Bali where village size allows for a decent ratio of service points to MWRA; it becomes far more difficult in West Kalimantan or South Sumatra where villages are often 3-6 times larger than those on Java and distances are great.

While one program goal is to increase the absolute number of service points, the more important goal should be to strategically place and strengthen the quality of services. This may mean an increase of service points, but it might also mean a decrease.

Urban Programs

Progress in urban areas has not kept pace with the outstanding progress in the rural areas (see demographic impact chapter). It is clear that innovative and imaginative approaches to urban family planning are essential if a major impact is to be obtained quickly.

Although clinic-based family planning services have been available in cities since the start of the national family planning program, rural areas received, and continue to receive, priority attention because 75% of Indonesia's people currently live in rural areas.

The urban/rural ratio is changing rapidly, and over the ten years between the 1971 and the 1980 censuses it shifted from 82.6% rural and 17.4% urban (1971) to 77.6% rural and 22.4% urban (1980). The ratio for 1984 is 75.6% rural/24.9% urban and it is projected to reach 70/30 by the year 2,000. Until recently, family planning program services have not been extended effectively to the country's major urban areas, particularly Jakarta. Extending effective services, especially to the urban poor, poses a serious challenge to BKKBN, USAID and the private sector.

The considerable family planning success on Java and Bali, and increasingly in various Outer Island I provinces, has occurred largely in rural areas. It has not been possible to adapt the successful village family planning strategy to the cities. Indeed, various studies clearly show that the cities demand their own family planning strategy, especially in reaching the under-educated urban poor, let alone low to middle income clientele. Both experience and research show that there is substantial latent demand for family planning in urban areas, but easy access to contraception in a familiar, informal setting is essential for its adoption. The foundations for the village program are the tight-knit community organization in a generally homogeneous population, an excellent distribution system and free supplies. Urban government clinics, where program services are provided, are poorly utilized by the populations they are meant to serve; neighborhoods are loose-knit and the population heterogeneous, so neighborhood communities are not strong; and the private sector service providers and service points are vastly under-utilized or over-priced. Although government involvement in meeting the contraceptive needs of the poor is essential, a successful program must extend beyond the limited and already stretched government delivery system to include the multi-faceted and more acceptable delivery channels of the private sector.

Family planning services in urban areas, particularly the larger cities, are available through a wider range of public and private outlets than in the rural areas which are served almost entirely by the government family planning program. In urban areas, family planning information and contraceptives are offered through government hospitals, clinics and family planning centers; through private hospitals and clinics, through pharmacies and other commercial channels; and through private physicians and midwives. The challenge facing BKKBN through the 1980s is how to involve more fully all existing and potential service points and providers in better quality, urban-style information and services as they attempt to maintain current users, convert acceptors to more effective methods of fertility control and develop attractive, affordable information and service activities aimed at present non-users.

Institutional Effectiveness

USAID's assistance to BKKBN aimed at strengthening its institutional capacity focused on five interrelated program elements: program planning; procurement and production of contraceptives, especially oral contraceptives; nationwide logistics system for contraceptives and other commodities; a nationwide data based information system; and manpower development. The five elements of USAID's assistance were each examined individually.

Since 1980 USAID and BKKBN have worked closely on creating and institutionalizing responsive, flexible and innovative province-specific program planning and implementation processes. Compared to other GOI entities, BKKBN's planning system is participatory and decentralized. Requests are initiated at provincial BKKBNs, and sent to the Central BKKBN; implementation and monitoring are then redelegated to the provinces. The team reviewed BKKBN's planning system and program implementation at all levels, paying particular attention to the redelegation of responsibility, creativity and innovative program planning and implementation from the regency level downwards.

In the early phases of USAID assistance, procurement of contraceptives was carried out by AID/Washington. A second objective of USAID support, however, was to transfer this function to BKKBN in coordination with increased in-country capacity to produce oral contraceptives. In the new USAID assisted family planning project (0327) BKKBN has assumed full responsibility for contraceptive procurement, and local production is now providing the bulk of the contraceptives. As part of the institutional impact assessment, the newly developed in-country procurement and production system for oral contraceptives was reviewed, and an assessment of in-country capacities to meet local demands was undertaken.

Thirdly, USAID, as part of its Family Planning and Services Project (0270), provided assistance to establish a nationwide logistical system for BKKBN. The system has been in place for a decade. However, in 1980 BKKBN took over full responsibility for the system and it appears to be functioning quite well. An assessment of this performance is a specific component of the institutional impact analysis. Key issues addressed included: 1) in-country availability of contraceptives, taking into consideration stock levels established by BKKBN for the different levels; 2) the system for replenishing stock supplies, including annual inventory; 3) storage capacity at all levels; and 4) management of supply with specific attention to the first in-first out principle.

A fourth major component of USAID's assistance designed to strengthen BKKBN's institutional capacity concerned the establishment of a management information system primarily focused on the development of data regarding contraceptive services and logistics. The system is in place. The assessment of its performance concentrated on the reliability and accuracy of the system and its integration into timely planning and program management.

Finally, a significant portion of USAID assistance to BKKBN was directed towards manpower development. A unique feature of this human resource development program is that BKKBN has encouraged the participation of other government agencies in these efforts. As part of the assessment, the team reviewed BKKBN's training and human resource development strategy and its role in strengthening the effectiveness of the family planning program.

A second aspect of the assessment of institutional effectiveness was to specifically examine how these five program elements have assisted BKKBN's goals in expanding the family planning program.

To that end information was gathered at the Central BKKBN about national and provincial levels (including cities involved in the urban program) and included questions on the following points:

- Number of family planning service points
- Mix of service points (e.g., hospital, clinic, village post, etc.)
- Number of MWRAs
- Number of acceptors
- Service cost per acceptor (including explanation of what is included in cost calculation)
- Acquisition/distribution cost for each contraceptive per year per 1000 acceptors
- Mix of contraceptive use

Data about provincial, regency and selected sub-district levels gathered at the provincial BKKBNs included:

- Number of family planning service points
- Mix of service points
- Number of MWRAs
- Number of acceptors
- Service cost per acceptor
- Mix of contraceptive use
- Number of staff and fieldworkers

These indicators were assessed on national, provincial and sub-provincial levels and show that the expansion of the program to less densely populated outer islands cannot maintain the coverage rates at the same level of cost-effectiveness as is possible on Java and Bali.

The cost-effectiveness of alternative contraceptive techniques currently provided by the program or available to it was a major concern in this section of the evaluation. However, due to the non-specification of budget items for the specific program output these costs were difficult to compute. Further, an assessment of the varying contraceptive requirements of the population such as newly marrieds, zero-parity couples and those individuals who have achieved desired family size but still require contraceptive protection was conducted. The analysis of the village and urban family planning environment summarized above provides an overall framework for the discussion of this issue.

This chapter concludes with a summary of findings and recommendations in terms of lessons learned for the Indonesian family planning program and for USAID assistance to it.

Chapter 3. Demographic Background and Births Averted:

Demographic Impact

The 1979 evaluation of the program indicated that BKKBN had had a major impact in the reduction of the crude birth rate and in increasing the prevalence of contraceptive use. It also pointed out geographic areas in which the performance of the program was lagging. A major element of the current evaluation was to reassess the demographic impact recorded by the program during the 1980-1984 period, focusing on the outer islands, which received concentrated attention during this period, and the urban centers, which were identified as an area of concern in the 1979 evaluation.

The major indices of demographic impact must rest on the available data, which is uneven. For Jakarta and East Java more detailed information exists than for other provinces. Ideally this evaluation would trace the crude birth rate, the natural increase rate and the total fertility rate, but unfortunately no data at the national level on fertility and population growth have been collected since the 1979 survey and the 1980 census. However, there are well established links between changes in contraceptive prevalence and changes in fertility levels, and the related technical methods developed in recent years can be utilized. The system of measuring contraceptive use provided through the national program is important here, as it applies to every sub-area with a full time trend during the period of interest.

In summary, the demographic background can be described as of 1979 and 1980, and changes since then traced through demographic indicators in selected areas and contraceptive prevalence indicators in all areas.

Demographic Background

Fertility rates fell in the decade before 1980, in all major regions and in both rural and urban areas. Some part of the overall fertility decline was due to later marriage, both in Java and in Indonesia as a whole, but most of it reflected a drop in marital fertility rates. Mortality also fell from 1970-1980, so that a substantial growth rate persisted. Infant mortality in particular decreased by about 23% from 1971 to 1980, and life expectancy rose by about six years.

Because mortality decreased as much or more than fertility, a substantial growth rate persisted for the decade as a whole. In absolute numbers, the equivalent of another East Java (28.4 million people or 24% of the 1971 population) was added between 1971 and 1980. The percentage of childbearing age women remained steady at 25%. Rapid urban growth compounded the difficulties of population growth. In 20 years Jakarta doubled in size, and other large cities grew at high rates. However, fertility probably fell at an accelerating rate toward the end of the decade, reducing the growth rate in the late 1970s.

Future fertility declines will come only with difficulty, due to an unfortunate age distribution. The program was helped in the late 1970s by small age groups at 30-34, 35-39 and 40-44. In the future, however, these age groups will be far larger, as will indeed the younger ones, comprising a large bulge in the age structure. This is a fundamental and powerful pressure against further reductions in the crude birth rate.

Other things equal, the large increase in the size of the childbearing age group from 1985-2000 will increase the number of births by a proportionate amount. The hope is that other things will not be equal, i.e., that the marriage age will continue to rise, breastfeeding will not diminish and that contraception and sterilization will spread. Of these three the one most amenable to programmatic intervention is contraception and sterilization.

There are some favorable signs. The last five years have continued the remarkable revolution in birth control patterns that began in the 1970s. The past rise is convincingly documented in the surveys of 1973, 1976 and 1979, and in the 1980 census. A variety of sub-national surveys since then confirm further increases, including studies in East Java, Jakarta and other cities. The recent five-city survey, although it puts contraceptive prevalence below the service statistics figure, shows a ten point rise in Jakarta in four years. It also finds a substantial proportion of respondents saying that they did not want their last pregnancy and do not want any more children. Among younger respondents in four of the five cities the desired family size is only two children (median).

Births Averted

The Indonesian program deserves credit for a considerable part of the reduction in fertility so far experienced. The presumption for a substantial program effect is reinforced by: a) the high level of contraceptive prevalence and the high proportion of it that has always been program supplied; b) the steady, sharp rise in prevalence over the last fifteen years from a near zero level, a rise tied closely to the time trend in program expansion; and c) the weak role of alternative sources of supply in the rural sector, which together with other evidence implies that prevalence would have changed much more slowly without the program.

The births averted by the program are estimated from the trend in program supplied prevalence, after several discounts for wastage. These births are added to the actual numbers of births to estimate what the crude birth rate would have been without the program. This procedure isolates the program effect from the net effect of change in age distributions, marriage age and other factors. The resulting estimate is that the program's reduction of the crude birth rate began at about one point (from 40 to 39) in 1973 and rose to over ten points in 1983 and thereafter.

This is a reduction of roughly 25% of the crude birth rate. Note that the conclusion of a 25% reduction is independent of the exact level of the rate. If the general level of the actual rate were different from the one assumed, the 25% reduction would still be unaffected. Thus various parties may accept this estimate of program effect while differing over the exact level of the current birth rate, which cannot be precisely known in any case.

Additionally, the program deserves credit for births yet to be averted from its past work. That is, some births in the late 1980s and thereafter will result from IUDs already in place and sterilizations already performed, as well as from pill and condom users who will continue as a result of the program's past stimulus. Given the present method mix among users and their probable continuation rates, about 74 future births will be averted per 100 present users, spread over a number of years yet to come.

Chapter 4. Public Expenditure Impact: Education and Health:

BKKBN receives both routine and development funds from the Ministry of Finance. The funds are released based upon reasonably detailed annual budgets and are mainly utilized at the provincial level by officials of BKKBN and other government agencies and by non-governmental organizations to carry out activities agreed upon in advance. BKKBN's budget, inclusive of donor support, has increased steadily from \$4.6 million equivalent in 1970 to \$56.2 million equivalent in 1979. During the 1980-1984 period BKKBN's budget increased to a high of \$119.8 million in 1982, but across the board budget cuts in 1983 reduced the budget to \$75.8 million. The 1984 budget is \$90.1 million. A significant percentage of BKKBN's budget is provided by international donors. These percentages, however, have dramatically decreased while the GOI's have dramatically increased.

These increased budget levels have become an important concern of the GOI during the past few years. Projections of steady cost increases over the next decade so that BKKBN can achieve its objectives add to this concern. Therefore, the evaluation examined retrospectively the impact of the family planning program on other areas of public expenditure for education and public health.

Basic Data (1971-1985)

Fertility and mortality data were taken from the demographic impact work done by John Ross with the 1971 census used as the baseline population. Health, family planning and education expenditure data were prepared by the Bureau of Planning, Ministry of Health; Bureau of Finance, BKKBN; and the Research and Development Center, Ministry of Education, respectively. However, the routine education budgets reported were very low in comparison with development budgets and with those reported in World Bank publications. In the public expenditure analysis, World Bank estimations of routine expenditures were used. A Gross Domestic Product (GDP) was used to express all expenditures in 1984 value of rupiah.

III. Conclusion

To a large degree this evaluation, especially Chapter 2, builds on the findings of the 1979 evaluation report, which concluded that fertility was declining, the Indonesian family planning program was playing a major role in that decline and USAID was providing highly effective support to the program. Those conclusions remain generally valid six years later. Since 1978 the percentage of Indonesian MWRAs who are active contraceptive users, as monitored by BKKBN monthly service statistics, has doubled from 30% to 60%, reaching a current total of nearly 15 million users. In the same period, the crude birth rate has dropped from 36 to 29 per 1000, while the number of family planning service points has increased from 65,000 to over 200,000. The 13,000 BKKBN fieldworkers and countless village volunteers working in this network remain the key to program success, carrying out critical face-to-face motivational and informational functions, recruiting new acceptors, supervising acceptor group activities and providing a major logistical link for contraceptive resupply and program data.

Sources of program strength cited by the 1979 report centered on institutional factors such as a strong goal orientation, program and funding flexibility, administrative capacity and support for decentralization, attributes observed in both BKKBN and USAID and enhanced by the high quality of collaboration between these agencies. Sources of concern included potential problems associated with expansion of the successful Java/Bali program strategy to very different settings in remote rural locations and large cities. Subsequent experience has demonstrated the validity of those conclusions.

BKKBN has successfully institutionalized critical management processes and procedures previously dependent on USAID initiative and technical support. The USAID-assisted emphasis on training and other technical support for participants throughout the family planning network has visibly contributed to program implementation at all levels. On the other hand, the report also cautions that the rapid expansion of the Indonesian family planning program has become increasingly bureaucratic, threatening the vigor and flexibility that undergird past program success. The realities of the demographic pyramid and contraceptive mix in Indonesia are such that new cohorts of MWRAs in need of contraceptive services will tax BKKBN and its implementing units at the same time that simply maintaining the current user base will severely test administrative capacities. Successful application of the Java/Bali Village Family Planning model to Indonesia's outer islands and urban areas remains a serious question mark. In addition, Indonesian budget austerity will limit the availability of resources to support the quality and creativity of services that the Indonesian demographic situation increasingly requires.

The BKKBN program and USAID support for it are well documented. It is hoped that this final evaluation report which analyzes institutional, demographic and public expenditure impacts of the national family planning program will lead to renewed concern for and understanding of the program and AID's role in it. Finally it is hoped that the information provided in the demographic and public expenditure chapters will provide new insights and program options for a fine institution and its struggle to promote small, happy and prosperous families throughout Indonesia.

CHAPTER 2

AN INSTITUTIONAL ASSESSMENT OF USAID SUPPORT TO THE INDONESIA NATIONAL FAMILY PLANNING PROGRAM: 1980-1984

I. 1980-1984: THE PROGRAM MATURES

Measures of Effectiveness:

Analysis of data from the BKKBN reporting and feedback system provides a useful basis for assessing program effectiveness. The first section of this chapter uses selected indicators to illustrate program progress in the 1980-1985 period. Further analysis is also provided in Chapters 3 and 4.

The national family planning program was officially started at the beginning of the First Repelita (Five-Year Development Plan), but it only covered 6 provinces in Java and Bali. In the Second Repelita coverage of the program was expanded to 10 more provinces categorized as Outer Islands I. In the Third Repelita program coverage was extended through the country's remaining provinces. The expansion program was based upon population size, density and institutional and community readiness.

The ambitious goal of the family planning program is to reduce the level of fertility by 50% by 1990 to about 22 births per one thousand persons. In order to achieve this BKKBN has set up an extensive implementation network to motivate eligible couples, supported by nationwide contraceptive distribution centers and a comprehensive reporting and feedback system, which to date has been utilized for management, planning and supervision purposes.

Family Planning Service Centers:

During Repelita III the Indonesian family planning program has grown rapidly through expanding service centers linked to village level supply posts (Table I). This strategy has helped extend the delivery system from sub-district health clinics to village level posts. Within the village, extension of services was extended down to smaller neighborhood implementing units. The villages therefore have been encouraged to form and organize acceptor groups through which the clinic can become closer to the individual acceptors and target groups.

TABLE 1
FAMILY PLANNING SERVICE DELIVERY CENTERS 1981 AND 1984

	1981	1984
<u>Java and Bali:</u>		
Hospital and Health Clinics	3,140	3,970
Village Depots	20,613	31,069
Village Groups	75,919	99,352
Service points per 1000 MWRA	10.7	8.0
Ratio Village Groups to Clinics	24.1	25.0
<u>Outer Islands I:</u>		
Hospital and Health Clinics	1,589	2,319
Village Depots	13,398	24,262
Village Groups	18,199	33,418
Service Points per 1000 MWRA	8.1	10.0
Ratio Village Groups to Clinics	11.4	14.4
<u>Outer Islands II:</u>		
Hospital and Health Clinics	880	1,249
Village Depots	300	6,292
Village Groups	-	1,047
Service Points per 1000 MWRA	0.6	4.0
Ratio Village Groups to Clinics	-	0.8
<u>Indonesia:</u>		
Hospital and Health Clinics	5,609	7,538
Village Depots	34,311	61,623
Village Groups	94,118	133,857
Service Points per 1000 MWRA	9.0	8.0
Ratio Village Groups to Clinics	16.8	17.8

Source: BKKBN

Family planning in Java and Bali has become an accepted movement. The community has maintained its motivation by forming acceptor groups, an indication that communities have developed a sense of ownership in the program and the belief that family planning contributes to family welfare. The formation of integrated service posts reflects community participation in an integrated and holistic approach to family welfare. This development is not yet evident in all the outer islands, understandable in view of the short duration of the program and the greater distances between communities.

While considerable success has been the experience in Java-Bali, outer island strategy should be careful in adopting a similar structure of service delivery because of socio-cultural and demographic differences. Hence, community institutions and existing social and traditional structures which have been used effectively in Java-Bali need to be considered carefully before applying family planning strategies in the outer islands. Social investigation in group behavior of communities in outer islands need to be reexamined. However, there is encouraging evidence on further expansion of contraceptive service points in Java-Bali, and the Outer Islands I areas.

Acceptors and Current Users:

The performance of the family planning program is clearly impressive. The number of new acceptors has increased from 3.2 million to 17.4 million during Repelita III (1979-1984), which constitutes about 129% of the targeted number of 13.5 million new acceptors. Current users by the end of 1984 reached 14.4 million, representing almost 60% of MWRAs. (Table 2)

TABLE 2. FAMILY PLANNING ACCEPTORS AND CURRENT USERS AS OF REPELITA I, REPELITA II, REPELITA III

	Total New Acceptors (000)			Current Users (000)			Percent Current Users to MWRAs		
	I	II	III	I	II	III	I	II	III
Java and Bali	3,201.5	8,972.8	12,713.7	1,680.6	5,001.8	10,776.2	12.4	33.3	66.8
Outer Islands I		1,263.8	3,748.4		539.7	3,137.2		9.9	51.2
Outer Islands II			917.5			509.0			22.5
All Indonesia	3,201.5	10,236.6	17,379.6	1,680.6	5,541.5	14,422.4	12.4	27.0	56.8

Regional performance during the three Repelitas reveals an interesting picture. During the early stages of the family planning program, East Java became the leading province in recruiting new acceptors. However, by the end of Repelita III East Java was replaced by West Java followed by Central Java in terms of the number of new acceptors. This may be attributed to the concerted special campaigns in West Java. Maintenance of this surge of new acceptors has proven difficult, however.

During the period of Repelitas I-III, there was a trend toward younger women entering the program (Table 3). The implication to the program is an increased demand for contraceptives as younger cohorts of MWRAs become eligible.

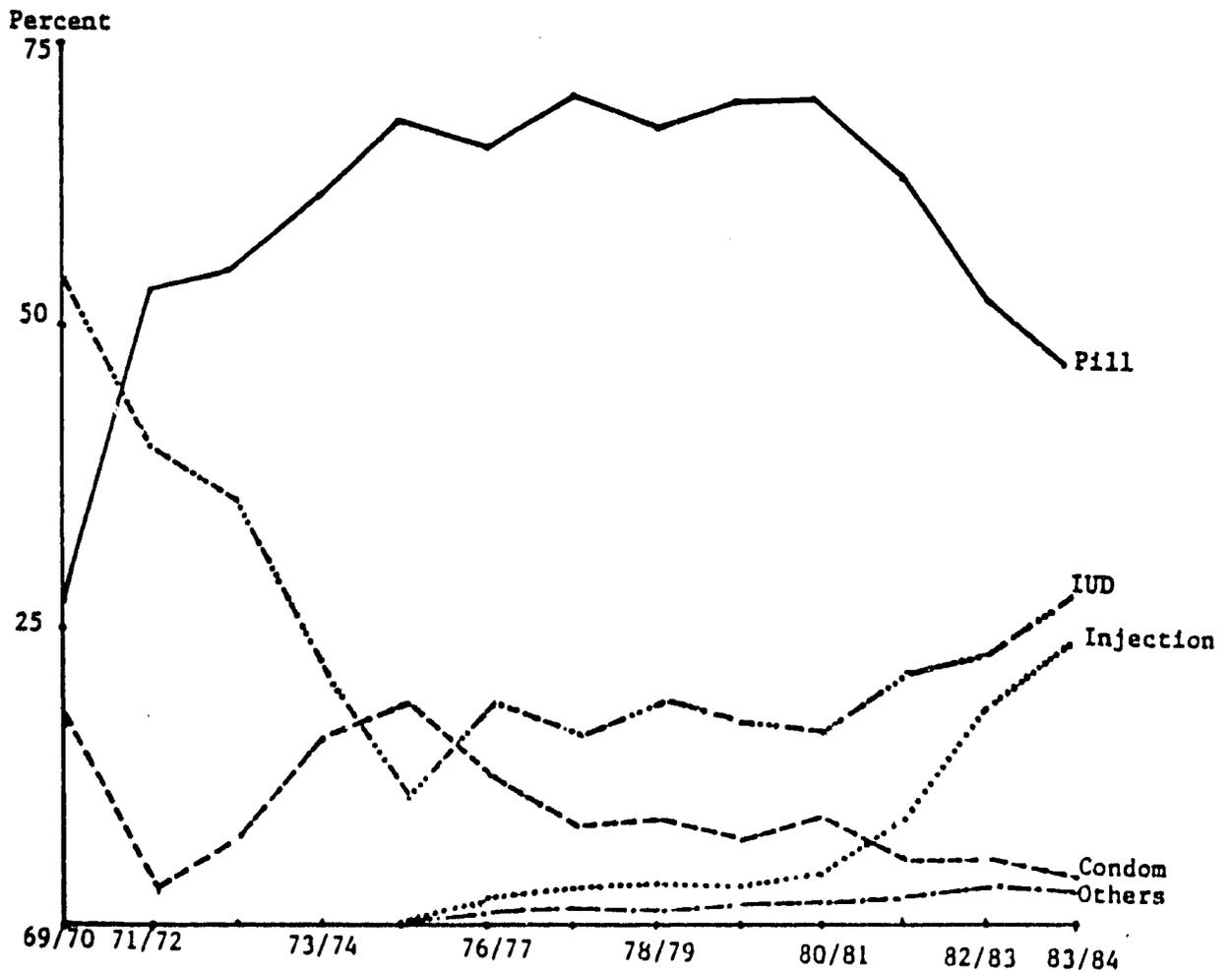
TABLE 3
MEDIAN AGE OF NEW ACCEPTORS

	INDONESIA	JAVA-BALI	OUTER ISLANDS I	OUTER ISLANDS II
REPELITA I	28.2	28.3		
REPELITA II	25.6	25.9	27.6	
REPELITA III	25.4	24.9	27.0	26.5

Source: BKKBN

The use of a modern contraceptive mix has been eagerly promoted by BKKBN. There was a tendency in Repelitas I and II among contraceptive users to prefer the pill over the IUD. In Repelita III the trend has been reversed, and, moreover, the use of the Depo-Provera injection is consistently increasing. This implies that women are now looking for more secure, convenient and economical methods of contraception. The increased usage of injectables has implications for service, logistics and funding of this type of contraceptive. Figure 1 shows contraceptive mix trends in the 1970-1984 period.

FIGURE 1: PERCENTAGE OF NEW ACCEPTORS ACCORDING TO METHODS OF CONTRACEPTIVES, REPELITAS I, II, AND III.



Source: BKKBN

Efforts to promote accurate information on the strengths and weaknesses of contraceptive options will have to be intensified. Feedback from community leaders has revealed some deficiencies in the evenness of service delivery. In part of West Java, for example, there was a strong promotion of the use of IUDs, even for women who may have voluntarily chosen an injectable or the pill. The risk of losing these acceptors because of the "hard sell" on one specific method is possible.

Cost Effectiveness:

The cost effectiveness of alternative contraceptive techniques currently provided by the program is not available from current BKKBN statistics. Better availability of data on cost per new acceptor, cost per couple per year of protection and cost per birth averted would greatly enhance successful planning and implementation of the program. The difficulty in computing these costs can be attributed to non-specification of budget items for the specific program output. For this reason it would be useful to develop a cost accounting system for computation of critical cost-related indicators.

Cost per Acceptor:

On Java and Bali high population density and better infrastructure facilities contribute to the fact that program costs per acceptor have remained low. In outer island areas, cost per user are correspondingly higher (Table 4).

TABLE 4

COST PER CURRENT CONTRACEPTIVE USER 1980-1985

	1980 - 81		1982 - 83		1984 - 85	
	Rp.	\$	Rp.	\$	Rp.	\$
Java - Bali	2,256	3.61	3,479	5.31	1,514	1.52
Outer Islands I	4,877	7.80	6,929	10.58	3,037	3.04
Outer Islands II	11,665	18.66	19,779	30.20	8,380	8.39

Source: BKKBN

The data suggest that it will be more economical to expand in areas with low costs. However, BKKBN is now at a stage where expansion to other areas is politically mandated in order to provide equitable opportunities for all Indonesians to achieve the national goal of a small and prosperous family.

Cost Per Couple-Year of Protection:

A couple-year of protection is based on the number of years a couple is protected against pregnancy while using program supplied methods of contraceptives. Based on the budget available for each fiscal year, the cost per couple-year of protection can be calculated by dividing the budget for that fiscal year by the estimated couple-years of protection obtained (Tables 5 and 6).

TABLE 5

COST PER COUPLE-YEAR OF PROTECTION 1979-1984

	1979/80	1980/81	1981/82	1982/83	1983/84
Java - Bali	1,583	2,037	2,100	2,207	1,462
Outer Islands I	3,791	4,857	5,481	4,376	2,584
Outer Islands II	14,559	16,314	15,267	13,276	7,098
INDONESIA	3,110	4,674	4,296	4,363	2,754

Source: BKKBN

TABLE 6

COST PER COUPLE-YEAR OF PROTECTION REPELITA III (Rp.)

	1979/80	1980/81	1981/82	1982/83	1983/84
DKI. Jakarta	2,343	3,155	3,352	3,727	2,051
West Java	1,977	2,977	2,591	2,438	1,534
Central Java	1,657	1,832	2,155	2,384	1,422
Yogyakarta	2,687	2,361	2,310	2,258	1,806
East Java	1,179	1,561	1,592	1,693	1,286
Bali	2,455	3,666	3,379	3,380	1,919
- Java-Bali Average:	1,583	2,037	2,100	2,207	1,462
Aceh	8,088	8,728	14,394	10,481	6,282
North Sumatra	3,501	3,632	5,055	3,645	1,569
West Sumatra	4,559	6,636	6,782	5,674	4,333
South Sumatra	5,568	6,671	6,721	4,670	2,603
Lampung	1,801	2,423	2,673	2,469	1,133
N.T.B.	3,826	4,562	3,781	1,891	2,082
W. Kalimantan	8,414	10,188	12,787	8,373	3,797
S. Kalimantan	5,568	5,285	7,760	7,454	5,474
N. Sulawesi	2,592	3,850	5,043	5,269	1,962
S. Sulawesi	4,453	4,232	3,529	3,152	2,239
- Outer Islands I Average:	3,791	4,857	5,481	4,376	2,584
Riau	15,001	12,173	10,071	8,287	5,540
Jambi	10,909	14,746	10,495	8,476	5,121
Bengkulu	5,879	6,227	6,068	7,493	4,608
N.T.T.	33,969	20,567	20,217	14,477	6,649
Central Kalimantan	22,050	18,760	26,735	22,538	10,448
E. Kalimantan	10,425	13,398	10,447	9,635	5,342
Central Sulawesi	20,165	17,495	15,841	12,082	5,167
SE Sulawesi	17,515	23,033	42,857	20,622	10,954
Maluku	12,910	25,158	22,004	23,296	8,336
Irian Jaya	17,608	59,459	58,285	43,117	24,902
East Timor	-	-	49,127	36,733	19,922
- Outer Islands II Average:	14,559	16,314	15,267	13,276	7,098

Source: BKKBN

This computation reveals that the cost per couple to protect against pregnancy in Java-Bali is lower than the cost in the outer islands. However, by the end of 1983/84 costs in all areas showed a declining trend.

Strategy Issues:

Since 1974, the strategic underpinning of the Indonesian family planning program has been an approach called Village Family Planning (VFP), a program of information, motivation and contraceptive services centered at the village and, in some areas, neighborhood level. The VFP model attempts to supplement clinic-based activities and provide equity of information and services to every village in Indonesia through a progression of village family planning posts, sub-village posts and acceptor groups. The VFP strategy is based on the assumptions that:

- there is a direct relationship between access to information and contraceptive services and the level of contraceptive use, and
- family planning behaviour should be institutionalized as a village social process.

Outer island provinces have problems with this model due to problems of communication, administrative infrastructure and socio-cultural-religious variations. Thus a major issue for the Indonesia program is whether the VFP model developed in Java/Bali is flexible enough to accommodate regional differences both provincially and interprovincially in the outer islands.

Foundations for the village program are the relatively homogeneous populations, tight-knit community structures and the extensive BKKBN contraceptive distribution system. These characteristics are often weak or absent in Indonesian urban areas. As a result, family planning progress in cities has not kept pace with the rural program despite the availability of clinic-based services since the start of the program. In general, urban clinics are poorly utilized, neighborhoods are loose-knit, populations heterogeneous and community structures relatively weak. Key questions for the family planning program are what factors significantly influence urban program performance and, especially, what unique strategies can be used to bring information and services to this elusive population segment.

The following section examines the BKKBN's village and urban strategies as illustrations of how the program has matured and how USAID assistance has strengthened the institutional capacity of BKKBN to implement these strategies.

Village Family Planning:

For several years BKKBN, with USAID assistance, has continued to extend, expand and refine its village family planning (VFP) program. Based on successful experience on Bali and most of all on Java, a basic model for this program has been developed and applied to the other islands in the archipelago. The basic aim of the VFP approach is not only to bring information and contraceptive services close to the people but also to place responsibility for program growth and maintenance in the hands of acceptors at the village and sub-village level. Through community participation and emphasis on self-reliance, it is hoped that family planning norms and values will be institutionalized in village society.

The VFP model permits local variation as the need arises; usually, however, a contraceptive depot is established in the village managed by a village volunteer. There is one volunteer per village. Furthermore, sub-village posts and neighborhood acceptor groups may be formed, drawing their contraceptive supply from the village depot. These village and sub-village units provide support and motivation for their members and seek to recruit new family planning acceptors as well. Supervision and support of the volunteer is carried out by the BKKBN fieldworker who forms the crucial link between the sub-district health center and sub-district administration on the one hand and the village community on the other. He/she is responsible for reapplying the village volunteer with contraceptives and other supplies, collecting reports, assisting in recruiting new acceptors, approaching formal and informal village leaders and helping where need arises. The fieldworker in turn is under a supervisor who works at the sub-district level.

Currently there are more than 33,000 volunteers and 148,000 sub-village posts on Java and Bali. On the other islands there are more than 27,000 village volunteers and more than 26,000 sub-village posts listed.

During the past five years USAID assistance to the VFP program has provided selective supplementary funding for operational costs such as increased coverage of traveling family planning teams; strengthening institutional linkages through meetings on program policy and implementation at provincial, regency and sub-district levels and coordination, orientation and guidance meetings at the village level; training in population and family planning at all levels; administrative and material support for printing of forms, certificates and manuals; and program review. Whenever possible USAID has assisted innovative activities or problem-solving approaches. For example, USAID provided a new level of extension worker in one province to extend limited community health center services to the community. Funds have been used in sixteen priority provinces where more than 75% of the Indonesian population live.

Flexibility of the VFP Model in the Outer Islands:

As the village family planning program has been extended to the outer islands, it has become clear that flexibility and adaptation to diverse local conditions are key factors in program success. Differences in topography, population densities, settlement patterns, means of communication and transportation, administrative infrastructure, social networks, cultural and religious beliefs and economic means are great. It would be unwise to assume that the VFP model based solely on the successful Java/Bali experience could be applied with equal success to all the islands of Indonesia.

Fortunately, BKKBN's program strategy leaves sufficient room for flexibility and adaptation to varied local settings. This strategy aims at increasing the number of new acceptors and contraceptive prevalence, re-recruiting dropouts, bringing information and services closer to the people, increasing community participation, shifting acceptors to more effective contraceptive methods, increasing skills of BKKBN and implementing unit personnel and integrating population and family planning into other sectors of community life.

BKKBN is aware of the need for program innovation and creativity to fit local conditions, and it promotes these values in informational and motivational activities with the local government apparatus. However, it is in the implementation of its strategy that constraints to flexibility arise. BKKBN must work through local government administrative and implementing units to reach down into the community. These units, from province to regency to sub-district and finally village, may or may not represent responsive, manageable and cost-effective components for applying the VFP model as developed on Java and Bali. In thinly populated, heterogenous and isolated outer island areas, new models that more directly address the cost-effectiveness issue may be needed. In the face of Indonesian budget austerity this issue takes on added importance. USAID assistance to the VFP concept should now be directed to supporting BKKBN efforts to better incorporate considerations of cost-effectiveness in its outer islands strategy and program development.

Quality of Services:

Besides developing new VFP models for outer island areas, another issue is gaining in importance as the VFP program matures. This issue is the quality of services at the village and sub-village level. Although insuring the quality of services is a stated policy of the family planning program, it became apparent in talking with fieldworkers, family planning acceptors and non-acceptors that more and higher quality education and information on family planning and contraceptives are desired. Many of those concerned with recruiting new acceptors to the program are unsure of their knowledge and ability to convince non-acceptors to join. As the VFP program matures, non-acceptors and dropouts will represent an increasingly difficult group to win over, and

enhanced training will be required to support village and sub-village level efforts at recruitment and maintenance. This will require improving fieldworker capabilities and skills. They are the ones to whom the village volunteers first turn for advice and support in family planning matters.

In addition to increased education and training, village volunteers also express a desire for better follow-up services, such as prompt repayment of expenses for contraceptive (IUD) complications requiring treatment in the health center or hospital. Long delays in reimbursement can undermine program credibility and thus the ability to recruit new acceptors.

In many villages availability of a wide range of contraceptive methods is considered desirable but not yet sufficiently convenient to meet needs. For example, in one West Java village women desiring sterilization had to wait until resources could be pooled with other women in order to pay for transportation and other costs to the nearest facility (a distant hospital).

Perhaps one of the most distinctive and valuable features of the VFP program is the pattern of frequent meetings among the various levels of the system. One of these is the monthly meeting of the village volunteers at the sub-district level. At these meetings the volunteers present their monthly reports on contraceptive performance to the BKKBN fieldworker supervisor. These meetings are also a forum for informing village volunteers about new developments and urgent issues, if any, but more importantly they allow the volunteers to discuss problems they are facing and to ask advice on how to solve them. This is an important feedback mechanism that deserves continuing serious attention by BKKBN and local officials. That this mechanism does not always work as it should was typified by one district visited in West Java. There the various village volunteers and BKKBN had signaled for months that their inability to readily offer more than IUD contraception (the local district government policy) was resulting in difficulties in recruiting new family planning acceptors and, in some cases, causing dropouts. Only after BKKBN service statistics started showing poor performance was the regency head persuaded to allow a more flexible contraceptive mix.

It seems obvious that, as the VFP program continues to mature, quality of services at the lowest levels of the system will require increasing attention from BKKBN. USAID assistance should address this concern and support BKKBN in its efforts to improve the qualitative aspects of the VFP program as its successful organizational infrastructure expands and matures.

The Urban Program:

The growth of Indonesian cities is taking on explosive proportions: many city growth rates are two, three or four times higher than the national growth rate. Current urban population is estimated at 25% of total population, with a projected increase to 35% by the year 2000. The demographic importance of cities continues to grow and with it the attention of BKKBN to urban problems. For several years it has been recognized that in large urban areas fertility control through family planning has not performed as well as had been anticipated and application of successful village family planning approaches has proven problematical.

Urban Initiatives:

For the past several years, BKKBN has devoted much time and energy to obtaining urban-specific information and to searching for approaches to increase family planning acceptance in urban settings. In 1977 the first in a series of workshops and seminars devoted to urban issues was conducted. In 1980 donor funds began to flow for urban programs and a large-scale market research survey using a commercial market research firm was carried out in Jakarta. This survey not only established a better estimate of contraceptive prevalence (33% of currently married women) but also answered questions on how consumers perceived the family planning program and its services. Prior to this quantitative survey work, qualitative research in the form of focus group discussions was conducted. Results of both quantitative and qualitative research showed that there was a large unmet need for family planning services, that women did not know where to get services, and that their knowledge of different contraceptive methods and effectiveness was limited. In short, the existing BKKBN system of clinics, fieldworkers and volunteers developed in the VFP program was not reaching the majority of urban women. Private sector providers were only passively involved in the system.

Using Jakarta as the focus for experimentation, BKKBN began a number of initiatives aimed at improving program performance. In the public sector, on-site assessment of government clinic equipment and staff training needs was carried out. Family planning clinics were renovated and re-equipped and clinic staff retrained. A mass media campaign was designed and launched by a commercial company but was plagued with bureaucratic problems.

In the private sector, BKKBN was encouraged by USAID to ask a private foundation, Yayasan Kusuma Buana (YKB), to develop semi-commercial family planning clinics as an experiment in new ways of service delivery. These clinics, located in lower income neighborhoods, are geared to the urban acceptor who wants to pay for what he/she considers better quality service yet who cannot afford the expensive services of a specialist. The clinics are midwife-managed and these midwives are the

primary service providers. Physicians function as back-up and perform certain technical procedures when necessary. Due to client demand, basic health services are also offered. Contraceptive implant field trials are part of the clinic activities. By 1984, there were a total of nine YKB-sponsored clinics functioning, one of which is economically self-sufficient.

In addition, BKKRW asked YKB to activate networks of private physicians and midwives to increase their participation in family planning services. These networks were to provide further service points in neighborhoods surrounding the clinics. YKB organized, trained, supplied and monitored these practitioners. YKB receives supplies from BKKBN and pharmaceutical companies who sell at cost. It should be noted that this and many of YKB's other activities have been hampered by BKKBN and city government bureaucratic red tape and delays.

Additional initiatives were undertaken by BKKBN. An assessment was made of private sector potential in five other cities—Semarang, Surabaya, Ujung Pandang, Medan and Palembang. In 1983, with USAID assistance, a large contraceptive prevalence survey was conducted in Jakarta and the cities, except Palembang. Survey results showed that prevalence rates in Jakarta had increased to 42.3%. Information was gathered on factors influencing contraceptive acceptance, the influence of women's jobs on contraceptive services, various possible communication channels for conveying family planning messages and public perceptions of the family planning program. Several specific recommendations were made on information, education and communication (IE&C) programs; voluntary sterilization; worksite programs; postpartum approaches; and logistics.

Toward an Urban Strategy:

In reviewing urban program programs in the past five years, it is obvious that BKKBN has been active on many fronts, in some instances with USAID funded assistance. Training of physicians and midwives, development of public and private clinic and service provider networks, providing equipment and supplies, expanding information, education and communication campaigns, experiments with fees for services, and testing of new contraceptive methods have all been tried. Acceptor prevalence rates in Jakarta, where most of these activities received special attention and support, have risen, albeit to levels still below the national average. However, a review of the various activities and the processes by which they occurred makes it clear that development of a comprehensive urban strategy for Indonesian cities still lacks sufficient support. A wealth of information and experience has been generated, and public and private resources have been tapped, but fitting these into an integrated urban framework, backed by strong political commitment, has not yet occurred. It is as if BKKBN is hesitant to act on the consequences of the conclusions being drawn from its own findings, which point to the need for BKKBN to take a strong stand as a facilitator of a wide variety of both public and private family planning services and

initiatives. It must serve rather than control. This means, for example, that certain practical urban-specific needs must be met, such as reducing bureaucratic procedures and red tape for licensing private sector providers (midwives and small private maternity hospitals, for instance); providing IE&C services, such as specifically listing service points, providers, costs and methods including voluntary sterilization; facilitating the availability of services in cases of contraceptive complications and failures; retraining fieldworkers for more urban-specific roles; promoting social market research for a wide variety of products; insuring quality of services through training and retraining of public and private providers; and encouraging worksite family planning programs for men.

One way BKKBN could expedite creation and implementation of a sound urban family planning strategy would be to form an operational urban program task force with the mandate to cut through bureaucratic red tape and support urban specific initiatives in a coordinated way. Such a task force could overcome some of the limitations imposed by BKKBN's functional structure and lend credence to BKKBN's commitment to solving urban problems. To be effective, however, such a task force would have to be given financial and political clout as well as creative and knowledgeable staff. Similar task forces could be formed at the provincial level. USAID should assist BKKBN in this endeavor through technical assistance, local cost funding and increased staff training in urban planning.

II. INSTITUTIONAL IMPLICATIONS

Observation of the development and outcomes of the two major USAID assisted BKKBN program strategies discussed in the previous section permits certain conclusions about institutional aspects of the Indonesian family planning program and the impact of USAID assistance.

From the standpoint of Project 0270, anticipated outcomes included national family planning service availability, an increase in trained personnel for program administration, in-country manpower development capability, Government of Indonesia funding of ongoing activities, and a series of program-related population policy studies. These objectives have largely been realized as have expectations for the expansion of family planning service points and increases in contraceptive use. Highly optimistic USAID projections for life-of-project reductions to a crude birth rate of 24 and population growth rate of 1.3% (expectations not shared by BKKBN or any outside researchers) have proved unrealistic. Nonetheless, as reported earlier, progress in implementing measures for fertility reduction has been significant.

In retrospect, particular contributions of USAID assistance have included thorough testing and expansion of the village family planning concept, the development of national contraceptive supply, training for key leaders and program participants at all levels, support for improvements in management systems and coordination, and research and development to support new ways of delivering information and services. As emphasized in the 1979 evaluation, a key factor behind the particular value of USAID assistance has been the unique (for USAID in Indonesia) supplemental funding mechanism employed to provide advances of quarterly funding needs for flexible and prompt support for local initiatives, including some perceived as too risky for normal Government of Indonesia funding channels. This mechanism stimulates local initiative by responding to that initiative with timely, visible and effective support.

Ironically, in view of past and continuing program success, several major 1979 evaluation findings regarding USAID's role do not seem to have been clearly translated into "lessons learned". That report summarized conditions essential to effective USAID support of the Indonesian family planning program as: "1) mutual interest in moving money rapidly to the people who need it; 2) mutual commitment to outcomes rather than procedures; and 3) personal and trusting relationships between USAID and BFFBN staff." Five years later, although the local cost funding mechanism for the BFFBN program (and other population and health projects) has survived, the USAID mission has not approved this flexible approach for other programs for reasons that rise appearing as a "commitment to procedure". Within the USAID population program itself, the time required for processing and funding BFFBN proposals to USAID has lengthened from the 1979 standard. Reasons include more attention to planning quality and tighter financial accountability.

The staff issue has two significant factors. First, despite the earlier evaluation's discussion of the benefits of an independent population office, that office was subsequently merged with health and nutrition, diluting staff attention to population matters and creating a perception of deemphasis on the part of some Indonesian officials. Second, despite the 1979 report's citation of the importance of a "high quality, technically competent, and culturally sensitive" population staff, a very effective departing staff member who has superb professional and personal relationships with BFFBN personnel is not being immediately replaced. There is fear that, given current USAID personnel policies, factors of technical competence and suitability for the Indonesian program may not be dominant factors in selection of his eventual successor.

Several specific elements of USAID's assistance to BFFBN have aimed at strengthening its institutional capacity for planning and implementation. This assistance is discussed below in terms of five interrelated program elements: program planning; information systems; manpower development; procurement and production; and logistics. This discussion is preceded by a brief look at BFFBN's organization.

Organization:

BKKBN has been justly praised for its effective organization and its flexible, experimental, action-based approach to achieving its goals. Unlike most government bureaucracies, it did not initially organize its programs around functionally defined and centrally determined purposes but, instead, demonstrated considerable capacity to adapt its programs to local needs and conditions.

Rapid growth of BKKBN and certain Indonesian political realities now place some of these attributes at risk. Following the Indonesian elections of 1982 and subsequent naming of a new cabinet, BKKBN was placed under the policy coordinating umbrella of the State Ministry for Population and the Environment (KLH), mandates of which include formulation of broad population policy and, in that context, expansion of the family planning program. BKKBN, however, still reports directly to the President and remains responsible for coordinating all government and private family planning activities. The relationship between BKKBN and KLH is not yet entirely clear, and their respective perceptions of role differentiation vary. One example, is that the previously noted BKKBN goal of reduction in crude birth rate to 22 by 1990 is seen by the BKKBN as a national goal. KLH, by contrast, cites the current Indonesia Five-Year Plan target of 31.5 by 1989, and views the BKKBN goal as only an internal "working" target. Such differences of perception suggest potential problems of coordination at the highest levels of family planning policy. The situation is further complicated by the critical role of the Ministry of Health in family planning service delivery.

Working relations between this Ministry and BKKBN are strained at several points of bureaucratic overlap. This important issue is cited as an example of the need for further high-level policy guidance to assure that the various key actors in the family planning drama are reading the same script.

Reorganization:

Although its mandate was narrowed by the creation of KLH, BKKBN subsequently (1983) reorganized into a larger and more complex structure. An arrangement that included 14 operational bureaus reporting to four deputy chairmen ballooned into one with 24 bureaus (or centers) and 6 deputy chairmen. In some cases, this expansion has diffused management responsibility, particularly for fieldworkers who now have administrative and operational accountability to several bureaus. The problem of overlapping responsibilities has also increased. Nonetheless, on paper the organizational structure represents a logical functional breakdown of duties and, with time and effective supervision, should serve administrative needs.

More fundamentally, however, some question the rapid growth of the BKKBN organization as inconsistent with the oft-stated objective of transferring program management to local communities. Others see it as the inevitable result of the accretion of programs, projects and donors by BKKBN, some of which may be inappropriate. In any case, BKKBN must carefully guard against the attractive but fatal bureaucratic lure of organizational growth for its own sake.

Decentralization:

Most of the efforts of the central BKKBN are in support of the 27 provincial BKKBN chairmen and their activities at provincial and local levels. This support includes definition of program parameters and targets, advice, training support, personnel, funds, contraceptive supply and interface with the national budget approval process through BAPPENAS, the national planning body, and the Ministry of Finance. Provincial BKKBNs also report to their respective provincial governors who have political charge over the entire local government apparatus. In view of the importance of local officials (over whom BKKBN has no control) to the success of Village Family Planning, these relationships are crucial. One structural incentive for local officials to support family planning is that it is one criteria by which they are officially evaluated. More important is the quality of relationships between the BKKBN apparatus and local officials and the population/family planning training and motivation provided to them through BKKBN. BKKBN performance in these areas has been very good, partly due to extensive and timely USAID assistance to cover the costs of widespread local coordination and training activities.

Staffing:

BKKBN estimates that its total staff will nearly double to a total of over 48,000 by 1989. Of these, about 1200 will be at the central office, an increase from the current 800. Over half of the total current staff are local fieldworkers. BKKBN estimates that the total involvement of personnel in the program (including all implementing units) is over 1 million.

As a relatively new agency, BKKBN historically has been able to recruit, assign and promote younger, competent, well motivated staff to positions of responsibility. Individual staff quality and creativity remains unusually high, but there is evidence of a declining ability to circumvent rigid government assignment and promotion procedures. A number of effective field personnel have been transferred to Jakarta where their skills are less well used. A growing focus on administrative and procedural orthodoxy in place of creativity also characterizes some recent personnel actions.

Strategy Development:

A loss of creativity is only one price of the growth and bureaucratization of BKKBN. Another risk is the rigidity of an organization structured along highly functional lines. Such an organization typically finds it difficult to do new things because it is deliberately designed to do what it already does but more efficiently.

This generalization accords well with the actual experience of BKKBN. Expansion of the Village Family Planning model within Java/Bali and to the more densely populated outer islands has been a remarkable success story. BKKBN does this very well indeed. But, as noted previously, when the context changes—as in the more remote outer islands or large cities—the model bumps into a series of new and unexpected constraints. Even though these constraints are now understood by BKKBN, it has not performed well in the development of imaginative strategies to meet the new challenges. This is not for a lack of ideas. In the urban program, for example, many things have been tried from focus group research to training beauticians as family planning informants to private clinic development. But after several years of groping, a comprehensive urban strategy that goes much beyond the overlay of village family planning in the cities is still not in evidence anywhere but in Surabaya (where implementation has been threatened by removal of the key strategist for administrative reasons, a quintessential bureaucratic response to innovation and an unfortunate precedent for BKKBN).

BKKBN is organized to deliver services efficiently. This it does well but the future will require a broader ability to deal with social marketing—incentives and demand creation—in a wide variety of settings.

A related constraint may be seen at lower program levels, one that is primarily a consequence of the way the Indonesian planning system works. At any level in the system, major strategy innovation is difficult. For example, if a sub-district chief wishes to experiment with a new approach in his annual plan, he is unlikely to obtain approval from higher levels unless the innovation can be introduced into all the sub-district programs in that regency. It is also difficult for peculiarly urban strategies to be approved at the next higher level if they require a unique package of budget proposals. In the city of Ujung Pandang, for example, a special budget proposal for an urban program budget proposal was rejected at the center the last two years. This experience is not unique.

Responses to the Strategy Constraint:

One response to these problems is greater decentralization to recognize different program needs. This is difficult due to horizontal linkages with government structures where political will may be lacking and bureaucratic structures are highly centralized. Realistically, BKKBN

is far more decentralized than most Indonesian agencies and continues to be committed to this pattern. This commitment is crucial for continued program success but can only go so far, especially outside government channels.

Another way to address constraints to innovation and strategy development is through the use of operational task forces that cut matrix-style across a functional organization. As noted previously, this may be particularly appropriate as a vehicle to address the problem of effective urban strategy development. While some BKKBN offices do have "urban teams", these have no budget and often no leadership. An effective urban task force must have both, as well as direct responsibility to the organizational head, be it at the central or provincial level. With the credibility provided by the three factors of leadership, budget and access to the top, such a team can secure commitment from key "players" in BKKBN and out (for example, the private sector) and can develop, test and eventually implement integrated approaches to reaching urban target audiences with family planning information and services. A model for such a team is provided by BKKBN itself within the national government. It has a large annual budget, leadership and access to the President. It coordinates a variety of established implementing units within a functionally organized government. It facilitates the actions of these units in the context of a holistic strategy oriented to goals that transcend the functions of any of the individual component units. Such should be the role of an urban task force within BKKBN, both in Jakarta and in major provincial urban centers. These task forces should work closely with outside leaders from the private sector, representatives of relevant professional organizations, actual or potential service providers and universities capable of performing program-related research.

Crossroads:

In a real sense, BKKBN is at a crossroads as an organization. Success extracts two severe costs. First, as discussed above, organizational growth threatens creativity, flexibility and innovation. Signs of this are already present. Second, the immediate reward of visible statistical progress in target achievement diminishes as prevalence rises and reaches a certain ceiling level. The challenge of simply maintaining prevalence rates in the wake of a rapid increase in MWRAs is much less exciting. Maintaining the now clearly visible level of staff motivation and commitment will represent a growing challenge to BKKBN management under these circumstances.

Program Planning:

Over the last 15 years, but especially since 1980, USAID and BKKBN have worked closely to create responsive, flexible and innovative province-specific planning and implementation processes. A major objective of USAID support has been to institutionalize these functions within the provincial and central BKKBN.

BKKBN describes its planning system as multidirectional: top-down, bottom-up, and horizontal. These perspectives indeed provide a useful way to observe how the planning system serves the needs of BKKBN.

Top-down Planning

Like every Government of Indonesia program, BKKBN operates within an annual planning and budgeting process that is largely top-down and standardized for all agencies. Guidelines, targets and budgets are determined by the center for the provinces, by the provinces for the regencies and by the regencies for the sub-districts, the lowest level of formal planning and implementation. Two basic realities underly this system. First, the entire local government apparatus is responsible to the central Department of Internal Affairs. Second, the great majority of development funds are provided from the central government, with local revenue generation and management very limited.

As noted above, this system limits opportunities for specific variations from general planning parameters, a problem that has constrained progress in urban and outer island family planning programs where social and political infrastructures are out of the ordinary.

Within these limits BKKBN has effectively delegated authority for program management to provincial staff and, to varying degrees, to regency level offices. The ability of provincial and sub-provincial staff to obtain supplemental funding for specific field initiatives is a key aspect of this decentralization. Again, USAID assistance has played a major facilitating role. Systems and procedures for obtaining USAID local cost funding are described in Indonesian language manuals available to all public and private agencies receiving funding from USAID through BKKBN. Briefly, the system works as follows: first, a proposal goes to the provincial BKKBN office (the key implementation level). If accepted, the proposal is sent to the central BKKBN with a copy to USAID. After joint review (usually involving a field visit to review activities in the field and to strengthen the proposal with local staff), the proposal is formally submitted to BKKBN. After central BKKBN review, submission is made to USAID for funding. USAID then prepares a Project Implementation Letter (PIL) describing the activity, its time frame, budget and disbursement schedule. Project funds are then released in phases based on scheduled project reviews and financial reports. The entire process has now been synchronized with BKKBN's annual planning cycle to permit one-time administration of both GOI budget proposals and USAID supplemental funding.

Perhaps the most problematical aspect of top-down program management is the setting of targets for contraceptive prevalence. Based on an annual national target, the central BKKBN specifies a target for each province. Provinces, in turn, set targets for regencies and regencies for sub-districts. While there is some multi-level discussion of these targets before they are finalized, adjustments are minimal at

best. To the extent political or promotional considerations influence the setting of the national target (the variance between BKKBN and KLI targets suggests this risk is real), all lower targets will be affected as the allocation process proceeds. Unrealistic targets encourage special promotions and other gimmicks that probably contribute more to temporary statistical bumps than to genuine contraceptive prevalence. One way to increase the decentralization of management would be to start the target setting process from both top and bottom and seriously negotiate the differences. This process would help raise issues affecting particular area programs, especially when local and higher level perceptions of reasonable targets differed.

Bottom-up Planning

Below the national BKKBN level there is more focus on implementation than on planning, at least at the point of final decision-making. This is particularly true for longer-term planning since sub-national control over funding is so limited. The primary mechanism for bottom-up planning in the family planning program is an extensive process of information exchange through meetings in which ideas from one level are discussed with higher decision-making levels. This process functions more effectively in the family planning program than in most Government of Indonesia sectors, where the process often is too formalized to permit optimal give-and-take. Frequent meetings among and at all levels for this kind of information exchange, negotiation, planning and problem-solving may be described as the grease that oils the wheels of program planning and implementation. Supplemental USAID funding has had a particularly beneficial impact on this process over the years, especially as a push for the extension of the program into new geographical areas. As the program matures in each province, the pattern has been for BKKBN to institutionalize the consultative process as a recurrent cost.

The importance of these meetings cannot be overemphasized. At an informal level, sub-village meetings of acceptor groups start the process. Information from these discussions is fed up the system through the village worker network, the family planning field staff, and the village government structure. Sub-district chiefs, who themselves are likely to have received family planning training and motivation from BKKBN, in turn meet with regency officials to pass on recommendations for future development funding. And the process continues up through the province to the center. Thus, although decisions are essentially top-down, they are based on information gathered from below.

One constraint to sub-national planning is dependence on the central BKKBN for computerized analysis of field program data and a general lack of analysis capability at lower program levels. Existing plans to enlarge the role of provincial BKKBNs in data analysis deserve higher priority. This matter is discussed in greater detail in a subsequent section of this report.

Horizontal Planning

The small, happy and prosperous family is an Indonesian national goal. Virtually every sector of the government has a role in this endeavor. At local service points with which BKKBN is involved, elements usually include family planning, immunization, maternal-child health and other health and nutrition-related services. Frequently, local village workers share responsibility for several of these components in their role as interfaces with village families. The family planning link to health is formalized in the role of the sub-district health clinic as the focal point of family planning reporting, logistics and medically administered contraceptive services.

Beyond the link to health, the family planning program has an integral link to local government structures, as has been described elsewhere in this report. With USAID support BKKBN has worked hard to secure the informed support of local leaders and even their wives, who often are influential in the community. In areas where the program is relatively new, it is not uncommon to find the wife of a village chief serving as the head of a local family planning post. Informal leaders such as Islamic Ulama and others with local influence are also incorporated into the network through training and motivational activities. These program initiatives, particularly appropriate in the Indonesian socio-cultural context, have had a clearly visible impact on the program in terms both of legitimizing family planning and spreading the network of information and motivation to the level of the individual couples who make the ultimate contraceptive decision.

Although this is a very successful aspect of the family planning program, most BKKBN personnel at all levels emphasize the importance of improving the net of horizontal relationships even further. This is a reflection of some remaining problems of coordination with the health service system and of the importance attached to horizontal links in an agency that implements its program through the coordination of units outside its direct supervision.

A less well developed area of horizontal linkage is the Indonesian private sector. Particularly important in urban areas, these links require more serious attention in the context of a comprehensive urban strategy. The private sector has an important role both in service provision (physicians and midwives) and in information and communications (media and advertisers).

Monthly Service Statistics:

The monthly service statistics system of BKKBN is the basis for performance measurement, service delivery and logistics. It is a comprehensive, multi-level management information system carefully designed to meet the specific information needs of program planning and implementation. The system is capable of handling a large quantity of

data through procedures that are entirely manual up through the provincial level. While its outputs are in some ways flawed, BKKBN recognition of these weaknesses is leading to modifications that are expected to improve data accuracy and completeness. USAID has played a major role in the development of this system and continues to support improvements with funding and technical assistance.

How the System Works

The basic reporting system is keyed to sub-district clinic-level reports (Form F/II/KB) that include information on contraceptive acceptance by type and provider, contraceptive distribution and contraceptive supply. Information sources for this monthly report include the clinic itself, village family planning posts and sub-posts and private service providers. Most important are the village posts, since the majority of acceptors are pill users who receive their monthly supplies through this outlet. A supplementary local report (Form F/I/PLKB) from family planning fieldworkers contains data about local extension activities and the status of acceptor groups.

The clinic and fieldworker reports are both sent to the central BKKBN office with a copy of each to the regency BKKBN. The regency office recapitulates the data and forwards a report to the provincial BKKBN. This process takes place within two or three weeks after the end of each month. Meanwhile, the central office processes the reports it has received directly into a set of computer analyses which are returned to provincial and regency offices with a lag of six weeks to three months. Provincial offices then reconcile differences in the two sets of summary data. Since the source is the same for both, differences at this point are usually inconsequential.

Management Use of Data

The most obvious uses of the processed information produced by this system are to track progress and to control contraceptive supply. These operational uses of the information proceed routinely and effectively within BKKBN and are processes that have now been thoroughly institutionalized as an important component of information management.

The situation with regard to analytical use of the data is mixed. In East Java, service statistics are analyzed at the provincial BKKBN to check service points against performance by sub-district and type of provider. This analysis helps pinpoint the most effective service provision strategies for different income groups and geographical areas. This analysis was part of the exemplary Surabaya urban program strategy development cited above and is not necessarily typical. In many cases, the computerized central report is used as is. There is little evidence that provincial or other sub-national suggestions have influenced the content of this analysis.

There are indications of limited capacity to understand the meaning of source data at lower levels of the program, even though collection of that data proceeds with remarkable efficiency in most places. Although local statistical summaries are often available and even posted on the walls of homes serving as village family planning posts, obvious errors such as inverted prevalence fractions typically go unnoticed until corrected at higher levels of the data flow. This suggests an agenda for BKKBN training, especially for fieldworkers and local volunteers involved in managing or supervising village posts.

Data Accuracy

BKKBN has come under considerable criticism lately for alleged inaccuracies in performance data. Much of this criticism was triggered by the 1980 national census which included questions regarding family planning acceptance. In some areas, especially East and Central Java, embarrassing discrepancies appeared between BKKBN prevalence claims and census indications.

The issue has been the subject of much study and analysis, with a rough consensus that the difference is a combination of BKKBN overcounting and census undercounting of acceptors plus various definitional issues affecting comparability of results.

There is no evidence of any deliberate BKKBN "conspiracy" to over-report prevalence gains. On the contrary, there are extensive indications that, in response to the census findings, BKKBN is moving to improve its reporting system (see below). Our best estimate (based largely on secondary sources) is that BKKBN prevalence overcounting has been in the range of 6-10%. Given certain structural flaws in the system, primarily the fact that it is distribution based, we believe that much of the criticism directed toward BKKBN is undeserved.

BKKBN reporting must overcome a number of systemic constraints. Many reports come (or sometimes fail to come) from volunteers in remote areas who have limited supervision and no vested interest in maintaining accurate and comprehensive records. Data collection has expanded rapidly, often faster than the capacity of people to handle it. It is not surprising that, for example, some women changing methods get counted twice as new acceptors or that the occasional woman who receives, but does not use, her pills is counted as an acceptor. A tendency to hold special end-of-year promotions also can lead to unsustainable spikes in reported annual prevalence rates.

In sum, the overall evidence is reassuring as to the accuracy of BKKBN service statistics for methods distributed by the program and as to BKKBN seriousness about publicizing accurate performance claims.

System Modifications

In response to its awareness of constraints to the accuracy of service statistics, BKKBN has introduced two innovations, both well conceived. The first is the conduct of an annual "mini-census" by its own field staff but with certain cross-checks to improve the quality of results. The mini-census directly counts MWRA's and acceptors, avoiding the service statistics problem of being distribution based. This was first done in early 1985, and as the results are compiled, local performance statistics and targets are being adjusted downward (in some urban areas upward) by 5-10%. The ability of the BKKBN system to perform this mini-census in a short time and with minimal disruption to its normal activities is a tribute to its operational field network.

A second modification involves the method of obtaining source data at the field level. This innovation has just been introduced, but feedback from test areas is very positive about the improved simplicity and accuracy. Under this system, village posts receive a set of stickers (coupons) with their monthly package of supplies. Stickers are placed in a register for each pill or condom recipient. No writing is required and the family planning fieldworker can count acceptance by tallying stickers and count dropouts by blank spaces next to a previous sticker. There are special stickers used to specifically indicate dropouts, IUD users, women leaving the MWRA category as a result of age and other special categories.

In addition to improving accuracy, this system frees village workers from administrative toil to focus on motivational tasks. It is a thoughtful organizational response to a recognized problem.

Computerization

Purchase and installation of microcomputers in provincial offices was planned for 1984 but has been delayed. In large part the delay represents appropriate concern for careful planning and preparation before introducing a new technology. In part, also, the delay is due to bureaucratic lags in USAID, which has budgeted funding for this innovation.

Computers will help move processing and analysis of data to the provincial level which will then provide processed information to regencies in tabular form and to the center on diskettes. This will be an important step in management decentralization, if introduced carefully with appropriate training and guidance in the management and analytical skills that are necessary for effective use of automation.

There is a further opportunity to use the onset of new provincial analytical systems to encourage bottom-up identification of appropriate variables for inclusion in reports and analyses. This opportunity should be grasped by BKKBN and USAID in planning introduction of computers.

Manpower Development:

One of the main concerns of BKKBN is the development of the knowledge and skills of family planning workers, both in and out of the BKKBN organization. Efforts to improve the quality of family planning workers has resulted in the development of the Center for Education and Training at the national level, and Provincial Education and Training Centers at the provincial levels. Training has also been a major focus of USAID's local cost programming support. A review of Project Implementation Letters shows that often 50% of total activity budgets are used for this purpose.

The roles of the national and provincial Education and Training Centers are well acknowledged. They conduct a wide range of training in the field of family planning, including, for example, training for medical workers who are operationally responsible for family planning services. It was observed that most medical workers at the health clinics are knowledgeable about their jobs and that, typically, medical doctors in the clinics are fully committed to the family planning program.

However, still needed is continuous support in the form of skill development among medical workers, especially paramedics, in order to increase the quality of family planning performance by these providers.

Training of persons involved in the family planning network in IE&C has been conducted with a strong impact on the knowledge and skill of these potential agents for change. BKKBN has conducted such training with a wide-range of participants from youth association members and students to beauty salon owners; from personnel of government agencies to leaders of non-government organizations.

In general, the fieldworkers and fieldworker supervisors know their jobs well. However, outside of Java their responsibilities differ in geographic scope and socio-cultural milieu from those of their colleagues in Java and Bali. Therefore, standardized training that is not sensitive to local conditions is not appropriate for these fieldworkers. Since the fieldworkers function as managers at the village level, additional training is also advisable to improve their supervisory skills. They should also receive more training in techniques of motivating non-acceptors.

The training conducted by BKKBN for formal and informal community leaders has clearly helped enhance their knowledge and skills regarding family planning. It is evident that many of these community leaders are able to articulate family planning concepts and to help convert new acceptors. In the village of Sukamulya, West Java, the success of the program is largely due to the dynamism of the sub-district chief and his wife. In some areas of South Sulawesi it appears that the use of school teachers as motivators has been more successful than in other areas where this role is largely undertaken by the wives of village chiefs. This is indicative that regency and sub-district leaders are sensitive enough to

identify the more effective motivators. The training of these formal and informal leaders should be planned so that efforts will be targeted to the potentially more effective groups in specific localities. As in other program elements, this requires sensitivity and adaptation to local differences.

Overseas Training

Overseas training is another strategy to develop skills among middle and upper echelon personnel in BKKBN and supporting units. Participation of key personnel in international meetings, workshops, seminars and short-term training has been widely supported.

Moreover, since 1972 BKKBN has been sending its staff members and personnel from implementing units to the U.S. for graduate training. The large majority of external assistance for such long-term training has come from USAID. Between 1972 and 1982 a total of 101 persons were sent abroad through BKKBN for masters and doctoral degrees using USAID funds. One positive observation is that Indonesian trainees have a proven record of nearly 100% return and retention rates in the program.

It has also been the desire of the government to develop core groups of population experts in domestic universities who could be delegated to help in strengthening the capability for in-country population research and training programs. This initiative has also built-up the capabilities of local universities to offer degree programs in population. A number of fellows have been supported by USAID for in-country degree programs.

This strategy has supported the idea of decentralized planning, where universities can become regional population research centers. To date, every state university has established a population studies center. The development of these research centers has benefited BKKBN and other related government agencies in supporting the need for policy research.

Rising costs for overseas training have led to strategies to conserve resources through direct BKKBN administration of overseas training. BKKBN itself started to administer this training in 1982. Under the expanded USAID loan 497-0-069, funded under Project 0270, the Center for Education and Training adopted new procedures for overseas graduate training. Starting in 1983, BKKBN emphasized the importance of strengthening its own middle and upper level personnel. From 1972 to 1982 only 14 members of BKKBN's staff were sent for overseas training, but since then, more than half of the 59 persons sent overseas were from BKKBN itself. Not only has BKKBN successfully institutionalized its ability to administer the overseas training program, it has done so with substantial savings on costs. This has allowed BKKBN to increase the number of persons sent abroad.

The primary area of concern in the manpower development strategy is the placement of the returnees. Those who complete their education do not have any guarantee of being returned to their previous posts or of catching-up with the promotion of peers who have stayed behind. Similarly, those who have completed their overseas training may be posted in a new area of responsibility not in line with the field of specialization pursued in their training.

Another area of concern is that the criterion of seniority in the selection of candidates may create career interruptions for senior staff for the duration of their long-term training. This career interruption may discourage potential candidates to avail themselves of training opportunities.

A major factor in the graduate overseas training strategy is the selection of potential candidates. The requirement for achievement in English is a barrier for many otherwise qualified staff. BKKBN's attempts to help strengthen English language proficiency have contributed to the expanding pool of potential candidates.

In interviews with former overseas trainees, support allowances appear to be commensurate with their needs, except for the amount allotted for books. Considering the scarcity of recent texts and references in Indonesia, it would serve well to provide a more generous allowance for this purpose.

Procurement, Production and Logistics:

The availability of contraceptive options throughout Indonesia is a remarkable achievement for which both USAID and BKKBN deserve recognition and credit. Timely contraceptive availability is obviously a necessary condition of any successful family planning program. BKKBN's system of production, procurement and logistics has emerged from heavy dependence on external support, primarily from USAID, for provision of commodities and logistics management to a status of almost total self-sufficiency. It represents a case study in effective institutionalization of critical management systems. In the last fiscal year, BKKBN successfully procured and distributed 65 million pill cycles, 7.5 million injections and, 1.5 million IUDs.

Procurement and Production

BKKBN self-sufficiency in procurement and production of oral contraceptives is proceeding well. Local production is now providing the bulk of these contraceptives, and in-country capacity to meet local demands has increased substantially. In 1980, the Kimia Farma pharmaceutical plant in Bandung began local production and packaging of pills under contract to BKKBN. Production levels were 18 million cycles in 1980, 25 million in 1981 and 1982, 41.5 million in 1983 and nearly 40

million in 1984. USAID funded deliveries of oral contraceptives were phased out in late 1984 as scheduled, and other BKKBN procurement is expected to end in 1989.

BKKBN is now considering contracting the production of low-dosage pills to Kimia Farma; USAID is assisting in field studies of various brands, types and formulations. In the meantime, procurement of pills through foreign pharmaceutical companies is assuring the availability of a variety of oral contraceptives to meet local demand.

At present, production of the Kimia Farma pill is being carefully monitored and remains under maximum capacity levels. This is due to a number of factors including: 1) BKKBN's increased efforts to shift acceptors to IUD usage on continuation and cost-benefit grounds; 2) larger oral contraceptive stock levels than anticipated at provincial and sub-provincial levels; 3) the desire to maintain a diverse array of pill types through procurement in anticipation of future low-dosage pill production; and 4) reductions in annual budgets for oral contraceptive production. New contract negotiations with Kimia Farma are currently underway.

With regard to the increasing role of Kimia Farma pills in the contraceptive mix, one area of concern requires further attention. In certain areas of Indonesia, distribution of the Kimia Farma pill has resulted in rumors and complaints of poor quality and various side-effects. In West Java, for example, a number of symptoms such as headache, nausea and dizziness were attributed to the Kimia Farma pill when it replaced the imported Syntex pill. Chemical analyses and quality control checks show no difference in the composition of the two pills so it may be that general public distrust of domestically produced, non-traditional medicines is at the root of the complaints. To dispel rumors and doubts about the domestic pill more information and education are needed. BKKBN has begun to take these steps.

Logistics

The BKKBN contraceptive logistics system is keyed to local needs for contraceptives of each type and distribution and an inventory system that assures adequate levels of stock at each level from the center down to the village. Prior to 1980, BKKBN used Ministry of Health facilities for storage and distribution, but these have now come under its own management and control with training and operational assistance from USAID. The system's primary information is derived from the monthly service statistics system described above and from special logistics reports (Form F/V/FB) sent from the regency and provincial levels to the national BKKBN office.

Inventory

A stock policy described as the 3-3-6-6-3-1 system guides inventory policy for resupply of contraceptives (primarily pills and condoms). These numbers refer to the planned months of stock at the respective levels of center, province, regency, sub-district, village and acceptor. Thus, for example, the sub-district health center, which is the focal point of local contraceptive supply, maintains a stock sufficient for six months. This system assures adequate cushions of supply under normal circumstances. The system is flexible enough to adjust for special influences such as the occasional promotion campaigns that may lead to a short-term spike in demand for, say, IUDs. In the course of this evaluation, no case was found where a shortage of contraceptives of any type at any level had been experienced. (A frequent exception was a shortage of medicine at sub-district health clinics for treating side effects of IUD use. This is a Ministry of Health, not BKKBN, responsibility--another instance where coordination could be improved.)

Distribution

Distribution of stock from one level to another is based on two general systems, depending on contraceptive type. For those requiring continuous resupply (pills, condoms), a non-request system is used. This system is based entirely on monthly service statistic reports of remaining inventory; resupply occurs from each level down based on analysis of the reports. For clinic-based methods (IUD, injection), distribution is based on clinic requests for inventory addition.

A first-in, first-out (FIFO) system is the basis for distribution from warehouses or other storage points. FIFO is superseded in cases where stock with an older expiration date was not first-in. In most cases, storage conditions and management permit adherence to these principles. Management records of inventory and distribution appear generally well-maintained with adequate control. With reasonable precautions, well-packaged contraceptives have a long shelf-life, and loss or wastage during storage and distribution does not now appear to be a significant problem.

The logistics system is not without problems, but none are crippling in their effect. From the standpoint of storage, warehouse space is limited, especially at many regency-level distribution points. Often contraceptives must be stored with an array of other gear ranging from typewriters to old tires. Often, too, the warehouse is little more than a small room in the regency BKKBN office.

This problem will grow as the program continues to expand and staff and storage needs compete for limited space. While not yet a serious issue in terms of consequences, BKKBN may soon need to address the problem to avoid more serious losses in the future.

Contraceptive storage at sub-district clinics and village depots is usually in cabinets, drawers or anywhere else that is available. At these levels the attention of those responsible is more important than the physical facility, however, and this attention seems generally to be careful.

The routine reports on which the logistics system is based do not have a specific category for recording inventory loss. This information could prevent some loss being treated statistically as distribution. It would also draw the attention of local contraceptive posts to this issue and help assure that the loss problem remains minor.

Several persons responsible for logistics felt that logistics training had received inadequate attention, especially at lower levels. Most warehouse managers had been trained but some said there had been no follow-up for several years. Despite this, storage management appears generally good.

III. LESSONS LEARNED: SUMMARY OF FINDINGS AND RECOMMENDATIONS

The Family Planning Program in Indonesia:

- o BKKBN has successfully institutionalized several critical management processes and procedures previously dependant on USAID initiative and technical support. These include contraceptive supply, logistics, information systems and the management of its manpower development program.
- o The rapid growth of BKKBN and the proliferation of local activities in which it is involved place the organizational attributes of flexibility and innovation and its action-based goal orientation at severe risk.
- o The current village family planning model has continued to provide a successful and flexible framework for program extension in Java, Bali and the more developed outer islands. In remote, thinly-populated outer island areas, the model is less successful, particularly on grounds of cost-effectiveness.
- o BKKBN has been successful in building good working relationships with the local government apparatus, largely by incorporating them into its training and motivation agenda. These activities have helped legitimize family planning and spread the network of information and influence to the level of individual acceptor couples.

- o Quality of information and services at the local level are taking on added importance as the program matures, the number of acceptors to be maintained increases and remaining non-acceptors become more difficult to reach.
- o Despite a number of innovative experiments and pilot tests in Jakarta and some other cities, BKKBN has yet to clearly define a viable urban strategy or give adequate emphasis to this process at the level of individual city BKKBN offices.
- o BKKBN is well organized to deliver services efficiently, but the future will require a broader ability to address challenges of social marketing in areas less receptive to its traditional service delivery strategies.
- o Within the constraints of formal Indonesian planning and budget systems, BKKBN has effectively delegated authority for program management to provincial staff and, to varying degree, to lower implementation levels.
- o The availability of a wide selection of contraceptive options throughout Indonesia is a remarkable achievement of production, procurement and distribution, reflecting BKKBN maturity and the impact of productive use of donor assistance.
- o BKKBN's monthly service statistics provide a reliable basis for performance measurement, service delivery and logistics. While its outputs are in some ways flawed, BKKBN recognition of certain weaknesses has led to well-conceived modifications that should improve data accuracy and completeness.
- o Opportunities to use analysis of service statistics as a management tool are not fully utilized, especially at lower levels. An emphasis on improved understanding of the meaning of data to match the efficiency of its collection would facilitate management decentralization.
- o Heavily USAID assisted manpower development programs, including both domestic training and overseas degree programs, have had a major impact on the quality of BKKBN staff and on the implementation of field activities by both BKKBN and other implementation units. This emphasis continues. The major concern with regard to this issue is the effective reassignment of returning degree candidates from abroad whose skills are not always put to effective use.

USAID Assistance:

- o By most indicators of success, the Family Planning Development and Services Project (0270) has met or, in many cases, exceeded stated project goals and objectives. This success applies both to measures of contraceptive availability and use and to the project's institutional impact on BKKBN and related implementing units in the field.
- o The flexibility and timely local cost programming mechanism used for USAID funding of BKKBN activities remains the key factor supporting innovation, learning, local adaptation and effective implementation of high priority local initiatives.
- o USAID plays a major facilitating role in BKKBN program decentralization by providing selective supplementary funding for local activities and by helping finance meetings for coordination and information sharing at early stages of program development in new areas. The investments establish productive management patterns that have been institutionalized with BKKBN procedures and funding.
- o USAID support to the village family planning program has clearly played a major facilitating role in the development and spread of this highly effective concept throughout the most populated areas of Indonesia. USAID support has been strategically targeted, timely and programmed in ways that facilitated institutionalization of successful innovations.

Recommendations for the Future:

- o High-level policy coordination is needed to assure that BKKBN, the State Ministry for Population and Environment, the Ministry of Health and other involved departments have a common view of shared goals and responsibilities for achieving Indonesia's small, prosperous, happy family concept. In this connection, BKKBN's roles as coordinator and implementor need better clarification, especially for activities that are peripheral to the basic fertility reduction mandate.
- o USAID should continue to give high priority to support of the Indonesia family planning program. Its strategy of selective supplemental advance funding has and should continue to have a significant impact on the critical task of addressing the demographic challenge in Indonesia.

- o USAID should review and expand its commitment to two key lessons from its effective support for Indonesian family planning: the contribution of local cost programming (advances of USAID grant and loan funds for specific local activities) and the importance of effective, collaborative staff relations with the counterpart agency (requiring a high level of technical competence and cultural sensitivity).
- o BKKBN should create an urban task force with budget, leadership and direct access to the Chairman. This task force should be charged with developing a comprehensive framework for urban strategy and facilitating the development of effective provincial task forces in areas with major cities. USAID should direct a significant portion of its future funding for the urban program to assist this process.
- o As reported in the recent Indonesia Contraceptive Prevalence Survey, permanent, non-resupply methods of contraception should be available for women who clearly wish to have no more children. Improving availability of and access to voluntary sterilization, especially in cities, should receive higher priority in the family planning program on both service and cost-effectiveness grounds.
- o A more collaborative bottom-up process of setting prevalence targets would enhance the quality of BKKBN decentralization. BKKBN should enlarge the role of lower level implementation units in the discussions leading to target determination for those levels.
- o USAID and BKKBN should increase attention to analysis of the cost-effectiveness factor as it spreads the family planning program in the outer islands. This has implications for strategy development, information analysis capabilities and planning.
- o Monthly service statistics reports should add a category for inventory loss due to waste or damage to prevent local losses being counted as distribution and to prevent potential loss as stock levels increase.
- o As BKKBN provincial offices are computerized, training and guidance in the management and analytical skills will also be necessary. Development of new analytical formats should be accomplished with the participation of lower level personnel to increase their interest and skills in the area of information as a management input.

CHAPTER 3

DEMOGRAPHIC BACKGROUND AND BIRTHS AVERTED

Chapter 3 reviews the demographic background of the Indonesian family planning program and calculates the stream of births averted by it. A division is made between the pre- and post-1980 periods, corresponding to the different types of data available. For 1980 and before the censuses and national surveys can be used; after that only information from the BKKBN monthly service statistics system is available.

I. DEMOGRAPHIC BACKGROUND

Pre-1980 Period:

This review is based on two exceptionally careful assessments of the extensive Indonesian materials.^{1,2} It must, however, be said that a degree of uncertainty accompanies every figure and every statement, but for simplicity we have stated the best conclusions available rather unequivocally. (Detailed demographic information is presented in Appendix II.)

The Indonesian total fertility rate (TFR) fell about 16% from 1967-70 to 1976-79, from an estimated 5.6 to 4.7. All regions of the country, every childbearing age group, and both rural and urban areas participated in this decline, although to widely varying degrees.

The decreases in TFR by province ranged from 33.3% in Bali down to 2.5% in the province of West Nusa Tenggara. In Java, where nearly two-thirds of Indonesia's population live, Yogyakarta led in percent decline with 28.2%, followed by East Java with 24.7%. West Java was slightly below the national average at 14.6%, and Jakarta and Central Java were intermediate at 21.4 and 18.0% respectively (Table 1).

Rural fertility is higher than urban in all parts of Indonesia, but small differentials of 10% were recorded in Java with its relatively sharp decline, and in the outer islands, where fertility changed very little. In regions with intermediate declines, rural and urban areas differed by about 20-26% in the 1976-1979 period (Table 2).

The age-specific fertility rates (ASFR) fell most sharply in the youngest and oldest age groups (Figure 1). In the prime childbearing years the more marked decline was in the second half of the intercensal decade, when a change of 10-12% occurred. Regional differences in the ASFR for 1976-79 are available from another source; these values differ somewhat from those in Figure 1, but they afford a look at the regional patterns (Table 3). At age 25-29, for example, the ASFR was 208 in Java and 291 in Sumatra; at age 30-34 it was 152 in Java and 232 in Sumatra.

TABLE 1

Total Fertility Rates, by Province
1967 - 1979

Province	T F R		
	1967-70	1976-79	% decrease
1. Aceh Special Region	6 265	5 235	16.44
2. North Sumatra	7 195	5 935	17.51
3. West Sumatra	6 180	5 755	6.88
4. R i a u	5 940	5 435	8.50
5. J a m b i	6 390	5 570	12.83
6. South Sumatra	6 325	5 585	11.70
7. Bengkulu	6 715	6 195	7.74
8. Lampung	6 355	5 750	9.52
9. Jakarta Special Region	5 175	4 070	21.35
10. West Java	5 935	5 070	14.57
11. Central Java	5 330	4 370	18.01
12. Yogyakarta Special Region	4 755	3 415	28.18
13. East Java	4 720	3 555	24.68
14. B a l i	5 955	3 970	33.33
15. West Nusa Tenggara	6 655	6 490	2.48
16. East Nusa Tenggara	5 960	5 540	7.05
17. East Timor	-	-	-
18. West Kalimantan	6 265	5 520	11.89
19. Central Kalimantan	6 825	5 870	13.99
20. South Kalimantan	5 425	4 595	15.30
21. East Kalimantan	5 405	4 985	7.77
22. North Sulawesi	6 790	4 905	27.76
23. Central Sulawesi	6 530	5 900	9.65
24. South Sulawesi	5 705	4 875	14.55
25. Southeast Sulawesi	6 445	5 820	9.70
26. M a l u k u	6 885	6 155	10.60
27. Irian Jaya	7 195	5 350	25.64
I N D O N E S I A	5 605	4 680	16.50

Source: Conroy, 1984, p. 19

TABIE 2

Total Fertility Rates 1976-1979
by Region and Urban/Rural

Region	Urban	Rural	Urban + Rural	% diff
Sumatera	4 790	5 935	5 700	20
J a v a	3 935	4 375	4 245	10
Nusa Tenggara ¹	4 370	5 470	5 335	21
Kalimantan	4 405	5 400	5 170	19
Sulawesi	4 005	5 305	5 090	26
Other Islands ²	5 175	5 850	5 740	12
INDONESIA	4 130	4 850	4 680	15

Notes 1. Comprises Bali, West and East Nusatenggara, East Timor
2. Comprises Maluku and Irian Jaya

Source: Conroy, 1984, p. 17

TABIE 3

Age-Specific and Total Fertility Rates
National, and by Regions, 1976-79

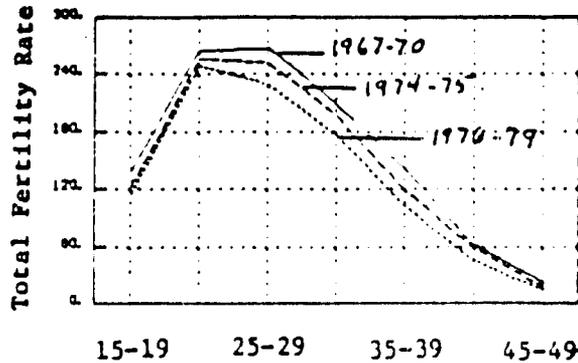
Region	Age-specific Fertility Rate							Total Fertility Rate
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Sumatera	110	288	291	232	141	62	16	5 700
J a v a	122	234	208	152	86	37	10	4 245
Nusa Tenggara ¹	82	254	266	217	146	75	27	5 335
Kalimantan	120	269	258	203	114	54	16	5 170
Sulawesi	94	247	254	210	130	63	20	5 090
Other Island ²	98	256	270	234	163	91	36	5 740
INDONESIA	116	248	232	177	104	46	13	4 680

Notes: 1. Nusa Tenggara comprises Bali, West and East Nusatenggara, and East Timor
2. "Other Islands" comprises Maluku and Irian Jaya.

Source: Conroy, 1984, p. 16

FIGURE 1

Age-Specific Fertility Rates
Trends from 1967 to 1979



Source: Data taken from McNicoll and Singarimbun, 1982a, Table 12, p. 48

In the younger age groups, some part of the change in fertility was due to change in marriage patterns. In 1964, 10% of the females aged 20-24 in Java and Bali were unmarried. By 1976, it was 20% (40% in urban areas and 15% in rural). In all Indonesia, the median age at marriage rose from 17.0 for the 1931-45 birth cohort to 18.3 for the 1951-55 birth cohort.

Infant mortality rates also fell during this decade by about 23-24%. These are survey-based estimates, as records of births and deaths in Indonesia do not provide accurate vital statistics. Regional variation in these rates and the improvements in chances for infant survival are seen in Table 4.

The mean expectation of life at birth increased by about six years for both males and females between 1971 and 1980, from 45.0 to 50.0 for males and from 48.0 to 54.0 for females, slightly more in Java and slightly less in the outer islands. The urban-over-rural advantage in life expectancy in 1980 ranged from 3.0 years (for males in Sulawesi) to 7.2 years (for females in the outer islands).

TABLE 4

Infant Mortality Rates (per '000), 1971-80

By Region and Sex

Region	1971		1980	
	Male	Female	Male	Female
Sumatera	143	121	109	91
J a v a	155	132	117	98
Nusa Tenggara ¹	-	-	149	127
Kalimantan	148	125	123	103
Sulawesi	155	132	118	100
Other Islands ²	157	133	127	107
INDONESIA	152	129	117	98

Notes: 1. Comprises Bali, West and East Nusatenggara, East Timor
2. Comprises Maluku, Irian Jaya

Source: Conroy, 1984, p. 53

TABLE 5

Crude birth, death, and natural increase rates by region, 1960s and 1970s

Region	Annual average 1961-70			Annual average 1971-80		
	Birth rate (per 1000)	Death rate (per 1000)	Rate of natural increase (percent)	Birth rate (per 1000)	Death rate (per 1000)	Rate of natural increase (percent)
Java	41	21	2.0	35	15	2.0
Sumatra	47	22	2.5	40	13	2.7
Kalimantan	45	22	2.3	40	15	2.5
Sulawesi	46	23	2.3	41	15	2.6
Other islands	44	24	2.0	45	17	2.8
Indonesia	43	22	2.1	38	15	2.3

Source: McNicoll, 1982, p. 3

These changes in fertility and mortality are summarized by the annual average crude birth, death, and natural increase rates by regions (Table 5). Both fertility and mortality fell on every island (except fertility in the outer islands), but because mortality fell more, the growth rates rose almost everywhere, to the 2.3% made famous by the 1980 census announcements. The result was that 28.4 million people were added between 1971 and 1980, equivalent to another East Java. Women of childbearing age increased by 7.2 million (from 28.6 million in 1971 to 35.8 million in 1980), presaging continued growth pressures.

Interregional movement from 1971 to 1980, principally from Java to Sumatra and to a lesser extent from all regions into Java, involved more than a million and a half migrants. The impact on Java's rate of growth was slight (a net loss of about half a million people by migration versus a gain of eight million by natural increase over these years). However, in East Kalimantan and Sumatra's Lampung province 30-40% of the annual growth rates of 5.7 and 5.8% were accounted for by net migration, reflecting in part the transmigration program.

While Indonesia's population remains predominately rural, one-third of its urban centers of 100,000 or more grew at annual rates of between 4 and 11% from 1971 to 1980. Jakarta's population grew by almost one-third in that period; its increase from 1961 to 1980 was about 100%, and it is well on its way to becoming one of Asia's largest cities.

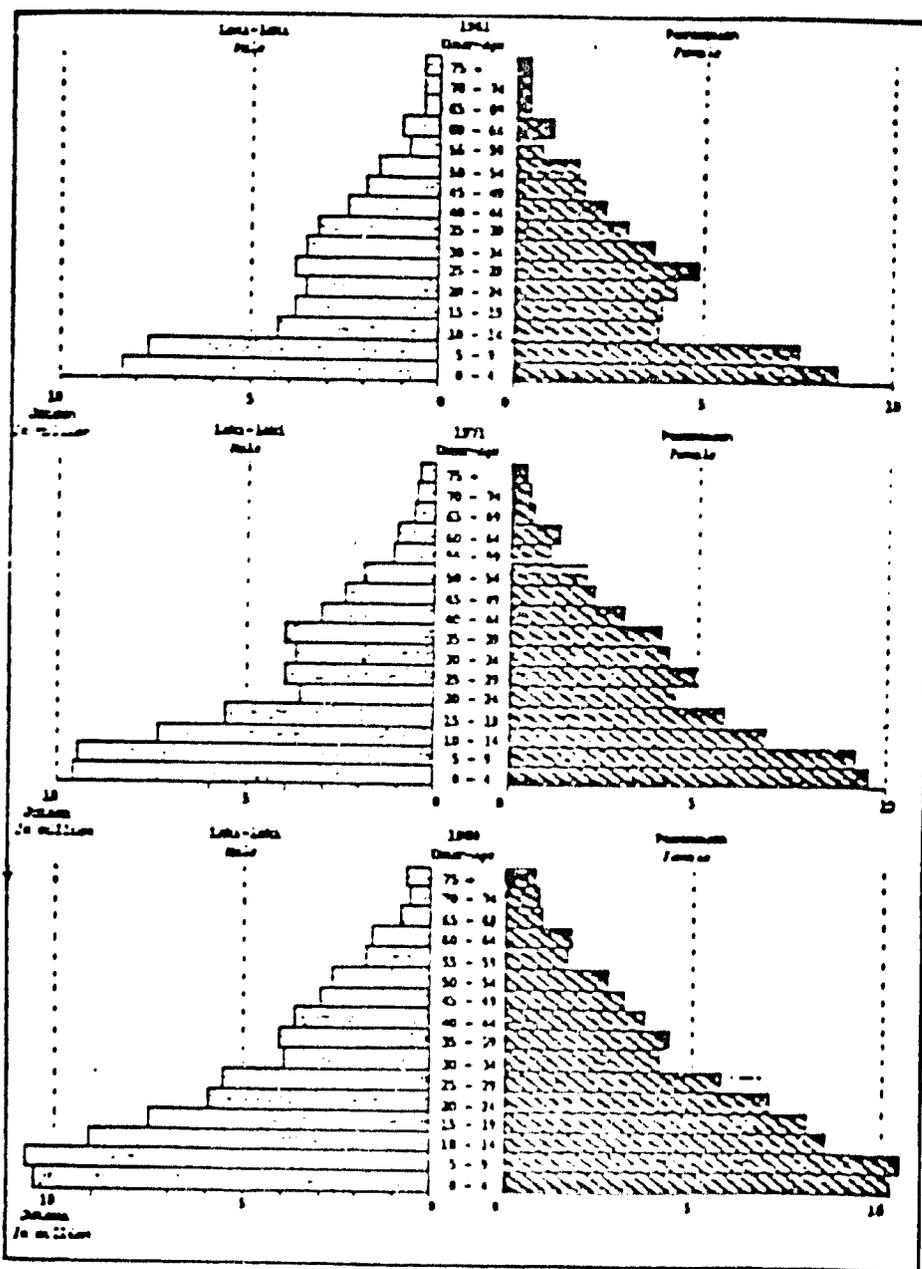
The population pyramid produced by the 1980 census contains both good and bad news (Figure 2). It indicates that the fertility decline has favorably affected the structure of the Indonesian population, since in spite of the lowered rates of infant and child mortality and more women of reproductive ages, the bar for children aged 0-4 was smaller in 1980 than the bar for children aged 5-9, only about 1% smaller, but still a hopeful sign when compared with a 1% increase in 1971 and 10% in 1961.

The less favorable news in the 1980 pyramid is that the age groups 15-19, 10-14 and 5-9 are all very large. The 15-19 group is already 20-24 as of 1985, and there will be severe upward pressures on the birth rate for many years to come. Until now the family planning program has been the beneficiary of the small 30-34 age group (see 1980 pyramid), which for the last 15 years has played a helping role by its small size. Every subsequent cohort is larger; not until 1995 will a cohort arrive at age 15-19 that is smaller than the one preceding it.

That then is the general picture from the censuses and surveys. By 1980 fertility had fallen significantly, as had mortality. Natural increase rates worsened in the 1971-1980 period as a whole, although they were probably falling by the end of that period as the fertility decline began to outrun the decline in mortality. The 1980 age structure contained a very striking momentum for continued growth; this, in combination with the irreversible flow of population into the cities, will test the best programs the government can mount for several decades to come.

FIGURE 2

Indonesian Population Pyramids Based on the
Results of Population Census
1961, 1971 and 1980



Source: Conroy, 1984, p. 9

Post-1980 Period:

Since the 1980 census there has been no national survey, and, although one will be taken in 1985, the results will not be out until 1986. There have been sub-national surveys of note: in East Java the crude birth rate was measured at 26 for 1978-1980, and the total fertility rate fell from 3.2 for 1978-1980 to 2.9 for 1980-1981 (down from 4.7 in 1967-1970 and 3.6 in 1976-1979).

Family planning surveys provide further evidence of change. Prevalence of contraceptive use rose from 32% of all couples in a 1980 Jakarta survey to 42% in 1984. Four other major cities, also surveyed in 1984 had prevalence levels of 51%, 45%, 35% and 32%.³ Unmet need for services, however, was estimated at about 30-35% of all couples, which reflects the program's weaker performance in cities than in rural areas. Fifteen to thirty percent of previous pregnancies were admitted to have been unwanted, and 15-25% of respondents said that their husbands did not want any more children. The desired family size was found to be declining: in four of the five cities a median of only two children was desired by the younger respondents. This should further increase the need for expanded program activity, particularly as it is progressively compounded with the growing numbers of young women in the age distribution.

All of this is useful, but none of it gives a national picture of fertility change in the 1980-1984 period. The only national data is the monthly service statistics of BKXBN, which through 1980 matched survey-based estimates of contraceptive prevalence very closely, by method and province.⁴ This data series was used for the period March 1980 through March 1984, and also for the pre-1980 period. The accuracy of the service statistics has been called into question more severely in the last couple of years, but certain checks and discounts have been used in this chapter's analyses.

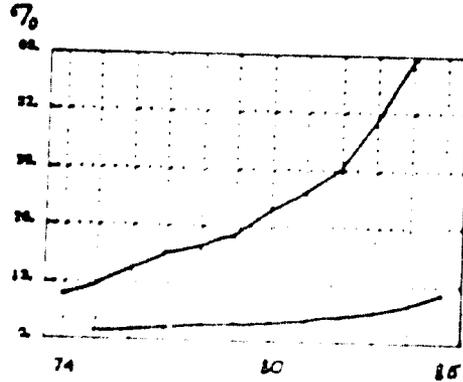
II. BIRTHS AVERTED

Many methods have been used to estimate births averted. The ones used here are adapted to the particular data available and to the needs of the analysis done by Dennis Chao in Chapter 3 on savings in public expenditures due to the national family planning program. The estimates that follow are for births averted from the program, not from the overall fertility decline.

No allowance is made for private sector use, and none is included to credit the program for its stimulus effect upon individuals who use birth control in the private sector, nor to debit it for use by program clients who would have acted on their own. We simply lack the data to address these larger questions. In addition it appears that a presumption in favor of the unique effects of the government's

FIGURE 3

Prevalence and Birth Averted



Prevalence rises to 65% (vertical scale). Births averted (lower line) are .178 of prevalence, lagged by one year.

TABLE 6

Prevalence and Births Averted

	Prevalence	Births Averted
1974	11.6	2.1
1975	12.5	2.2
1976	13.5	2.3
1977	14.5	2.4
1978	15.5	2.5
1979	16.0	2.6
1980	16.0	2.8
1981	17.0	2.9
1982	18.0	3.0
1983	19.0	3.1
1984	20.0	3.2
1985	65.0	11.6

If 65% of married women are using contraception, as in 1984, 11.6 births are averted per 100 women in 1985.

total prevalence for all methods (the bottom curve shows births averted, to be discussed later). Here let us only note that Indonesian prevalence is rather "soft" since about 70% is based on re-supply methods and is therefore subject to easy terminations, accidental pregnancies and uncertain wastage of home supplies. Nevertheless, the 1975-76 follow-up survey⁵ and the 1982 Modular Survey yielded very high pill and IUD continuation rates (technically, "first method all segment" rates**). We retain the term "soft" for another reason: that program prevalence in Indonesia is more nearly alone in its anti-fertility effect than in many other countries due to the apparently small role played by abortion and private contraception, which in a sense makes the current practice of birth control more fragile, i.e., more narrowly based, than in some other countries. Despite these points a large rise in soft prevalence may still produce a substantial fertility fall.

To return to the national prevalence trend in Figure 3, the Indonesian population over a 10 year period clearly transformed its birth control behavior and, as a variety of data sets show (see also the tables in Appendix II), did so throughout the major provinces and the four leading large islands.

The question is how to convert the moving line of prevalence in Figure 3 to a stream of births averted. One of the principal past strategies used to calculate births averted was rejected, that of following annual (or quarterly) groups of acceptors through time and subjecting them to a set of termination rates to produce an estimate of total users year by year. In mature programs the acceptor data involve much repetition, with couples moving through multiple acceptances of different methods, sometimes with intervening pregnancies and births. Moreover, limited checks of this approach show serious inconsistencies with the direct prevalence estimates from the service statistics.

Nevertheless, the approach used below overlaps with the one just described in that the IUD and sterilization portions of each month's prevalence total in the service statistics are generated by projections of past acceptor groups subjected to certain termination rates. For sterilization all cases are terminated exactly seven years following acceptance; for the IUD a low termination rate is applied each month to the body of current IUD users. Sterilization is only a minor part of the total, but the IUD is significant, comprising about 26-30% of all prevalence.

** These count continuation as the period from acceptance of a method: (a) to the date of last use of the method ignoring any interruptions in its use, or (b) to a switch to another method, or (c) to pregnancy, whichever of these three events occurs first.

This leaves the chief difference between the two approaches, namely, that the method chosen here, as in the service statistics, estimates pill use from the current flow of pill cycles distributed to women rather than by projecting acceptors of pills forward under an assumed continuation curve. Pill users comprise the main component (55-62%) of total prevalence in the years concerned, and the method we have chosen thus links the estimates of births averted securely to that measure of actual program activity month by month and area by area.

Corrections must be made to convert reported prevalence to probable true prevalence. Two general factors are involved: supply wastage and use wastage.

"Supply wastage" refers partly to the difference between reported pill and condom distribution and actual use. Apart from any data errors that raise the distribution figures, some supplies or portions thereof are certainly not used simply because of terminations before the supply given is consumed. Some pills are never taken, some pills are handed on to others by the acceptor and not all of these are used, and there are various other sources of supply wastage. The discount for this first correction cannot be exactly known, and so a range of 10-15% is used in the calculations below. Early follow-up studies in other countries often found that about 7% of first pill acceptors never swallowed any of the supply given, and others terminated without using all of their supply. Further allowance is made here for recorded acceptors who in the 1976 follow-up interviews denied ever having accepted. All in all, a 10-15% correction here seems fair.

"Use wastage" is quite different from supply wastage. It refers to actual use, but use that has no anti-fertility effect. The reasons tend to be those that operate early after acceptance and those that come later. Early reasons are that contraceptive use overlaps with postpartum anovulation, undetected pregnancy, or unknown sterility of either spouse. Later reasons are that couples using the method become accidentally pregnant, develop secondary sterility, or suffer death or marriage break-up. The role of such factors is the subject of a large literature and much calculation. In a noted analysis by Potter,⁶ they cancelled 31% of the use time projected under life table continuation rates. That may seem severe, but it comes from a data set of high quality and calls attention to the unfortunate fact that contraceptive use does not avert births unless it falls into the middle portion of the birth interval: after ovulation returns following a birth or abortion and before a new pregnancy starts. Additional contraception is wasted if it overlaps with sterility or lack of sexual exposure or if it fails, permitting conception to occur anyway. To represent all these factors a discount range of 28-34% is used, based on Potter's 31%, plus or minus 3 points. This necessarily contains an arbitrary element, but the mere presence of a range emphasizes that a degree of uncertainty exists and that it should not be forgotten.

The conversion of the prevalence curve in Figure 3 to "effective" prevalence is then easily accomplished. For example, if a total of 10 million women are protected in the raw service statistics estimate, the supply wastage discount of 10-15% and the use wastage discount of 28-34% will reduce that number. Using the lighter discounts, the 10% reduction leaves 9 million and the 28% reduction leaves 6,480,000 effective users. With a 9 month lag, this extent of contraceptive use then averts births according to the calculations given below. The heavier discounts, of 15% and then 34%, reduce the 10 million first to 8,500,000 and then to 5,610,000.*

We come now to the conversion to births averted. Again, a large literature exists on this question, termed the "potential fertility" of acceptors, and highly complex calculations have been made on exceptionally detailed data sets.⁷ For the immediate exercise, however, a simple conversion is unavoidable. Most national plans have chosen to assume that those women using contraception, taken as a whole, would have experienced a fertility rate of 250 births per thousand women per year, or in other cases, 333 births, yielding ratios of one birth averted each year per four users, or per three users. Such straight-forward solutions are certainly easier for administrators to understand, and they often go about as far as the available data justify.

Thus we have suggested three ranges: for supply wastage, use wastage and potential fertility. The most favorable assumptions reduced 10 million users to 6,480,000 effective users; with the high 333 potential fertility rate this gives 2,160,000 births averted in one year. With the least favorable assumption or 5,610,000 effective users, the low 250 potential fertility rate gives 1,402,500 births averted. For simplicity in subsequent calculations we use the midpoint of 1,781,250, which gives the conversion rule that births averted are 17.8% of each year's users, but we urge that the fact of a range of uncertainty be kept in view.

This then produces the second curve in Figure 3, showing births averted as 17.8% of the users, with one year time displacement on the horizontal axis. Similar conversions are easily done for any of the sub-national units of interest in the detailed tables of Appendix II. The 17.8% rule, if full information were in hand, would of course vary from province to province, but for approximate purposes it has some utility.

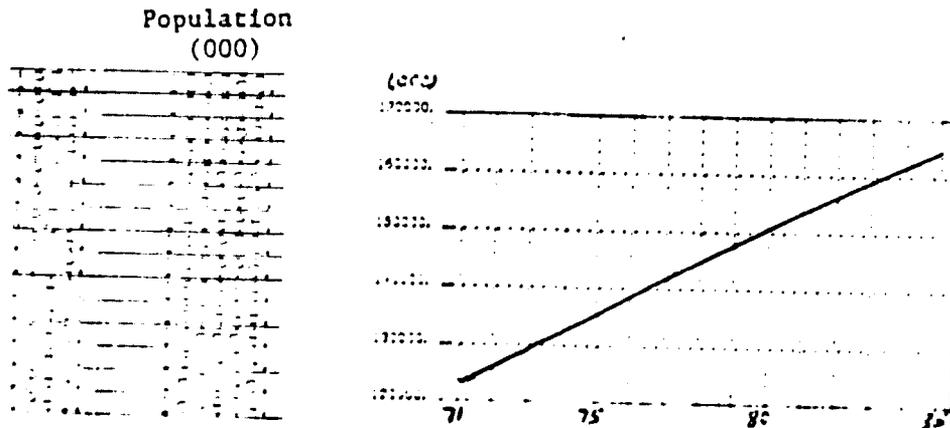
* We ignore here certain delays to which the corrections are subject. For example, young acceptors of 1982 will generally not incur secondary sterility until many years later. These refinements are ignored in the interest of simpler calculations; they would not change the main picture.

Population Size:

Annual figures for population size are needed for the births averted calculations. Estimates for 1974-83 are taken directly from the UN Population and Vital Statistics Report, 1984 Special Supplement,⁸ (p.32), and 1971-1973 and 1984-1985 estimates are added by extrapolation (Table 7). This gives 1971 and 1980 figures that are 2-3% above the actual census counts, which allows partially for undercounting.

TABLE 7

Population Size by Year, Indonesia



Crude Birth Rate:

To our knowledge no one has attempted to do "guesstimates" of the year by year crude birth rate in Indonesia. The effort below unavoidably involves what are often termed "courageous assumptions". However, an approximate time path of the actual crude birth rate is a necessary step to the calculations in the chapter on public expenditure savings, and so the following is offered in a very tentative spirit. Fortunately, the calculations to be premised on this are not much affected by modest errors.

We start with certain anchor points and then interpolate between what appear to be the most reasonable ones. The anchor points are as follows, moving in sequence from past to present (Figure 4). First is the level of about 45 usually cited for traditional fertility. The next two points are the UN (1981)⁹ figures of 43.0 for 1965-1970 and 39.5 for 1970-1975. (The UN figure of 33.6 for 1975-1980 is rejected as too low; it is well below the curve that seems most likely from other sources).

A fourth anchor is the McNicoll and Singarimbun¹ preference for 38 as the most probable average level during the 1971-1980 period. Finally, we have 36.4 for 1978 (UN, 1984),⁸ 34 for 1980 (BKKBN, as cited by Conroy²) and 30.7 for 1983 (UN, 1984). The latter is nicely consistent with the 30.8 given by the UN (1981) as the 1980-1985 average.

Certain of these points are joined as shown in Figure 4. The line chosen no doubt violates parts of the true curve, and it certainly conceals annual variations around the general trend, but the latter average out to an extent, and no better approximation is immediately available. The decline steepens after point 2, which is unexpected but might reflect the post-1965 civil disturbances. Actually we could have chosen to put the line through point 4, the midpoint of the 1971-1980 anchor, as it lies almost exactly on a straight line between points 2 and 5. However, the five year estimate behind point 3 seemed slightly less crude than a nine year one. A further problem is that the fertility decline is thought to have accelerated in the late 1970s, which it does here, but the shift from the earlier slope is not particularly sharp (it would be slightly sharper if the line passed through point 4. Nevertheless this is the best foundation for producing an annual series we have been able to devise in a short time and the resulting points as interpolated are given in Figure 5 and Table 8 (1984 and 1985 points are extrapolated from the 1980-1983 trend).*

* T. Hull, who has also considered the evidence closely, suggests that the CBR was likely around 43 in the early 1970s, fell gradually between 1971 and 1975, and then accelerated its decline in the late 1970s. This scenario would raise the early part of the curve in Figure 4, keeping it in the mid-40s into the 1970s. See Terry Hull, "Indonesian Population Growth 1971-1980," Bulletin of Indonesian Economic Studies, Vol. XVII (1) March 1981.

Figure 4. Probable Crude Birth Rate Values, 1962-1985.

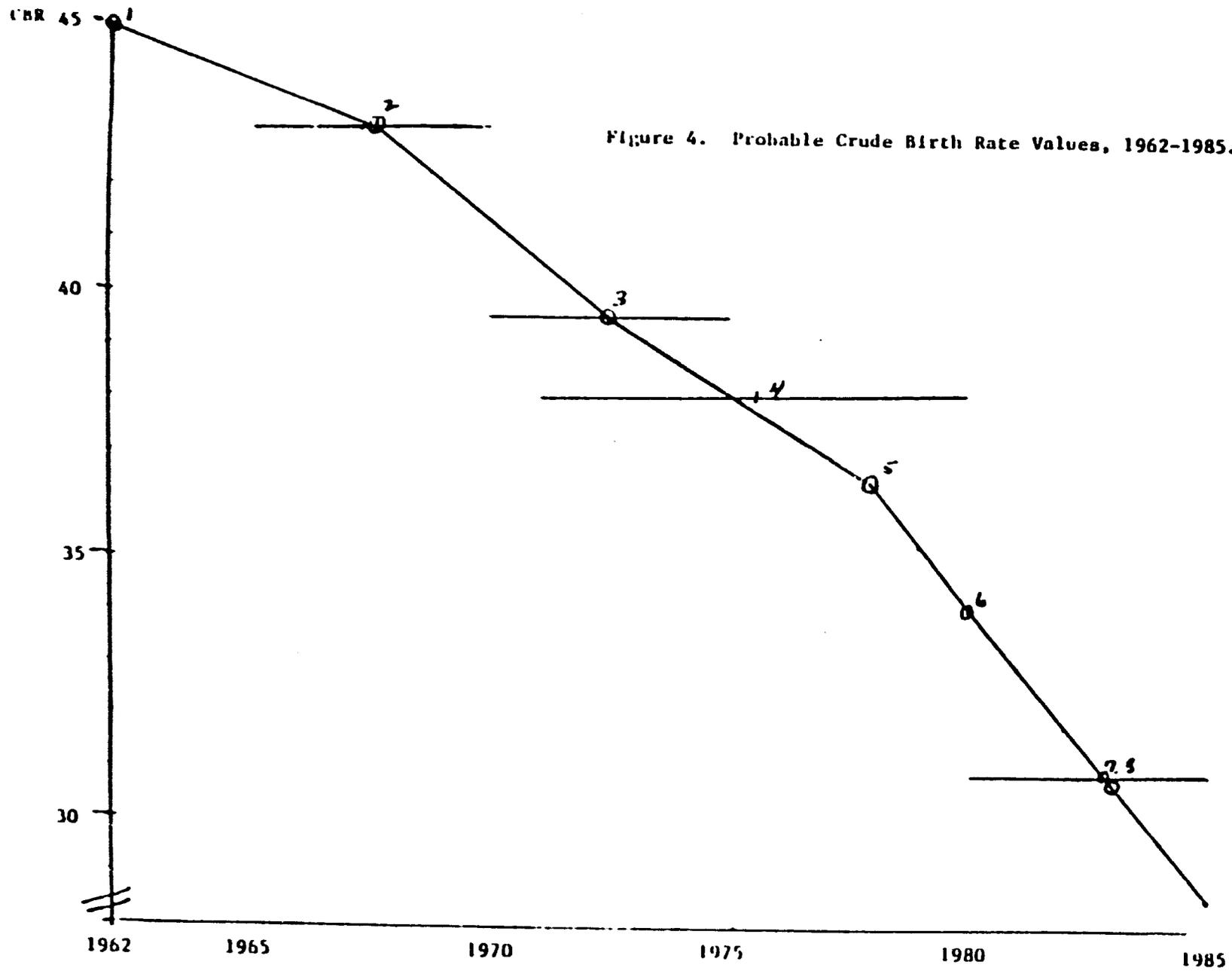


FIGURE 5

Crude Birth Rate: Annual Series Interpolated from Figure 4

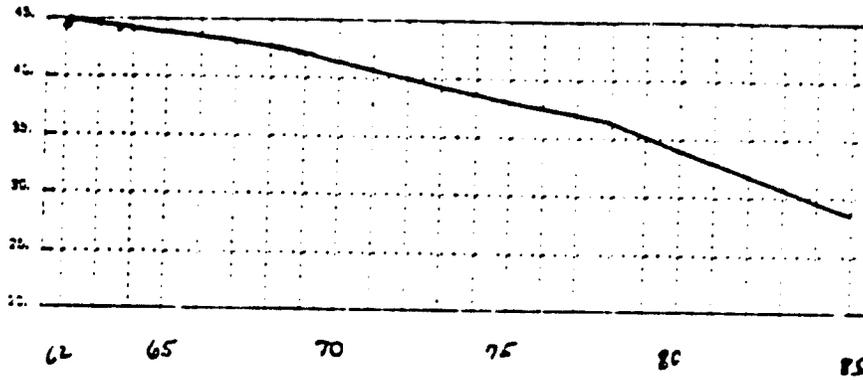


TABLE 8

Crude Birth Rate Values from Figure 5

Year	Crude Birth Rate
1962	43
1963	42.8
1964	42.5
1965	42
1966	41.5
1967	41
1968	40.5
1969	40
1970	39
1971	38.5
1972	38
1973	37.5
1974	37
1975	36
1976	35.5
1977	35
1978	34.5
1979	34
1980	33
1981	32.5
1982	32
1983	31.5
1984	31
1985	30

Annual Series of Births Averted:

We now have all the components needed to calculate numbers of births averted and their effects upon the crude birth rate. Translating from prevalence each year to births averted by the rule of 17.8 births averted from 100 users, as explained above, produces the annual series in Table 9. Here we use the September figure for each year to represent the average prevalence level for the six months before and after. With a nine month pregnancy lag this conveniently links each September figure to the effect on the birth rate in the twelve months of the following calendar year.

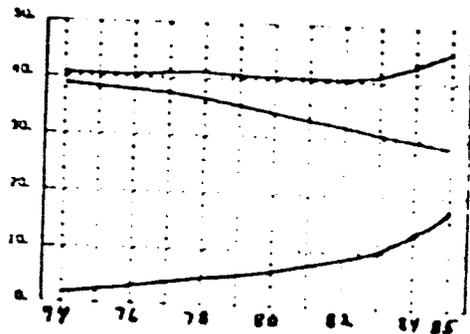
Table 9 contains all the columns of interest. The percent used is shown first, along with the absolute numbers used. In September of 1972 there were 696,000 users, which converts to 124,000 births averted during calendar 1973. Against the population of 1973 this represents 0.9 points off the crude birth rate; when added to the actual figure of 39.2 this gives 40.1 as the hypothetical crude birth rate, the one that would have prevailed without the program.

The series of hypothetical rates looks fairly reasonable except that: 1) perhaps it should have fallen instead of slightly risen over the years as a result of private sector use and later marriage (although the former might have been small, and other influences such as reduced lactation could have had offsetting effects); and 2) the sharp rise in the last two years, to 45.5, is improbable. Two causes of this sharp rise are arithmetically possible. The first is that the 1983 and 1984 prevalence figures are too high, and indeed they did rise by unprecedented jumps into a ceiling zone. After 1979 prevalence rose by four to six points per year, but in 1983 it rose eleven points as reported in the service statistics, and then fifteen points in 1984. A second possible cause is that the actual CBR after 1982 should be lower than the estimate shown. In any case, some caution is indicated in building on the 1983 and 1984 figures.

To review, the proportions and numbers using contraception are taken from the service statistics system. The births averted are calculated with corrections for wastages and by using a simple conversion for potential fertility. The actual CBR trend is estimated entirely independently, and the hypothetical CBR trend is simply the actual rate plus the program effect.* The percentage reduction from the hypothetical rate to the actual rate increased from 3% in 1973 to 25% in 1982, and more by 1984.

* The hypothetical rates are calculated with the actual population size each year as the denominator. Had the program not existed, however, the population sizes would have been larger and the hypothetical rates therefore less. Such effects are ignored here as they are relatively small.

Year	% Using	Number Using (000)	Births Averted (000)	Population (000)	Points Off CBR	Actual CBR	Hypothetical CBR
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1975	100	158	124	134385	0	10	10
1976	100	158	124	137531	1	9	10
1977	100	158	124	136666	2	8	10
1978	100	158	124	138200	3	7	10
1979	100	158	124	141300	4	6	10
1980	100	158	124	141200	5	5	10
1981	100	158	124	141200	6	4	10
1982	100	158	124	141200	7	3	10
1983	100	158	124	141200	8	2	10
1984	100	158	124	141200	9	1	10
1985	100	158	124	141200	10	0	10



top: hypothetical CBR
middle: actual CBR
bottom: births averted

Annual Series for Births Averted Calculations

TABLE 9

We stress that these results reflect the service statistics data. Corrections will probably be possible from the spring 1985 registration of all couples and all current users by method, providing that the program users are separated from the private sector users. For an alternative method of estimating fertility reduction due to increased contraceptive prevalence, see the Bongaarts approach in Annex I. (Also see references 10 and 11).

Note on the Post-1984 Period:

For the following chapter on program created savings in public expenditures, an estimate was needed of the births that will be saved in future years due to program work already completed. That is, in the late 1980s and even beyond, some births will be averted among couples who selected the IUD or sterilization before 1984. Additional averted births will come from pill, condom and injectable users who persist in using on their own, who would not be doing so except for their contact with the program. The program should receive credit for these and for the savings in education and other public costs that derive from them.

Then how many births will be saved in the future from program work already completed? Or restated, how many births will still be saved in future years if the program ceased its supply operation and other activities? Presumably IUD and sterilization users would experience approximately the same continuation rates as they do at present. Continuation for users of the other methods cannot be predicted; in rural areas substantial proportions probably would terminate, as well as some in urban areas. For simplicity and to suggest some order of magnitude, the following estimates use one-half the continuation rates found in the 1976 follow-up survey for the pill and condom. (These rates were quite favorable, as they were in the 1982 Modular Survey).

The continuation rates follow life table assumptions, with the usual curve of $R = ae^{-\underline{r}t}$, where R is the proportion still using at t time (stated in years), a is the proportion who terminate immediately after acceptance, and \underline{r} is the parameter approximately equal to the proportion who terminate each year. In this case, a drops out as we are dealing only with current users, i.e., those who are already past the moment of acceptance.

What is required then is the mean amount of use time remaining for users of each method, since that can be easily converted to numbers of births averted. (If these births averted need to be scheduled out across calendar years it is easy to do so, simply by plotting the time curve of the equation above, omitting the a value and using the \underline{r} values below.)

The mean use time under the curve of the above equation is simply a/r , and without a it reduces to $1/r$. The values for r , as derived from Teachman et al.⁵ (Table 3), are .339, .093 and .152 per year for the pill, IUD and condom. (These reflect terminations from month 6 to 36 for the pill and IUD, and from month 6 to 24 for the condom. The condom suffered by far the largest early dropout, but after month 6 performed well).

The IUD rate is used without change, but the pill and condom continuation rates $(1-r)$ are halved, which yields modified r values of .669 for pill and .576 for condom. The mean use time remaining for current users $(1/r)$ is then 1.49 years, 10.8 years and 1.74 years for the pill, IUD and condom. For the injectable we arbitrarily assign the same value as for the pill.

For sterilization BKKBN has used seven years as the assumed use time for each case, considering the age distribution involved. If new sterilizations cease and we assume that the currently sterilized group is well-mixed with regard to duration since the operation, an average period of 3.5 years of use remains for the group as a whole; that is the value employed here. (If this group needs to be distributed by time to termination, a linear fall in the number of users in March 1984 to zero seven years later should be used.)

We now apply the mean use time remaining to the body of current users* existing in March 1984 (the last March date available in the series in the Appendix). The percentage distribution of users by method is available only as of September 1983,** and so this is applied to the number of users in March 1984. (Injectables have increased since then, but the pill-plus-injectable total has been more stable, and both are given the same use time here.) The number using each method, times the mean use time remaining, gives the additional woman-years of use. Multiplying this by the .178 conversion produces the estimates of births averted. Each of these steps is one column in the following table.

* In most applications the mean use time is calculated from acceptance onward. However, the r values give the (constant) annual termination risk over any period subsequent to acceptance. By starting with the numbers of users who have survived to any date (here, March 1984), we can therefore judge their remaining use time by the $1/r$ estimate.

** Just before duplication of this report certain new tables arrived that include September 1984. See Appendix II.

Method	Mean Use Time (Yrs) Remaining	No. Using March '84 (000)	Additional Woman-Yrs of Use (000)	Future Births Averted (000)
Pill	1.5	7936.	11904.	2119.
IUD	10.8	3972.	42898.	7636.
Condom	1.7	713.	1212.	216.
Injectable	1.5	1341.	2011.	358.
Sterilization	3.5	460.	1610.	287.
		14422.	59635.	10616.

Col. 4 = Col. 2 x Col. 3

Col. 5 = Col. 4 x 0.178

Thus a total of 10,616,000 future births are estimated to be saved. This is a ratio to the number of current users existing in March 1984 (14,422,000) of 0.74 births averted per user.

Note that in the table, most of the births averted are due to IUD users. They are not the most numerous among the starting group; the pill leads in that respect. But the basic IUD continuation rate was very high in the 1976 survey, and so the mean additional use time is over ten years. Also, the pill suffers because we assumed a continuation rate only half of that found in the survey.

(For those interested in further analysis of the topics in this chapter, see Appendix II. It contains detailed tables and charts prepared by the Department of Demography, Australia National University.)

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CHAPTER 4

PUBLIC EXPENDITURE IMPACT: EDUCATION AND HEALTH

I. INTRODUCTION

During the past few years as the family planning program has expanded and foreign contributions to the program have gradually been reduced, the internal funding of the Indonesian family planning program has increased substantially and the increased budget levels of the BKKBN have become an important concern of the GOI. Projections of steady cost increases for BKKBN over the next decade further add to this concern. The following analysis examines retrospectively and prospectively the impact of the Indonesian family planning program in other areas of public expenditure. It will be demonstrated that the family planning program, through its impact on population size, generates more savings to the government than it costs, and thus public expenditures on family planning programs should be viewed positively as an economically justifiable investment.

Based on the analysis of demographic data in Chapter 3, two population projections covering a period of thirty years from 1971 to 2001 are presented. These projections were made incorporating two time series of birth rates; one recognizes the effect of the family planning program and one purges its influences. The potential impact of the family planning program on government expenditures for education and public health were examined. These two types of expenditures are closely related to population size and have been shown to be highly sensitive to family planning programs in other similar studies (Chao and Allen, 1984). Functional relationships between expenditures and population were established in each of those two sectors; then estimated parameter values were utilized to simulate expenditure levels in education and health sectors under different population projections. Savings to government, in the form of expenditures averted that resulted from the family planning program, were then compared to the total costs of the family planning program. Various benefit-cost measures were then calculated to express streams of costs and benefits associated with the family planning program in terms of a single index. Sensitivity analysis was also performed to see to what extent the conclusions depend on the estimated effectiveness of the Indonesian family planning program. It should be noted here that all expenditures are expressed in 1984 constant prices throughout the entire analysis.

II. DEMOGRAPHIC IMPACT OF THE INDONESIAN FAMILY PLANNING PROGRAM

In order to study the impact of the Indonesian Family Planning Program (FPP) on government expenditures, estimates of its impact on the crude birth rate were transformed into differences in population size and age distribution. The estimates of crude birth rates in Chapter 3, together with mortality rates and base-year population figures were combined to produce two single-year, single-age-group population projections.

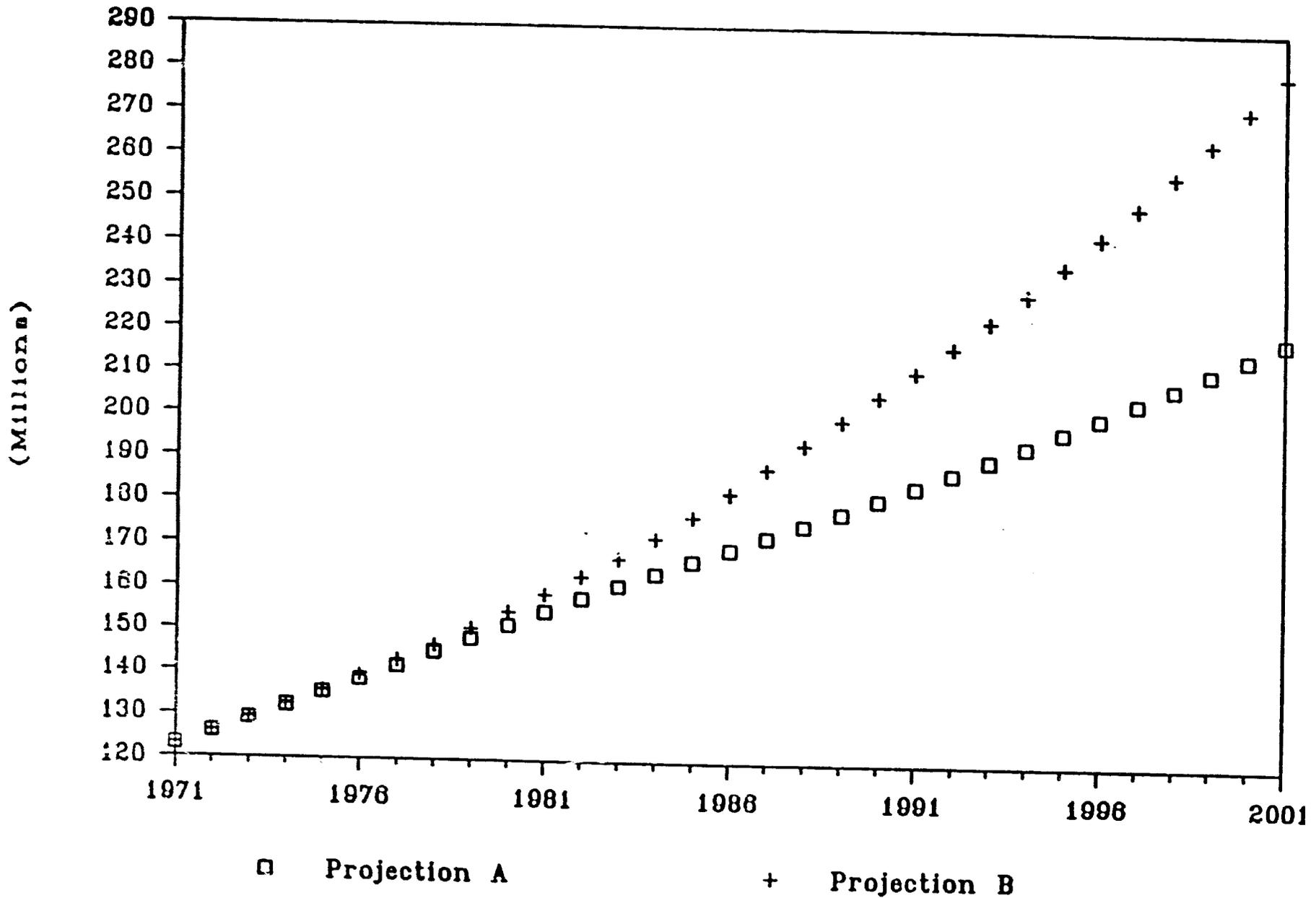
The first projection (designated A) is the expected population with the family planning program in place. It utilizes the estimated actual crude birth rates from 1971 to 1985 and assumes the crude birth rate will remain constant thereafter (Appendix III Table A-1). The second projection (designated B) is the expected population with no family planning program. It assumes that there was no program from 1971 to 1985 and there continues to be none after 1985. Under this assumption, the crude birth rate stays high, around 41/1000, during the 1971 to 2001 period. Both projections assume zero net international migration, and both utilize levels of life expectancy reported in Chapter 3 (Appendix III Table A-2).

The results of the two population projections are shown in Table 1 and Figure 1. Under projection A, the population reaches 154.6 million by 1981 and 184.4 by 1991. Under projection B, with no family planning program, the population grows to 158.6 million by 1981, and to 211.1 million by 1991. Table 1 also reports the annual number of births averted by the family planning program. From 1971 to 2001, an estimated 73.7 million births will have been averted through the family planning program. If the annual total expenditure on FPP grows from its current level of Rp.66.6 billion to Rp.100 billion by 2001 (Appendix III, Table A-10), the average cost per birth averted during the thirty year period is Rp.30,000 (equivalent of U.S.\$30).

Table 1
Projected Demographic Impact of the
Indonesian Family Planning Program

Year	Projection A (with FPP)		Projection B (without FPP)		Births Averted by the FPP (,000)
	Total Population (,000)	Total Births (,000)	Total Population (,000)	Total Births (,000)	
1971	123,060	4,898	123,060	4,959	60.3
1972	126,063	4,910	126,117	4,996	86.1
1973	129,106	4,942	129,237	5,057	115.6
1974	132,141	4,996	132,374	5,234	237.7
1975	135,258	5,035	135,702	5,401	366.3
1976	138,442	5,072	139,211	5,509	437.3
1977	141,624	5,122	142,779	5,722	599.2
1978	144,885	5,155	146,571	5,883	727.4
1979	148,209	5,100	150,540	5,936	836.2
1980	151,445	5,039	154,514	6,067	1,027.6
1981	154,660	4,983	158,640	6,304	1,321.6
1982	157,787	4,918	162,941	6,377	1,459.1
1983	160,856	4,844	167,304	6,697	1,852.8
1984	163,858	4,761	171,958	7,161	2,399.3
1985	166,750	4,670	176,991	7,824	3,154.1
1986	169,523	4,752	182,584	7,876	3,123.7
1987	172,411	4,831	188,258	7,942	3,111.0
1988	175,335	4,914	193,938	8,001	3,087.3
1989	178,296	4,997	199,618	8,048	3,051.4
1990	181,370	5,081	205,385	8,085	3,003.1
1991	184,480	5,169	211,140	8,218	3,149.1
1992	187,628	5,258	217,065	8,551	3,293.5
1993	190,816	5,347	223,158	8,791	3,443.7
1994	194,125	5,438	229,524	9,038	3,599.6
1995	197,474	5,533	236,068	9,296	3,763.2
1996	200,867	5,628	242,796	9,561	3,932.7
1997	204,388	5,725	249,821	9,833	4,108.5
1998	207,955	5,825	257,045	10,118	4,292.7
1999	211,569	5,927	264,477	10,410	4,483.6
2000	215,231	6,030	272,123	10,711	4,681.6
2001	219,033	6,134	280,106	11,021	4,886.9

FIGURE 1 TOTAL POPULATION



III. IMPACT IN THE HEALTH SECTOR

In the public health sector, total expenditure was assumed to be a function of the population. Expenditures are divided into routine expenditures (for salaries and operating supplies) and development expenditures (for hospitals and equipment). Routine expenditures are assumed to be a function of the size of the population, and development expenditures are assumed to be a function of the increase in population.*

Information on health expenditures was prepared by the Planning Division of the Ministry of Health, GOI, for this study (Appendix Tables A-3 and A-4). This information is quite complete, and it matches numbers reported in World Bank publications. These figures were used to estimate the per capita expenditure for each year from 1971 to 1985. For 1985 the figures are Rp.653 per additional person for routine expenditures and Rp.71,139 for development expenditures. In order not to overestimate expenditures averted, these rates are assumed to remain constant after 1985.

Calculated expenditures for the two projections begin to differ immediately after the first group of births are averted in the first year (Table 2 and Figure 2). Under projection A, health expenditures reach Rp.325 billion by 1981, continue to Rp.345 billion by 1991 and Rp.414 billion by 2001. However, without a family planning program in place, health expenditures reach Rp.411 billion by 1981 (26% higher) and Rp.751 billion by 2001 (81% higher). In each year, the savings achieved as a result of the smaller population is the difference between expenditures under projection A and B. The cumulative savings for the period 1971 to 2001 are Rp.4.9 trillion.

IV. IMPACT IN THE EDUCATION SECTOR

The educational system in Indonesia consists of primary and secondary schooling, vocational and university level education and other specialized training. This analysis examines only primary and secondary education expenditures.

* Total expenditures for public health in any year are found as follows:

$$THE_t = POP_t \times HRE_t + (POP_{t+1} - POP_t) \times HDE_t$$

Where:

THE_t = total health expenditures in year t

POP_t = the size of the population in year t

HRE_t = per capita routine health expenditures in year t

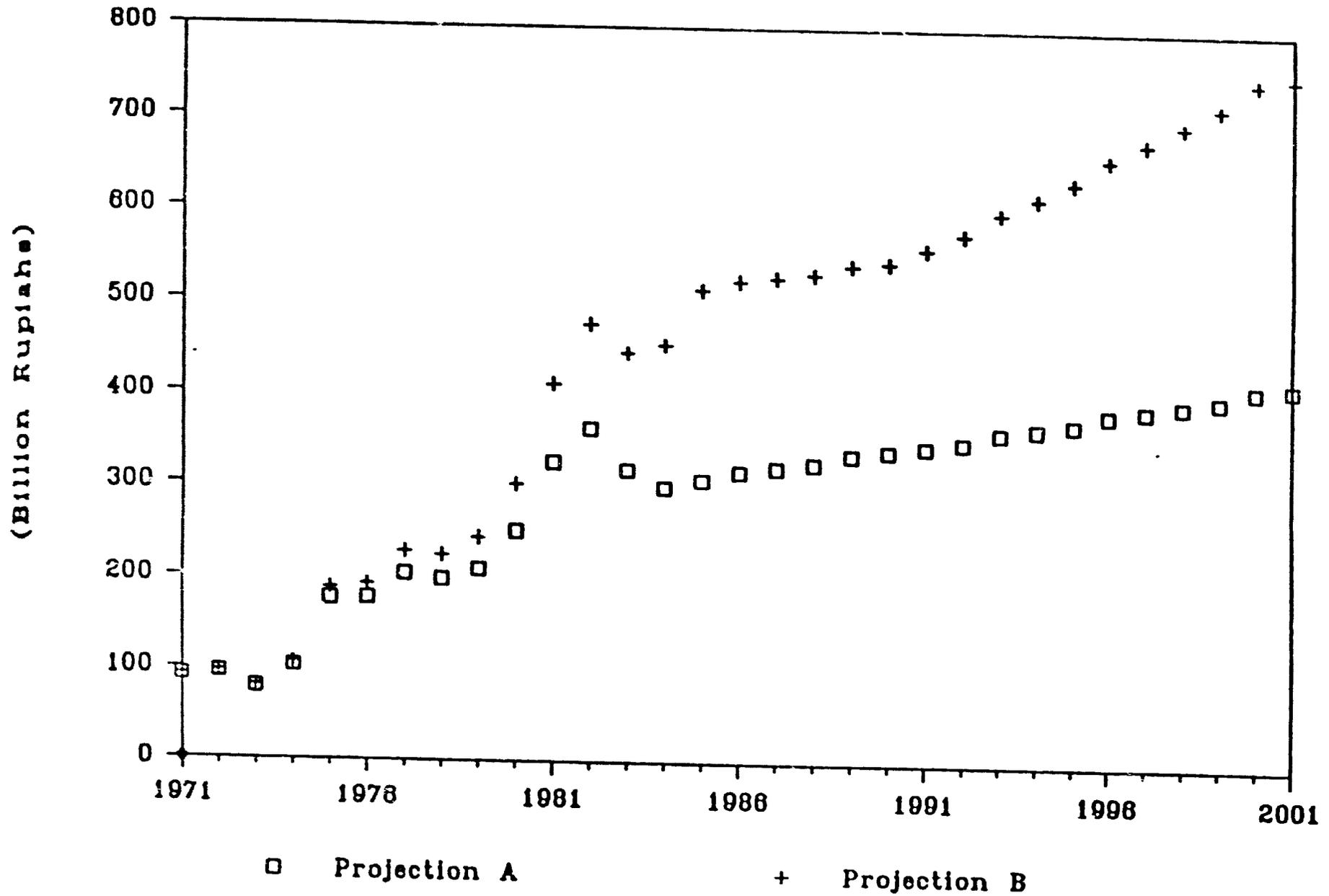
HDE_t = per capita development health expenditures in year t

Table 2
Total Public Health Expenditures*

Year	Projection A (with FPP)	Projection B (without FPP)
1971	92,744	95,536
1972	96,021	97,216
1973	79,992	81,380
1974	103,792	107,704
1975	176,764	187,794
1976	177,566	192,562
1977	204,187	227,747
1978	198,196	224,369
1979	209,390	243,652
1980	250,239	301,154
1981	325,265	411,446
1982	361,863	475,351
1983	317,403	445,312
1984	298,537	453,976
1985	306,444	513,743
1986	316,407	523,182
1987	320,870	527,299
1988	325,443	531,033
1989	335,415	540,999
1990	339,982	543,871
1991	344,760	559,730
1992	349,588	575,513
1993	360,320	599,006
1994	365,371	615,761
1995	370,653	633,200
1996	382,011	658,752
1997	387,519	677,441
1998	393,261	696,987
1999	399,064	717,102
2000	411,333	746,077
2001	413,821	751,303

* million rupiahs, in 1984 constant price

FIGURE 2 HEALTH EXPENDITURE



Student enrollment for the three levels of schooling (primary, lower secondary and upper secondary) are calculated by multiplying the population of school age category (6-11, 12-14 and 15-17) by the percentage of such children enrolled in school. Actual enrollment rates are used for 1971 to 1985 (Appendix III, Table A-5); thereafter, all three enrollment rates are assumed to increase gradually. Table 3 and Figures 3, 4, and 5 present the projected number of students in three levels of school under the two population projections. The time needed for the initial impact of the FPP on primary, lower secondary and upper secondary schools to take place are 6, 9 and 12 years respectively. By 1991, the number primary students is 30% greater and secondary students is 9% greater in projection B than in projection A. By 2001, the total number of students in all levels of school is 62% greater in projection B.

The total cost of primary and secondary education associated with each student consists of development expenditures (for classrooms and equipment) and routine expenditures (for salaries and operating supplies). Routine expenditures are a function of the growth in the number of students.*

Data and education development expenditures come from the Ministry of Education and Culture (Appendix III, Tables A-6 through A-8). Routine expenditures are based on World Bank estimates for 1980 and 1990 (Appendix III, Table A-9).

* The total cost of education is found by multiplying the number of students by the routine expenditure per student and adding the development expenditure per student multiplied by the number of additional students expected in the next year. For example, in primary school,

$$TPE_t = PS_t \times PRE_t + (PS_{t+1} - PS_t) \times PDE_t$$

Where:

TPE_t = total primary education expenditures in year t

PS_t = number of students in primary school in year t

PRE_t = per capita primary education current expenditures in year t

PDE_t = per capita primary education development expenditures
in year t

Similar relationships are also assumed between expenditures and present and future students in lower secondary and upper secondary school levels.

Table 3
Number of Primary and Secondary School Students
Under Two Population Projections

Year	Projection A (with FPP)			Projection B (without FPP)		
	Primary (,000)	Lower Secondary (,000)	Upper Secondary (,000)	Primary (,000)	Lower Secondary (,000)	Upper Secondary (,000)
1971	12,854	1,071	584	12,854	1,071	584
1972	13,301	1,267	630	13,301	1,267	630
1973	13,558	1,470	683	13,558	1,470	683
1974	13,798	1,663	728	13,798	1,663	728
1975	14,536	1,864	776	14,536	1,864	776
1976	15,306	2,093	913	15,306	2,093	913
1977	16,127	2,288	1,085	16,127	2,288	1,085
1978	16,981	2,880	1,264	17,018	2,880	1,264
1979	17,822	3,003	1,511	17,915	3,003	1,511
1980	18,682	3,275	1,745	18,853	3,275	1,745
1981	19,573	3,751	1,988	19,911	3,751	1,988
1982	20,247	4,231	2,221	20,845	4,231	2,221
1983	20,875	4,427	2,372	21,793	4,427	2,372
1984	21,498	4,637	2,524	22,824	4,656	2,524
1985	22,143	4,832	2,680	23,966	4,881	2,680
1986	22,726	5,048	2,858	25,124	5,138	2,858
1987	23,224	5,264	3,048	26,273	5,420	3,061
1988	23,635	5,492	3,231	27,486	5,757	3,263
1989	23,965	5,727	3,398	28,697	6,122	3,458
1990	24,187	5,963	3,565	30,018	6,513	3,671
1991	24,292	6,200	3,741	31,600	6,914	3,922
1992	24,355	6,401	3,920	33,727	7,302	4,190
1993	24,530	6,553	4,099	35,841	7,665	4,477
1994	24,817	6,658	4,281	37,860	8,062	4,773
1995	25,222	6,758	4,437	39,898	8,482	5,061
1996	25,411	6,844	4,560	41,162	8,996	5,333
1997	25,747	6,914	4,650	42,057	9,635	5,520
1998	26,238	6,964	4,736	42,576	10,580	5,944
1999	26,723	7,090	4,812	43,237	11,430	6,325
2000	27,233	7,297	4,876	44,076	12,104	6,755
2001	27,753	7,596	4,925	45,088	12,481	7,493

FIGURE 3 NUMBER OF STUDENTS
PRIMARY SCHOOL

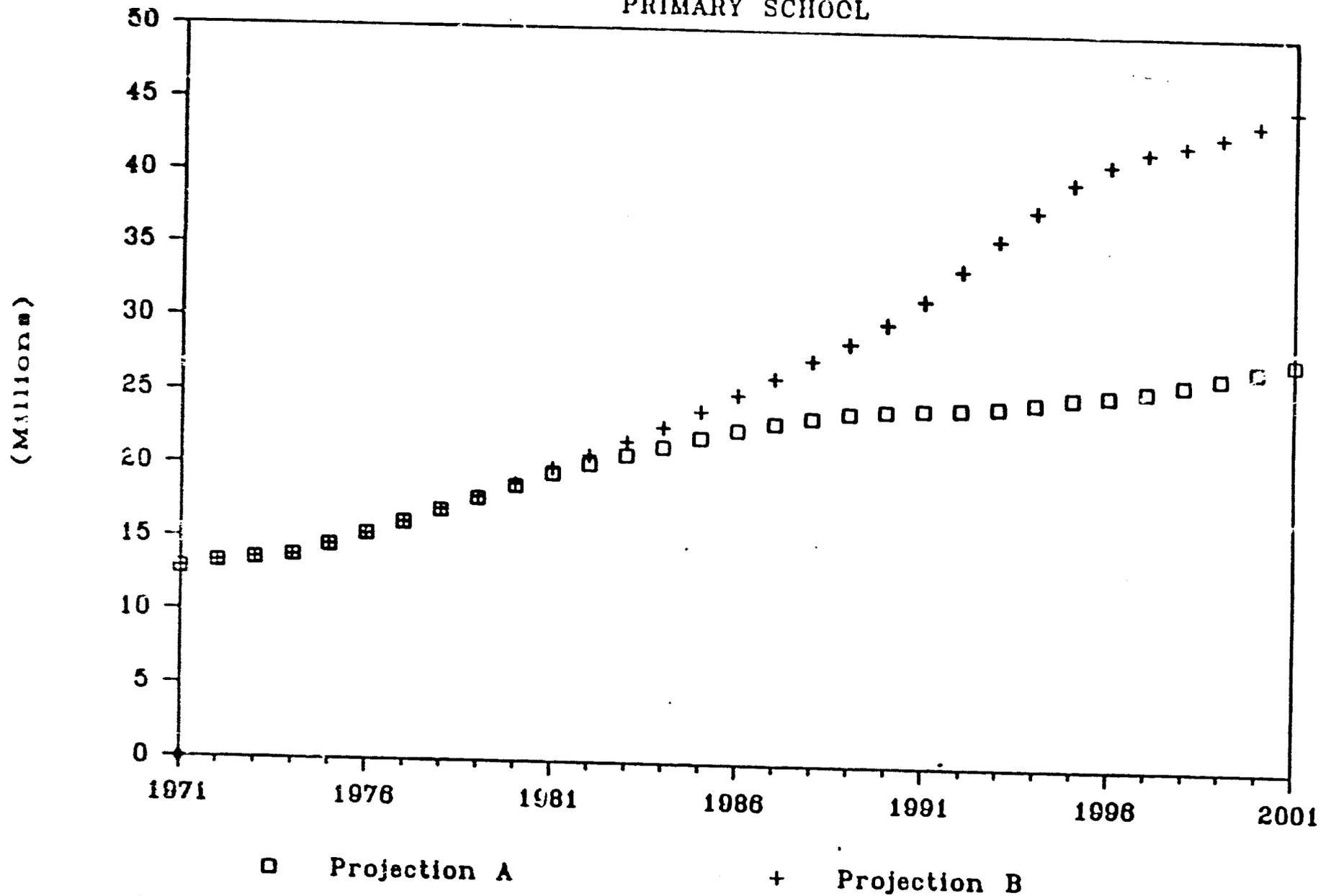


FIGURE 4 NUMBER OF STUDENTS
LOWER SECONDARY

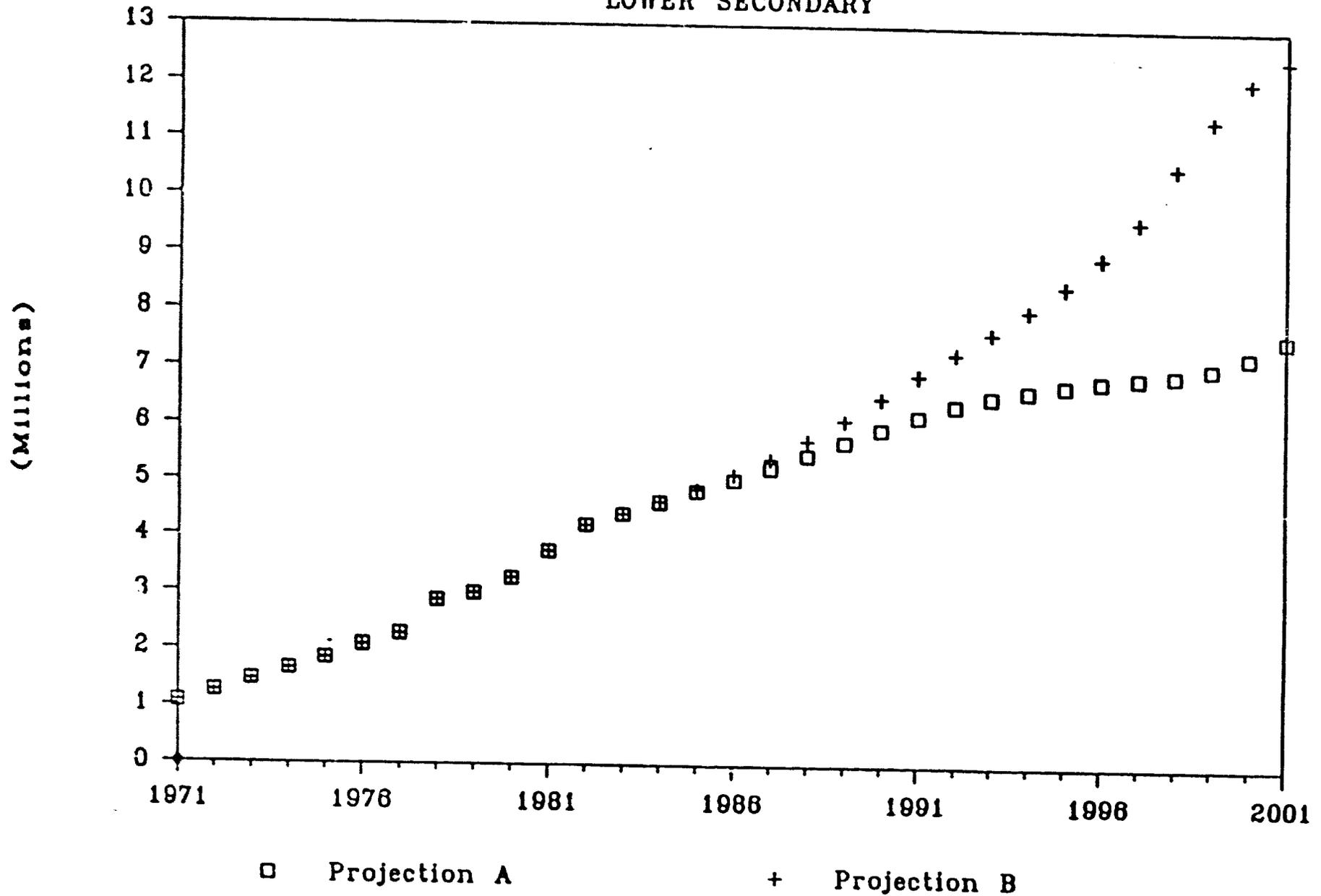


FIGURE 5 NUMBER OF STUDENTS
UPPER SECONDARY

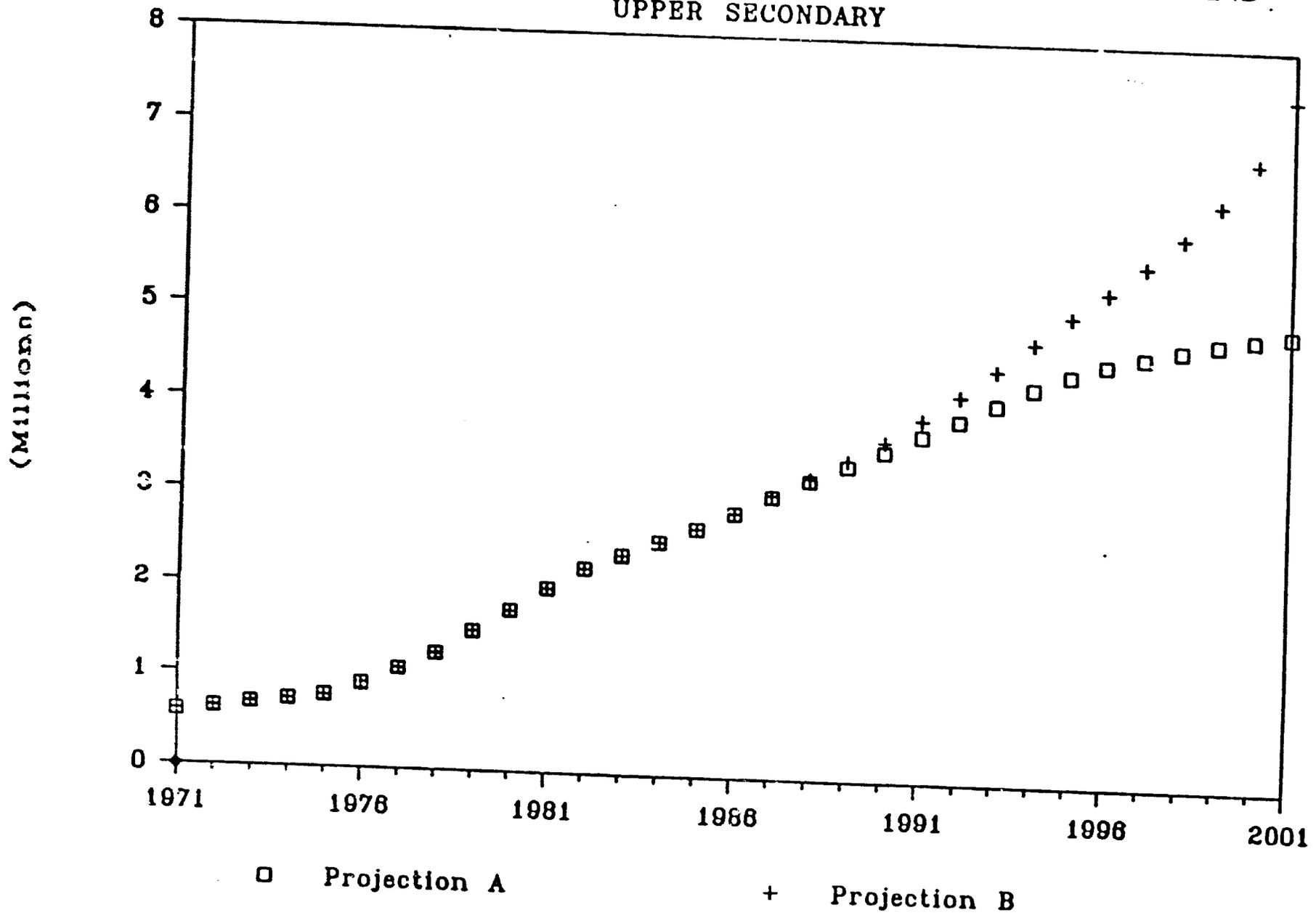


Table 4 and Figure 6 present total educational expenditures (sum of total expenditures in primary and secondary education) under the two projections. Under both projections, the costs rise from Rp.513 billion in 1971 to Rp.1,237 billion by 1976. The first difference does not appear until 1977, the year in which capital expenditures would be spent on children born the first year affected by the program. In each year, the savings achieved as a result of the smaller school-age population is the difference between total expenditures under projection A and projection B, which in 1985 was Rp.764 million. The cumulative savings for the period 1971-2001 are Rp.56 trillion.

V. TOTAL IMPACT ON GOVERNMENT EXPENDITURES

The growth in total government expenditures for health and education with and without the family planning program is shown in Table 5 and Figure 7. The effect of the program is to lower government spending in those two sectors by 9% in 1981, 38% in 1981 and 41% in 2001. Annual total savings amount to Rp.324 billion in 1981, Rp.3.5 trillion in 1991 and Rp.5.2 trillion in 2001. Over the period, the program saves the government an estimated Rp.61 trillion in expenditures.

VI. RETURNS TO THE INVESTMENT IN FAMILY PLANNING PROGRAMS

A logical final step is to compare the costs of the family planning program and savings generated by the program--or costs and benefits--in order to compute the rate of return on public investment in the program. Annual family planning program expenditures for 1971 to 1984 were prepared by BKKBN (Appendix III, Table A-10). They include central government budgets and all foreign donors' contributions. To maintain the current levels of the prevalence rate and birth rate, FPP expenditure is assumed to increase to Rp.100 billion in 2001, from the current level of Rp.66 billion.

In columns 3 and 4 of Table 5 and in Figure 8, annual family planning program expenditures (actual and projected) under projection A are compared with annual savings resulting from the reduced birth rate. In column 5 of Table 5, the net savings in government expenditures are calculated. It is not surprising to observe that in the early years the costs of running the family planning program exceed savings in the health and education sector, since the impact on education expenditures would not even appear until six years after the start of the program. However, the net savings become positive beginning in 1979 and continue to increase at a rapid speed. The projected net savings to the government during the current five year plan period (Repelita IV) increase from Rp.749 billion (in 1984) to over Rp.1.6 trillion (in 1988).

Table 4
Total Education Expenditures*

Year	Projection A (with FPP)	Projection B (without FPP)
1971	513,471	513,471
1972	621,490	621,490
1973	713,493	713,493
1974	809,124	809,124
1975	953,749	953,749
1976	1,236,824	1,236,824
1977	1,495,473	1,507,265
1978	1,585,392	1,592,779
1979	2,025,385	2,060,699
1980	2,382,074	2,468,853
1981	2,859,391	3,097,475
1982	3,214,246	3,456,825
1983	3,677,851	4,193,710
1984	3,998,772	4,658,786
1985	4,333,497	5,097,929
1986	4,565,953	5,521,922
1987	4,806,274	6,068,107
1988	5,038,658	6,536,446
1989	5,256,395	7,159,819
1990	5,477,493	7,967,483
1991	5,496,245	8,805,840
1992	5,627,177	9,144,229
1993	5,759,901	9,492,662
1994	5,938,901	9,912,891
1995	5,779,080	9,697,195
1996	5,929,767	9,910,922
1997	6,110,705	10,421,123
1998	6,308,264	10,844,587
1999	6,556,059	11,195,591
2000	6,825,472	11,474,326
2001	6,963,396	11,856,575

* million rupiahs, in 1984 constant price

FIGURE 6 EDUCATION EXPENDITURE

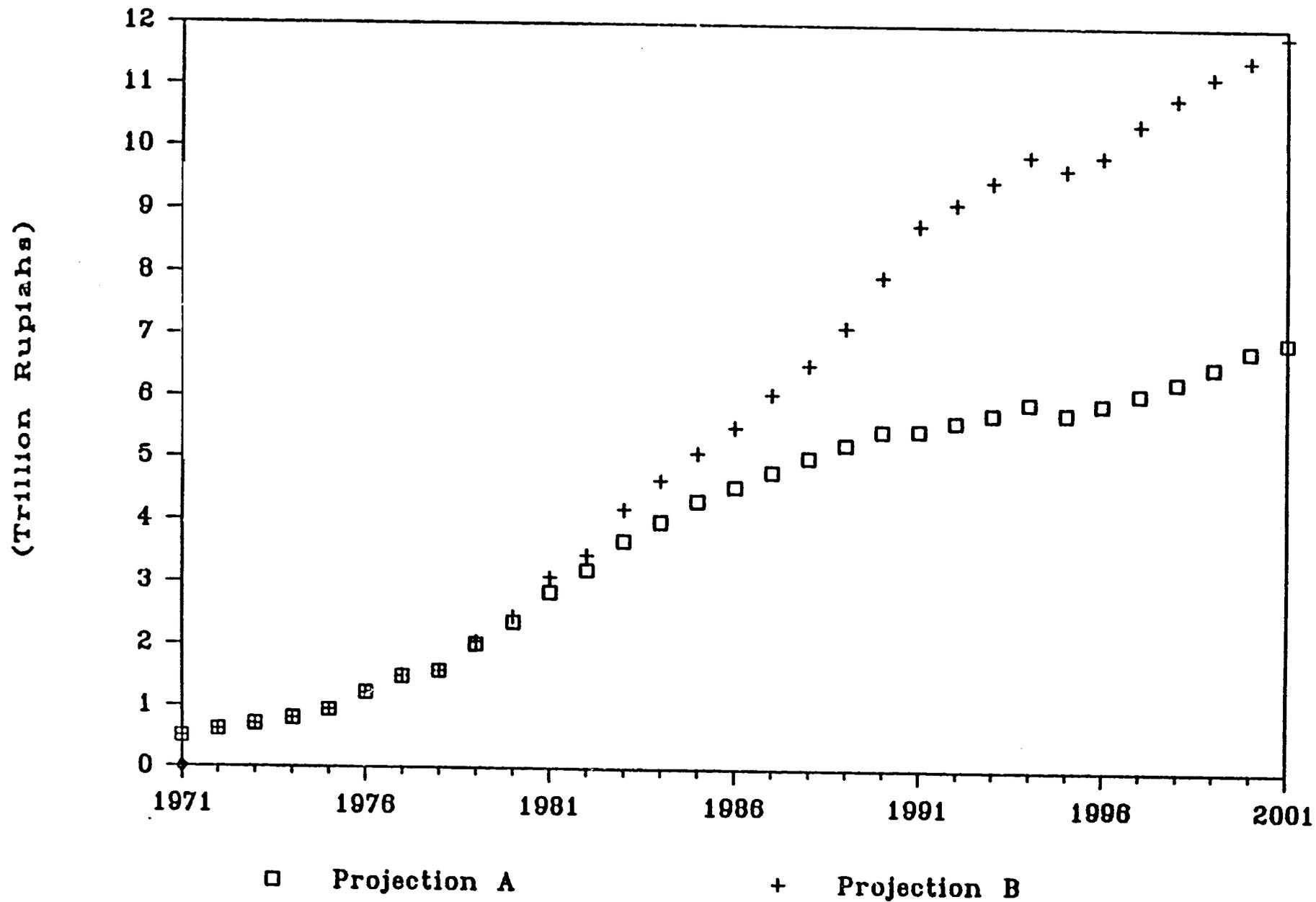


Table 5
Total Savings and Net Savings in Expenditures
Generated by the Family Planning Program^{*}
(Projections A and B)

Year	Total Expenditure Under Projection A (1)	Total Expenditure Under Projection B (2)	Total Savings in Expenditures (3)=(2)-(1)	Family Planning Expenditures (4)	Net Savings in Expenditures (5)=(3)-(4)
1971	606,215	607,007	792	25,021	-24,299
1972	717,511	718,706	1,196	28,470	-27,274
1973	793,485	794,873	1,388	46,383	-44,995
1974	912,917	916,828	3,912	32,732	-28,820
1975	1,130,513	1,141,543	11,030	35,226	-24,196
1976	1,414,390	1,429,386	14,996	41,272	-26,276
1977	1,699,660	1,735,011	35,351	56,505	-21,154
1978	1,783,588	1,817,148	33,560	56,431	-22,871
1979	2,234,776	2,304,320	69,544	60,241	9,303
1980	2,632,313	2,770,006	137,693	76,011	61,682
1981	3,184,656	3,508,922	324,266	81,765	242,501
1982	3,576,108	3,932,175	356,067	80,068	275,999
1983	3,995,254	4,639,022	643,768	69,726	574,042
1984	4,297,309	5,112,762	815,453	66,606	748,847
1985	4,639,941	5,611,672	971,731	68,519	903,212
1986	4,882,359	6,045,104	1,162,745	70,432	1,092,312
1987	5,127,144	6,595,406	1,468,262	72,346	1,395,916
1988	5,364,101	7,067,479	1,703,378	74,259	1,629,118
1989	5,591,810	7,700,817	2,109,007	76,173	2,032,834
1990	5,817,475	8,511,354	2,693,878	78,086	2,615,792
1991	5,841,004	9,365,570	3,524,566	80,000	3,444,566
1992	5,976,765	9,719,741	3,742,977	82,000	3,660,977
1993	6,120,221	10,091,668	3,971,447	84,000	3,887,447
1994	6,304,271	10,528,652	4,224,381	86,000	4,138,381
1995	6,149,733	10,330,395	4,180,663	88,000	4,092,663
1996	6,311,778	10,569,675	4,257,897	90,000	4,167,897
1997	6,498,223	11,098,564	4,600,341	92,000	4,508,341
1998	6,701,525	11,541,574	4,840,049	94,000	4,746,049
1999	6,955,123	11,912,793	4,957,670	96,000	4,861,670
2000	7,236,804	12,220,403	4,983,599	98,000	4,885,599
2001	7,377,217	12,607,878	5,230,661	100,000	5,130,661
TOTAL			61,072,268	2,186,275	58,885,993

* million rupiahs, in 1984 constant price

FIGURE 7 TOTAL EXPENDITURES

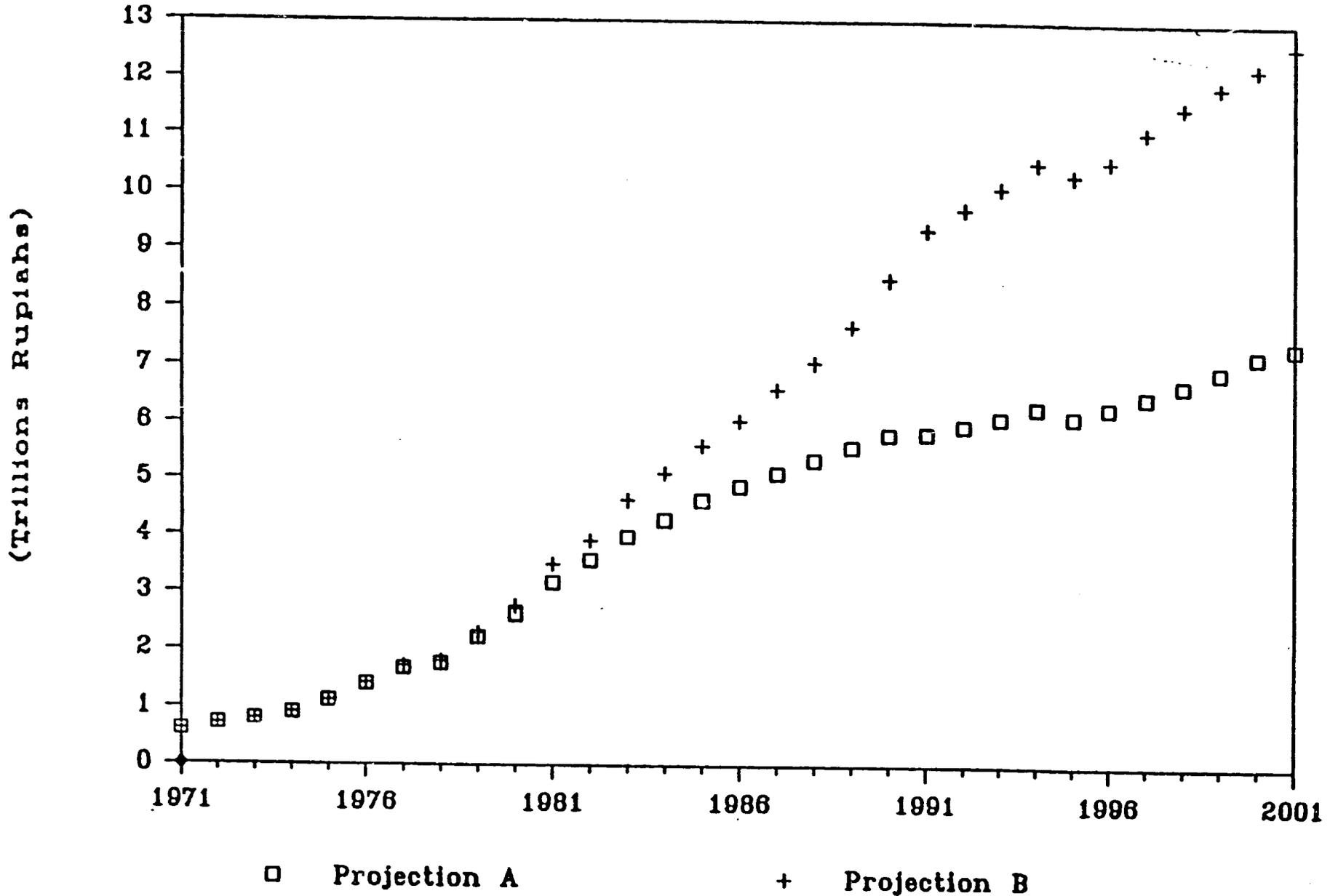
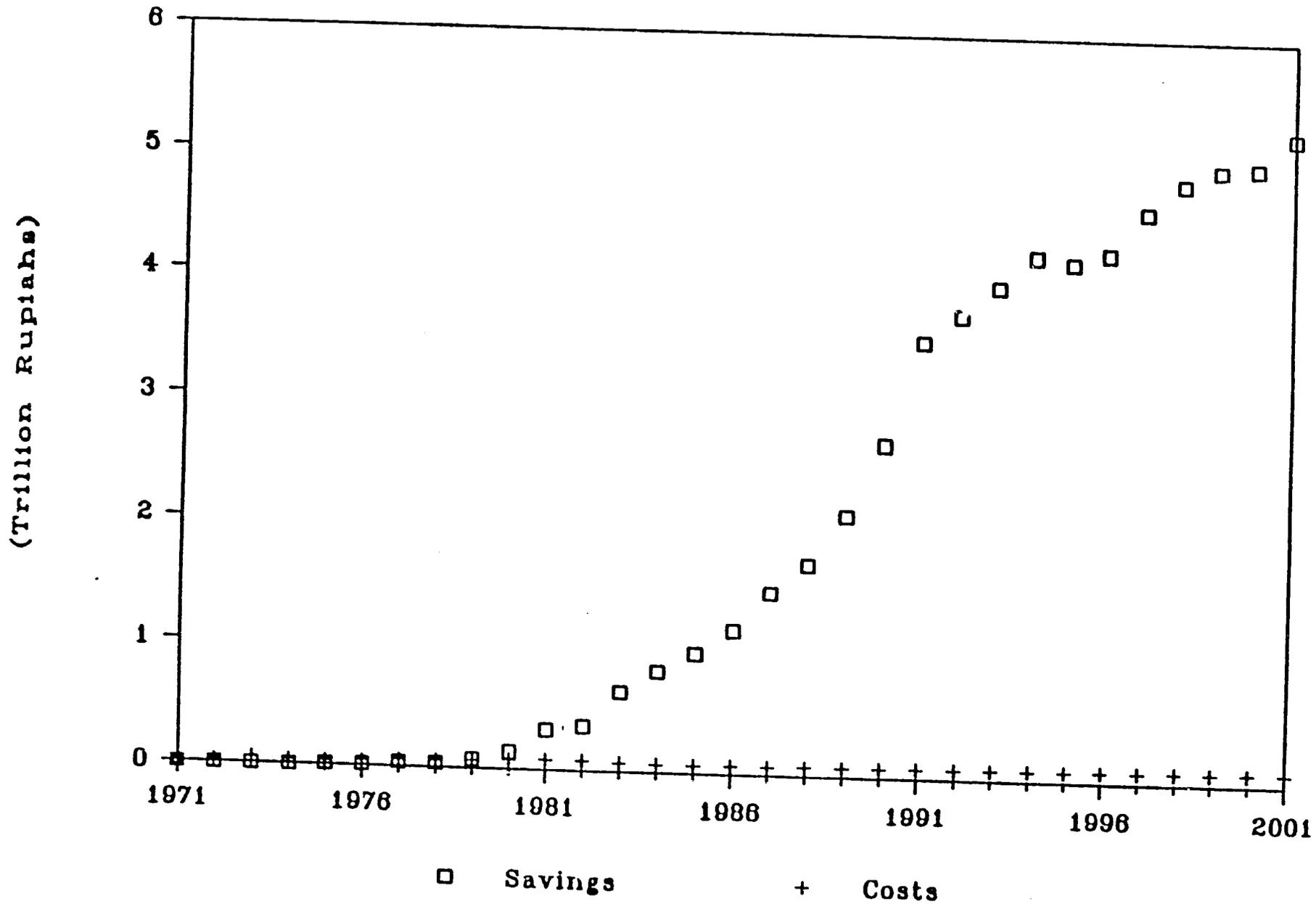


FIGURE 8 COSTS AND BENEFITS OF FPP



Since projected program costs and benefits occur over a period of years, however, it is necessary to adjust for the effect of the passage of time on the value of each. That is, the value of a dollar of cost or benefit is determined by the time at which the cost or benefit occurs. Moreover, costs and benefits occurring far in the future are not as important to us today as are costs and benefits occurring today. If, for example, we could choose to save \$1 million today or 10 years from today, we would choose to save it today, since the money could be invested and would be worth considerably more than \$1 million 10 years from now. Consequently, all costs and benefits occurring in the future must be converted to present values. This is accomplished by use of the discount rate, which may be defined as the rate at which the present value of a dollar declines over time. We convert future costs and benefits to present values by finding the amount today which, if invested at some given rate of compound interest (the discount rate), would yield those future costs and benefits. The appropriate discount rate is not easy to define, since it represents the degree to which society values present consumption versus future consumption. For the current study, four different discount rates are used to calculate the present value in 1971 of costs and benefits of the family planning programs. The results are presented in Table 6. The magnitude of those calculated benefit-cost ratios, between 8.7 and 12.5, suggests that the returns to the public investment in the family planning program in Indonesia are very high.

Instead of being stated in absolute numbers, an internal rate of return can also be calculated from the streams of net savings to measure the overall rate of return to family planning program expenditures. An internal rate of return is defined as the discount rate that would make the present value of all costs equal to the present value of all benefits. It measures the actual rate of return to, or the "profitability" of, total investment in a project over a given period of time. In the present case, the calculated internal rate of return is 40%, which is much higher than that of most ordinary investment projects.

TABLE 6 Benefits-Cost Ratios
(Projections A and B)

Discount Rate (%)	Discounted Benefit (1)	Discounted Cost (2)	Return on Investment (1)/(2)
10	6,429,498	514,068	12.51
11	5,302,119	463,507	11.44
12	4,390,157	420,163	10.45
13	3,649,593	382,790	9.53
14	3,045,912	350,388	8.69

VII. SENSITIVITY ANALYSIS

To check how sensitive the benefit-cost ratios are with respect to the estimated birth rates, particularly those hypothetical rates under the assumption that there was no family planning program, the above analysis was repeated using a different set of birth rates. If the true demographic impact of the FPP is not as large as estimated in Chapter 3, then the hypothetical birth rates under the assumption of no family planning program would be somewhere between the ones used in projection A and projection B and could be represented by the third set of birth rates in Appendix III, Table A-1. Using this new set of birth rates, a third population projection (designated C) was made to present a situation where the effectiveness of the family planning program is more limited. In Table 7, total expenditures in health and education calculated under projection C (column 2) are compared with those under projection A (column 1).

Table 7
Total Savings and Net Savings in Expenditures
Generated by the Family Planning Program*
(Projections A and C)

Year	Total Expenditure Under Projection A (1)	Total Expenditure Under Projection C (2)	Total Savings in Expenditures (3)=(2)-(1)	Family Planning Expenditures (4)	Net Savings in Expenditures (5)=(3)-(4)
1971	606,215	606,691	475	25,021	-24,546
1972	717,511	718,194	683	28,470	-27,787
1973	793,458	794,258	772	46,383	-45,611
1974	912,917	914,880	1,963	32,732	-30,769
1975	1,130,513	1,136,243	5,729	35,266	-29,497
1976	1,414,390	1,422,131	7,741	41,272	-33,531
1977	1,699,660	1,718,794	19,134	56,505	-37,371
1978	1,783,588	1,800,944	17,356	56,431	-39,075
1979	2,234,776	2,271,953	37,177	60,241	-23,064
1980	2,632,313	2,702,360	70,046	76,011	-5,965
1981	3,184,656	3,352,070	167,414	81,765	85,649
1982	3,576,108	3,758,151	182,043	80,068	101,975
1983	3,995,254	4,321,361	326,107	69,726	256,381
1984	4,297,309	4,704,094	406,785	66,606	340,179
1985	4,639,941	5,130,383	490,443	68,519	421,923
1986	4,882,359	5,466,196	583,837	70,432	513,404
1987	5,127,144	5,861,374	734,230	72,346	661,884
1988	5,364,101	6,208,234	844,132	74,259	769,873
1989	5,591,810	6,634,797	1,042,987	76,173	966,814
1990	5,817,475	7,142,743	1,325,267	78,086	1,247,181
1991	5,841,004	7,566,733	1,725,728	80,000	1,645,728
1992	5,976,765	7,802,887	1,826,122	82,000	1,744,122
1993	6,120,221	8,049,031	1,928,810	84,000	1,844,810
1994	6,304,271	8,343,919	2,039,648	86,000	1,953,648
1995	6,149,733	8,157,324	2,007,591	88,000	1,919,591
1996	6,311,778	8,349,030	2,037,252	90,000	1,947,252
1997	6,498,223	8,692,034	2,193,811	92,000	2,101,811
1998	6,701,525	8,998,674	2,297,149	94,000	2,203,149
1999	6,955,123	9,294,071	2,338,948	96,000	2,242,948
2000	7,236,804	9,575,617	2,338,813	98,000	2,240,813
2001	7,377,217	9,828,630	2,451,413	100,000	2,351,413
TOTAL			29,449,607	2,186,275	27,263,332

* million rupiahs, in 1984 constant price

Under projection C, both gross and net savings in government expenditures resulting from the family planning program are smaller. Also the net savings do not become positive until 1981. However, the calculated impact of the family planning program on government expenditures under this more conservative assumption is still considerable. The internal rate of return (31% under projection C) is less affected by the change in birth rates than are the benefit-cost ratios (Table 8), but both are still very significant.

TABLE 8

Benefit-Cost Ratios (Projections A and C)

Discount Rate (%)	Discounted Benefit (1)	Discounted Cost (2)	Return on Investment (1)/(2)
10	3,270,949	519,277	6.30
11	2,691,662	467,443	5.76
12	2,224,471	423,143	5.26
13	1,846,135	385,053	4.79
14	1,538,512	352,109	4.37

III. FURTHER DISCUSSION AND CONCLUSION

A few words of caution may be necessary here. Since the analysis was based on estimation of births averted utilizing BKKBN service statistics only, it is subject to possible over-estimation of the demographic and expenditure impacts of the family planning program. On the other hand, the sensitivity analysis above shows that even if the effectiveness of the family planning program were considerably less than the estimate based on family planning service statistics, the direction and rough magnitudes of estimated returns to FPP expenditures and the basic conclusion about the program's economic value are not substantially altered. It also should be pointed out that family planning program expenditures presented here do not include local contributions to the program or any indirect costs of the program, and this could lead to under-estimation of the total cost of the program. But once again, because of the relative sizes of the family planning program expenditures and total savings in government expenditures, even if the cost of the program were substantially larger, it is unlikely that any of the previous results would be seriously altered.

Overall, the estimated large benefit-cost ratios and the high internal rate of return for the Indonesian family planning program make investment in the program an extremely effective way of reducing government expenditures in the health and education sectors. These findings reveal the amount of additional resources that would have been required to maintain the quality of service in the health and education sectors had the family planning program never existed. These findings can also be interpreted as indicating the levels of savings generated by the program in the health and education sectors that could be used to improve the quality of services in those sectors.

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APPENDICES I, II AND III

APPENDIX I

Bongaarts' Method for the Total Fertility Rate:

Another approach to estimating the fertility reduction produced by a rise in contraceptive prevalence has been invented by Bongaarts.^{10*} This method makes many assumptions, but most of them are supported by the cross-country comparisons that Bongaarts has made. An individual country such as Indonesia may depart from the general trend, but the final result is insensitive to certain assumptions. In any case, the method is as well grounded as most others for analyzing change within one country, and it deserves use here in addition to the other approaches employed.

If one knows the total prevalence level (all methods) at two dates and the contraceptive effectiveness of the overall method mix at each of the two dates, then the proportionate fall in the total fertility rate can be calculated. A simplification is to assume that overall contraceptive effectiveness (a measure of the failure rate) did not change between the two dates, and this seems justified here (below).

We apply this method now to the March 1980-March 1984 period, when prevalence was reported as 29.2% and 59.6% respectively. However, the Bongaarts method is meant to use an estimate of prevalence that is free of the errors recognized above as supply wastage (not so for use wastage errors), estimated roughly at 10-15%. With the 10% discount, 1980 prevalence is 0.263, not 0.292, and 1984 prevalence is 0.536, not 0.596. With the 15% discount, the figures are 0.248 and 0.507.

The basic equation is:

$$\frac{TFR_2}{TFR_1} = \frac{1 - 1.08 \times u_2 e}{1 - 1.08 \times u_1 e} \quad (1)$$

where TFR_1 and TFR_2 = the total fertility rate at the first and second dates

u_1 and u_2 = prevalence at the first and second dates

e = contraceptive effectiveness (same at the first and second dates)

* All references cited in this appendix appear with references at the end of Chapter 3.

The "e" value is a weighted average. It is based upon the "e" value for each contraceptive method times its share of all prevalence. The following standard "e" values taken from Bongaarts appear entirely reasonable for Indonesia:

	<u>Use Effectiveness</u>
Sterilization	1.00
IUD	0.95
Pill	0.90
Injectable*	0.90
Other (condom)	0.70

Multiplying these values times the method mix gives 0.906 as the overall result.

	<u>Method Mix</u>	
	<u>Sept. 79</u>	<u>Sept. 83</u>
Sterilization	2.4%	3.2%
IUD	30.2%	27.5%
Pill	62.0%	55.0%
Injectable	0.2%	9.3%
Condom	5.1%	4.9%
	<u>99.9%</u>	<u>99.9%</u>
	e = .906	e = 0.906

The "e" value appears to have been quite stable over the last few years, partly because the pill and injectable are given the same "e" values, and their combined share has stayed the same at about 62-64%.

Returning then to equation (1), and substituting for the 10% discount figures,

$$\begin{aligned} e &= 0.906 \\ u &= 0.263 \\ u &= 0.536 \end{aligned}$$

$$\frac{TFR_2}{TFR_1} = \frac{1 - (1.08)(0.536)(0.906)}{1 - (1.08)(0.263)(0.906)} = \frac{0.476}{0.743} = 0.640$$

* Value not given by Bongaarts. It is here set equal to the pill, although it should probably be higher, given its automatic protection during each three month period. The pill is only 0.90, apparently because even though it gives nearly perfect protection when used correctly, in practice it suffers from improper use that leads to accidental pregnancies. Fortunately, the end result of the calculation being done here is not very sensitive to errors in the "e" values.

Thus the prevalence rise, with 10% discounts, implies a reduction of the TFR to 64% of its 1980 value, or a 36% fall. With the 15% discount the result is 33%. Taking the 1980 TFR as 4.6,* the decline would have been to 2.94 (10% discount) or to 3.06 (15% discount). For convenience we will simply use 3.0 as the implied 1984 TFR, a value that falls midway between the 2.94 and 3.06. A TFR this low seems unlikely but that is what the service statistics imply, in combination with Bongaarts' method. As noted above, the spring 1985 independent registration (annual mini-census) count of program users may provide a correction factor. By linear interpolation (although more of the decline has come toward the end of the period) the trend is as follows:

	<u>TFR</u>
1980	4.60
1981	4.20
1982	3.80
1983	3.40
1984	3.00

At some point the decline would of course level off, even though reported prevalence has been rising at an accelerating rate in the last two years.

* Regarding the best estimate of TFR in 1980, McNicoll and Singarimbun¹ conclude as follows, after a close and extensive review of numerous data sets and estimates by others, and after subjecting their work to consistency checks among various fertility determinants in the Bongaarts scheme.

The TFR was most probably 4.6 in 1980 (perhaps lower). It was most probably 5.1 in 1975 and 5.5 in 1970. Thus it fell by about one child between the late 1960s and 1980. Of all determinants, increased use of modern contraception was the dominant factor: "by itself it would have cut total fertility by 1.5-2 (children)" but part of this was cancelled by other influences tending to slow the downward trend in the total fertility rate. Note that this comment refers to the effect of increases in all contraception, in both private and public sectors; however, most of it was program supplied.

(The World Bank Development Report (1984) puts the TFR at 4.5 in 1980 and 4.3 in 1982, which is partial corroboration that the 4.6 used here is not too low.)

To review, the Bongaarts calculation is based on his finding that variation in fertility (ignoring age distribution changes) is due principally to differences in marriage patterns, contraceptive prevalence, effectiveness levels, induced abortion practices, and postpartum infecundability (largely reflecting breastfeeding but sometimes postpartum abstinence). The method as used here assumes that induced abortion has either a trivial effect or that its effect does not change during the period. Contraceptive use effectiveness remains the same during the period. The effects of rises in the marriage age are considered to cancel reductions in breastfeeding (or postpartum abstinence). Bongaarts and Kirmeyer¹¹ have found this to be the case for a variety of countries, and McNicoll and Singarimbun¹ (p.81) calculate that the product of the indices for the two factors (which is the relevant statistic in the Bongaarts equations), probably rose by only 4% in the 1970-1975 period and by only 2% in the 1975-1980 period. It is therefore considered safe to neglect it in the 1980-1985 period.

For the 1980-1984 period the Bongaarts method gives a 33-36% reduction in the total fertility rate. The quite different method used in the main text gives a 20% reduction in the crude birth rate.* The discrepancy no doubt reflects methodological differences and data errors as well as a possible role by the age distribution, but either result is quite favorable to the program, if the 1984 prevalence figure is accepted.

* From Table 9. The difference between the actual rate and the hypothetical (no program) rate was 13.2 in 1984, but it was already 6.3 in 1980. Removing the initial inequality leaves a 6.9 net program contribution which, against the 34.0 value for 1980, is 20%.

APPENDIX II

As noted in the text, the data given here were provided by the Department of Demography, Research School of Social Sciences, Australian National University, courtesy of Dr. Terry Hull and Ms. Lulu D. Bost. The service statistics information originated with BKKBN, and was subjected to various corrections and adjustments, including the recognition of late reports in the yearly (not monthly) new acceptor totals. The data were then produced in the convenient formats shown, for the needs of the analyses in this document.

It is important to note that these tables represent a significant new resource as they arrange the full data set more usefully than ever before. Individual items from the separate monthly service statistics reports are extracted and re-compiled to show time trends and areal comparisons directly.

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I. Numbers of Married Women Aged 15-44:

1. By Province by September of Each Year 1975-1984.
2. By Province by March of Each Year 1972-1984.

II. Numbers of New Acceptors:

3. By Three Provincial Groups by Month, 1972-1984
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IV. Information by Contraceptive Method:
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- | | |
|---|-------|
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Using Contraceptives by Method: Indonesia, 1980-84 | Graph |
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TABLE 1
ESTIMATED NUMBER OF MARRIED WOMEN AGED 15-64 BY PROVINCES: SEPTEMBER 1975 - SEPTEMBER 1984

Province	September										
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	
Java-Bali											
BKI Jakarta	824519	854891	886060	918345	951868	986551	1022520	1059800	1098460	1138688	
West Java	4076314	4172663	4271287	4372242	4475584	4581368	4689652	4800499	4913959	5030105	
Central Java	3261400	3358148	3457082	3502611	3550741	3599480	3648836	3698817	3749430	3800684	
DI Yogyakarta	156551	158113	160498	163076	165728	168492	171272	174062	176867	179686	
East Java	4532399	4557260	4605498	4651519	4701350	4755489	4810524	4876478	5043392	5111078	
Bali	331039	337353	343789	350344	357026	363835	370773	377848	385053	392399	
Total	13783426	14025528	14272542	14524583	14781767	15044212	15312048	15585397	15864391	16149166	
Outer Islands I											
DI Aceh	360310	367554	354251	367505	370221	378101	386148	394367	402760	411332	
North Sumatra	974393	998270	1021662	1048229	1076446	1101108	1128432	1156434	1185131	1214320	
West Sumatra	418195	426561	431145	441929	452394	460024	469349	478863	488569	498471	
South Sumatra	580393	597309	618055	634879	652394	674248	694939	718058	737926	760461	
Lampung	376507	605151	632216	666775	699907	734674	771174	809488	849705	891920	
West Nusa Tenggara	355354	371769	377780	383398	390095	396402	402810	409323	415941	422666	
West Kalimantan	330683	339189	347914	356864	366043	375459	385117	395024	405185	415608	
South Kalimantan	296617	300626	306967	313441	320052	326802	333594	340732	347919	355657	
North Sulawesi	255144	253084	261280	269742	278478	287492	296809	306421	316345	326590	
South Sulawesi	803104	810582	818332	826054	833849	841717	849659	857677	865770	873939	
Total	4925318	5048574	5174693	5304503	5438237	5576032	5718030	5864387	6015251	6170786	
Outer Islands II											
Riau					311229	321278	333650	344354	355402	366805	
Jambi					221556	230250	239177	248450	258083	268090	
Bengkulu					110130	115499	121025	126870	132998	139421	
East Nusa Tenggara					338049	342126	346232	350427	354653	358930	
Central Kalimantan					139931	144814	149868	155098	160511	166113	
East Kalimantan					174850	184092	191922	204067	214853	229209	
Central Sulawesi					176445	183426	190251	197333	204677	212295	
Southeast Sulawesi					133493	137533	141754	146076	150528	155113	
Maluku					182039	188495	195181	202103	209271	216693	
Total					1790224	1849493	1910984	1974778	2040976	2109671	
Indonesia	18709742	19074202	19447235	19829084	22010228	22469737	22941062	23424562	23920618	24429623	

Notes: Calculated from the 1971 Census (Series E, SPS) and the 1980 Census (Series S, SPS) using geometric interpolation with the formula $P_t = P_0 e^{rt}$ where P_t = population at year t ; P_0 = population at year of the date of the previous census; r = growth rate; t = number of years between year t and year 0. Irian Jaya not included because rural data not available in the 1971 Census. East Timor not covered in the 1971 Census.

TABLE 2
ESTIMATED NUMBER OF MARRIED WOMEN AGED 15-64 BY PROVINCE: MARCH 1972 - MARCH 1984

Province	March												
	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Java-Bali													
BKI Jakarta	727456	754185	781482	810182	839720	870336	902068	936956	969044	1004375	1040993	1078947	1118288
West Java	3326286	3465069	3595950	3728983	3864208	3991287	4121770	4253311	4329167	4635196	4744750	4852896	4971093
Central Java	3504097	3568667	3593362	3638846	3684901	3731241	3778772	3826600	3875014	3924080	3971748	4021047	4074877
DI Yogyakarta	349087	351206	353333	355475	357631	359799	361981	364175	366383	368603	370840	373088	375350
East Java	4324166	4384291	4443314	4502328	4561328	4620319	4679281	4738216	4797136	4856043	4914940	4973828	5032706
Bali	309858	315767	321670	327572	333471	339368	345263	351156	357047	362936	368823	374708	380591
Total	12973150	13198925	13429233	13664180	13903859	14168415	14397928	14632523	14912324	15177450	15468025	15724180	16006068
Outer Islands I													
DI Aceh				334744	343913	351233	359708	366343	374140	382103	390236	398561	407026
North Sumatra				967232	986110	1010580	1031558	1051352	1057625	1114486	1142347	1170896	1199765
West Sumatra				411952	420302	428832	437514	446383	455431	464666	474083	483692	493496
South Sumatra				571453	588886	602352	625401	644503	664182	684666	705389	726910	749109
Lampung				562700	590656	620001	650804	683137	717077	752703	790099	829353	870557
West Nusa Tenggara				362932	363800	374753	380822	386979	393235	399593	406054	412619	419290
West Kalimantan				325510	334909	343524	352341	361424	370772	380258	390039	400072	410363
South Kalimantan				291560	297506	303780	310187	316729	323409	330230	337195	344307	351569
North Sulawesi				261258	268035	274769	281477	288176	294872	301576	308283	314993	321707
South Sulawesi				799362	806855	814498	822184	829942	837773	845679	853658	861714	869865
Total			6866675	6987066	7111218	7239116	7370359	7506616	7646697	7790655	7939265	8092425	8249225
Outer Islands II													
DI Irian													
Jambi													
Bengkulu													
East Nusa Tenggara								318214	328623	338960	349835	361059	
Central Kalimantan								225912	232671	243770	253221	263039	
East Kalimantan								112753	118204	123913	129498	134722	
Central Sulawesi								340081	346182	348333	352534	356785	
Southeast Sulawesi								142351	147319	152461	157782	163288	
Maluku								179412	188596	198879	209390	220288	
Total								180105	188508	193761	200672	208451	
								135516	139466	143900	148285	152801	
								185239	191809	198412	205656	212949	
Indonesia	12973150	13198925	13429233	13664655	13890915	14259633	14637066	20023392	22235526	22703901	23181269	23670998	24173678

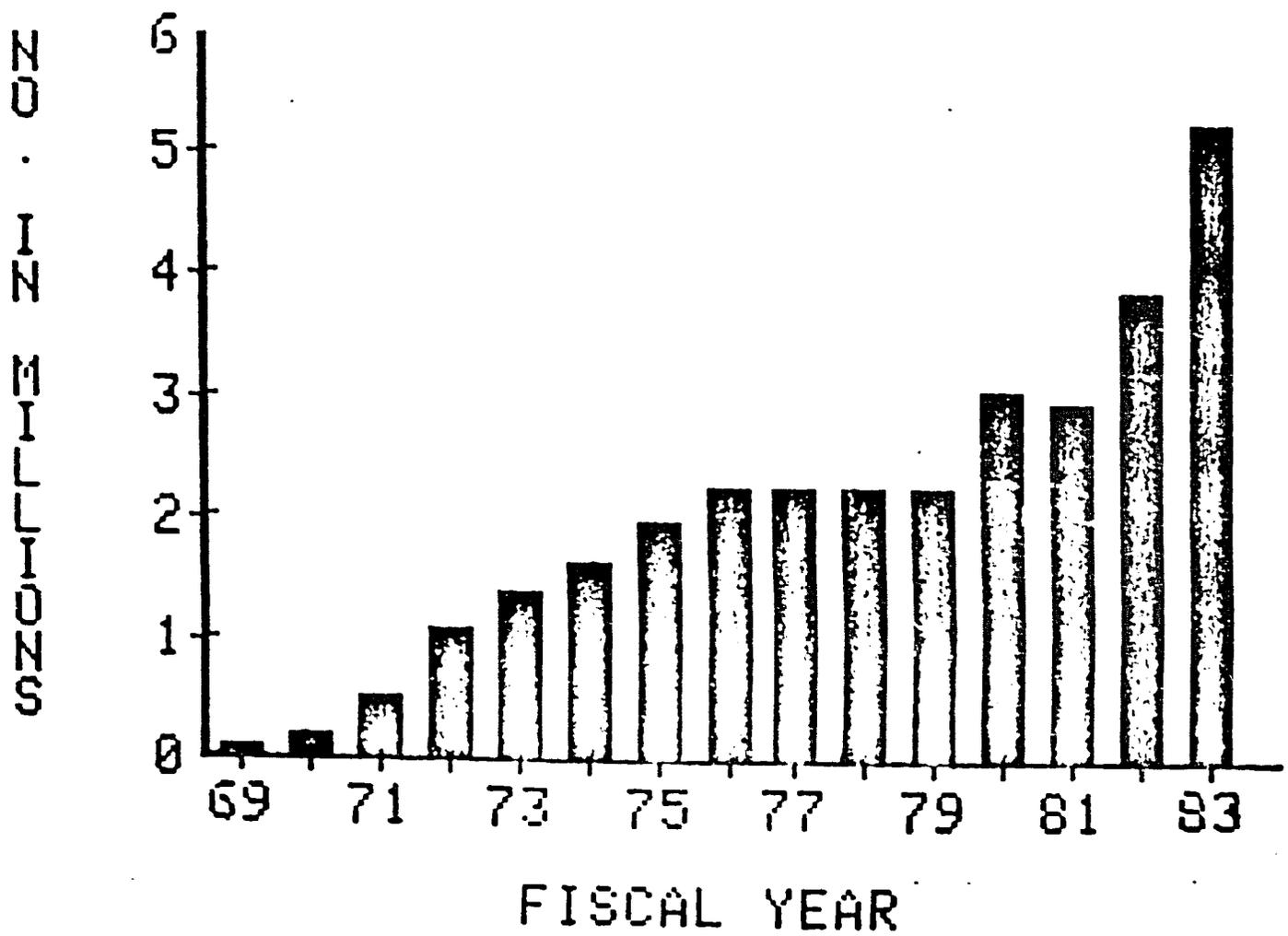
Notes: Calculated from the 1971 Census (Series E, BPS) and the 1980 Census (Series S, BPS) using geometric interpolation with the formula: $P_t = P_0 e^{rt}$ where P_t = population at year t ; P_0 = population at year 0; the data for the previous census; r = growth rate; t = number of years between year t and year 0.
Irian Jaya not included because rural data not available in the 1971 Census; East Timor not covered in the 1971 Census.

TABIZ 4. NEW ACCEPTORS BY PROVINCE AND ISLAND GROUP FISCAL YEAR 1969/70-1983/84

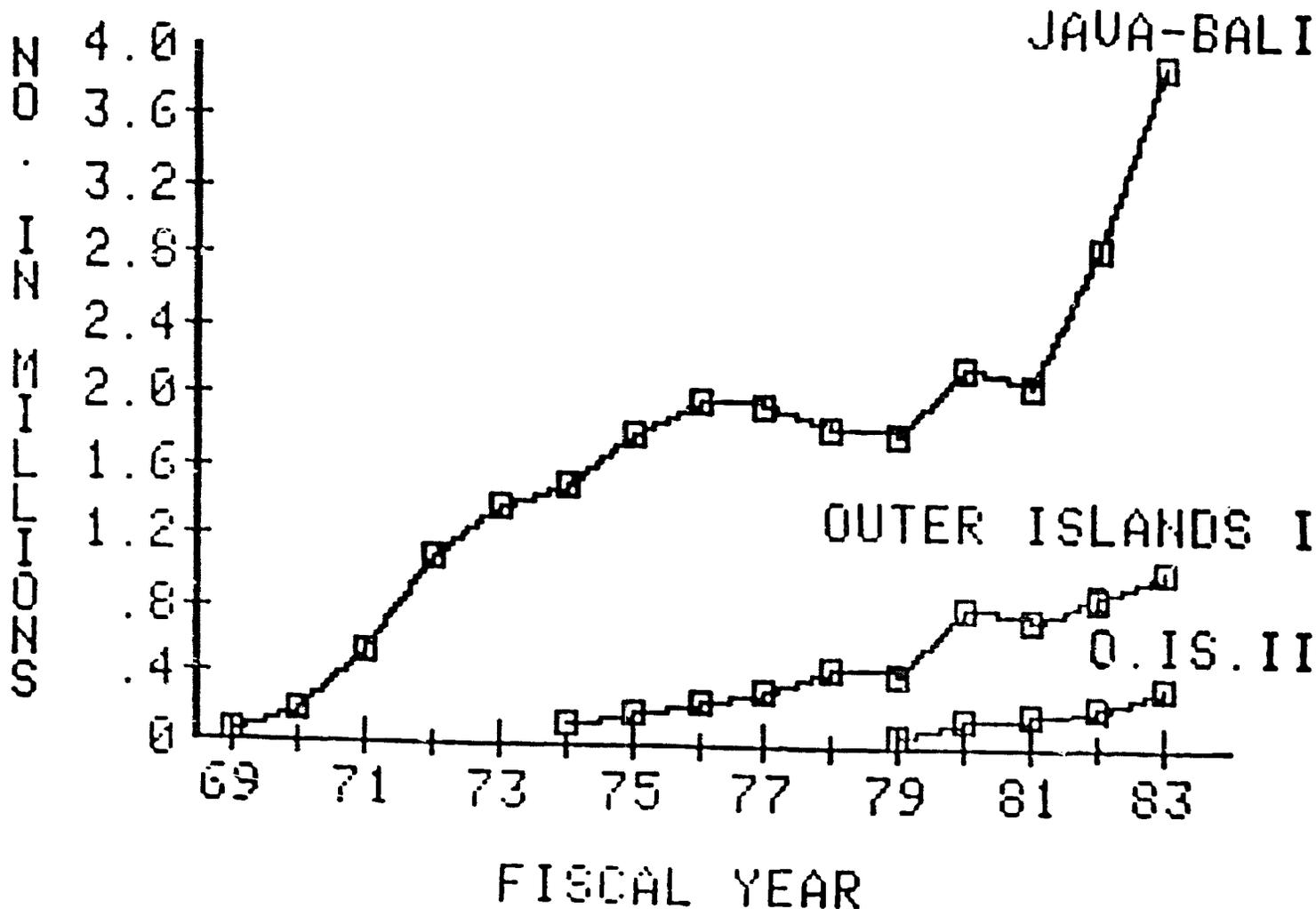
Provincial Island Group	Fiscal Year															
	1969/ 1970	1970/ 1971	1971/ 1972	1972/ 1973	1973/ 1974	1974/ 1975	1975/ 1976	1976/ 1977	1977/ 1978	1978/ 1979	1979/ 1980	1980/ 1981	1981/ 1982	1982/ 1983	1983/ 1984	
Java-Bali																
DKI Jakarta	18832	25141	34933	61256	77741	89771	107878	128876	124618	128666	125795	167644	181947	234633	328764	
West Java	7124	42321	98298	185633	259198	289813	423284	597443	642573	585773	532946	626208	596654	1002244	1531175	
Central Java	7301	28633	107741	228452	298223	337142	515108	534712	540923	531333	576408	770439	667795	863332	1060068	
DI Yogyakarta	3478	6637	19088	28347	50914	48251	45684	52942	62996	59191	52697	68423	53283	52722	56726	
East Java	12739	65344	232482	324648	642305	653763	648885	628925	519528	447618	442621	470872	528725	622619	856974	
Bali	3629	12963	23796	49339	48794	45876	45137	45447	45834	44873	42687	42624	46325	50148	51481	
Total	53183	181039	519338	1078889	1369877	1475016	1785988	1979445	1934886	1797656	1772174	2145482	2075029	2823938	2895120	
Outer Islands I																
DI Aceh						6738	10038	11647	12591	13373	15479	41273	32392	41216	57488	
North Sumatra						26368	48334	56377	68507	88199	91919	208820	137447	218745	227849	
West Sumatra						7848	13501	18967	24438	44865	32783	62591	18473	62733	86138	
South Sumatra						13964	17187	20549	24957	26581	27171	66483	71990	99247	133183	
Lampung						9196	14375	21431	28376	66328	57654	77586	72809	103970	142762	
West Nusa Tenggara						6324	6934	15216	21146	36378	34598	64939	73313	67214	60384	
West Kalimantan						6330	7910	10346	17568	21373	16387	49313	42894	54495	67261	
South Kalimantan						5482	10113	12743	27689	24784	22297	44783	49293	42483	49685	
North Sulawesi						13382	24141	28812	36224	39097	37156	52740	48328	44827	69329	
South Sulawesi						21783	36024	36037	42172	56998	54638	100342	122947	114746	115283	
Total						117875	180677	233345	313462	418228	400912	768992	717090	851598	1009832	
Outer Islands II																
Bian												4843	23884	23728	25776	43893
Jaohi												8076	15614	22158	34377	34410
Bonpoin												8736	29836	15492	19442	30381
East Nusa Tenggara												5097	19145	21874	27929	32684
Central Kalimantan												6813	9683	22290	29276	27624
East Kalimantan												8379	15634	29670	25610	31096
Central Sulawesi												6731	12330	17189	21370	20141
Southeast Sulawesi												2881	6789	10526	1473	2922
Raiutan												3761	8949	11093	11509	27682
Irian Jaya												2108	2679	7461	10048	12648
East Timor												118	863	2233	2838	4249
Total												56785	126850	174778	207940	341212
Indonesia	53183	181039	519338	1078889	1369877	1592891	1966583	2212798	2248468	2212884	2229791	2051244	2966897	2885476	3246184	

Sources: Data before 1975/76 from "Data Statistik Program Nasional Keluarga Berencana Nasional Politika I & II"; data from 1975/76 onwards from BKKBN Monthly Statistical Summaries.

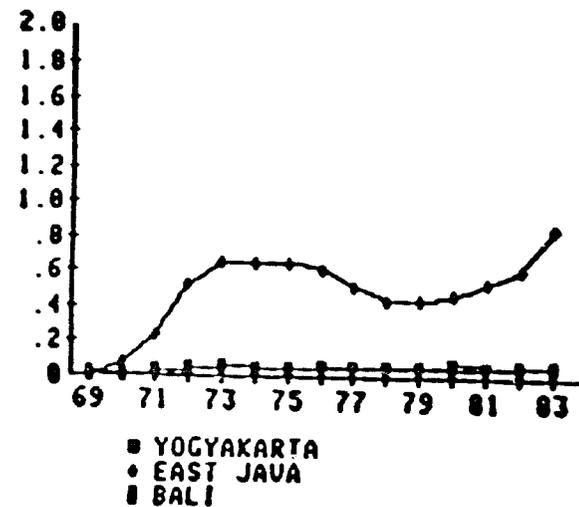
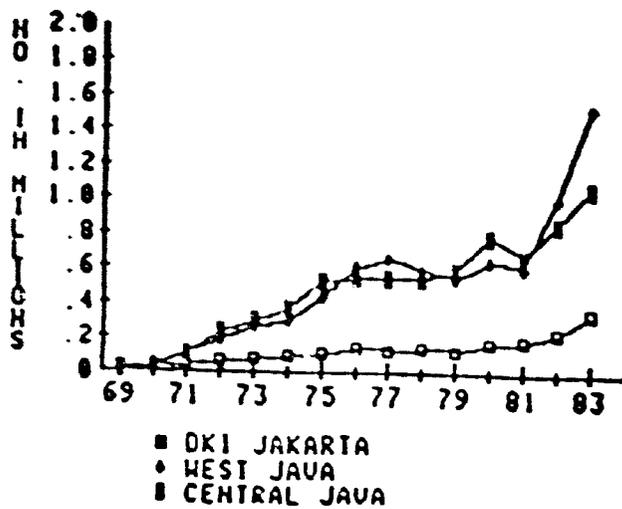
**NUMBER OF NEH ACCEPTORS:
INDONESIA, FISCAL YEAR 1969/70-1983/84**



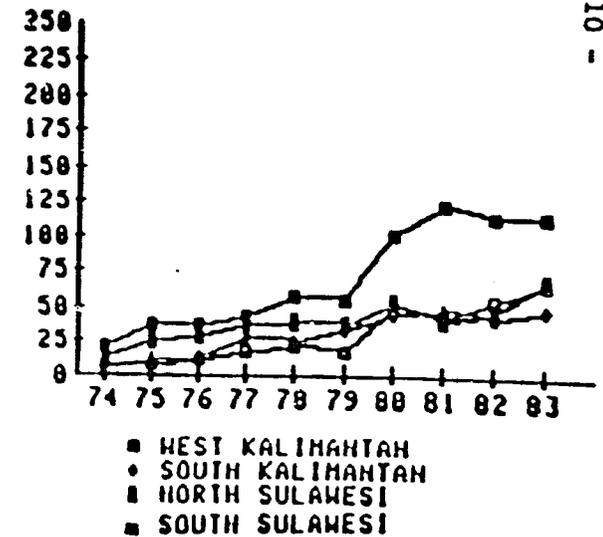
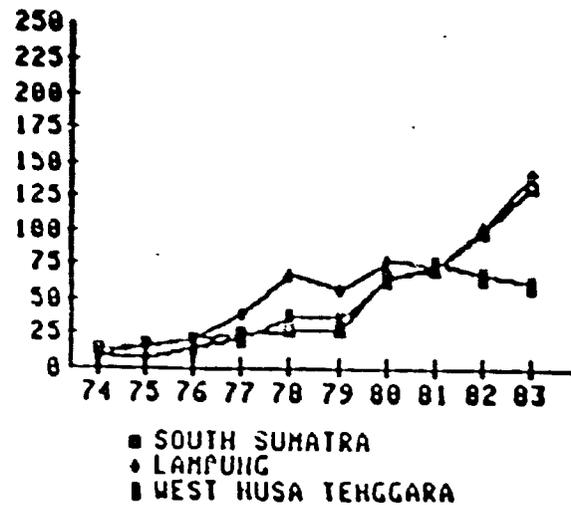
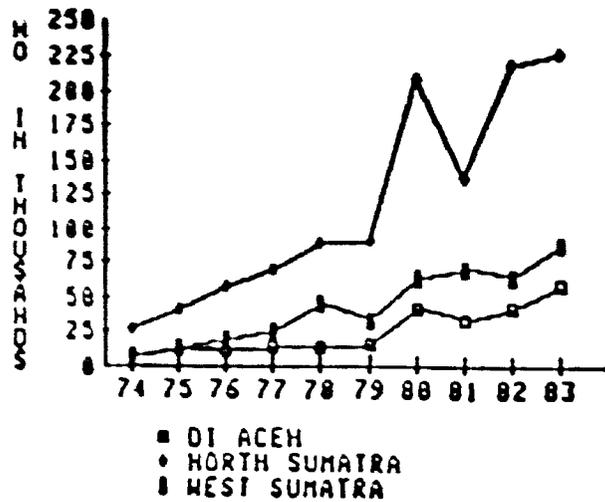
**NEW ACCEPTORS BY ISLAND GROUP:
INDONESIA, FISCAL YEAR 1969/70-1983/84**



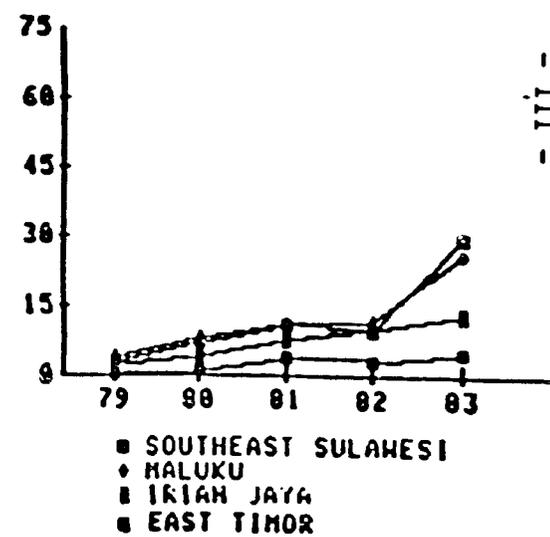
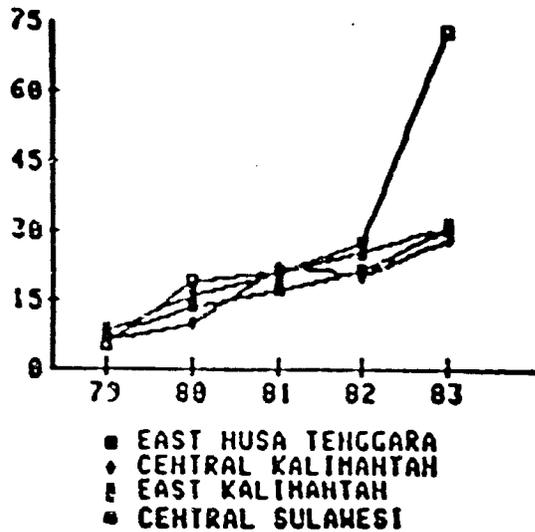
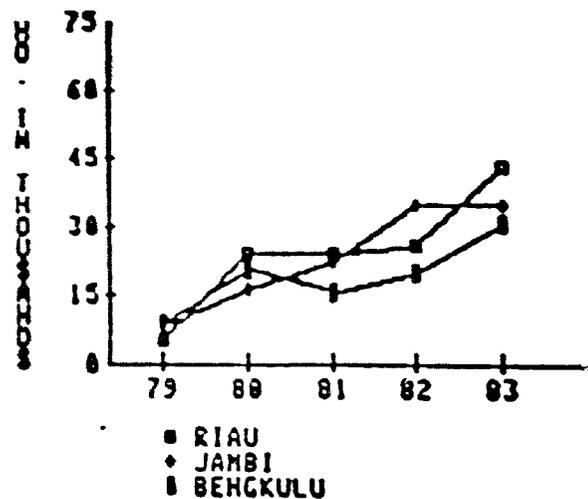
NUMBER OF NEH ACCEPTORS BY PROVINCE: JAVA-BALI, FISCAL YEAR 1969/70-1983/84



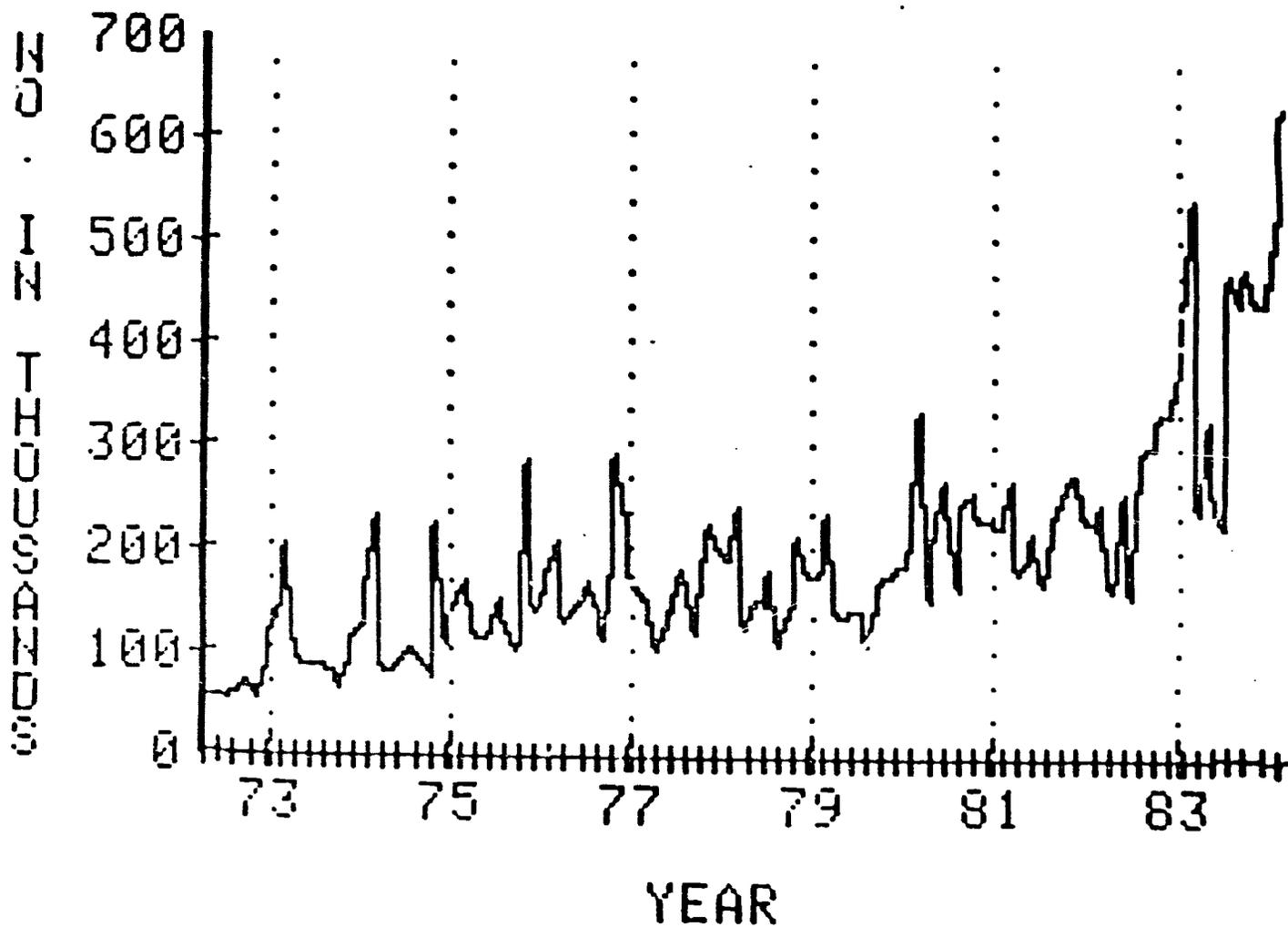
NUMBER OF NEW ACCEPTORS BY PROVINCE, OUTER ISLANDS I, FISCAL YEAR 1974/75-1983/84



NUMBER OF NEW ACCEPTORS BY PROVINCE, OUTER ISLANDS II, FISCAL YEAR 1979/80-1983/84



NUMBER OF NEW ACCEPTORS INDONESIA, APRIL 1972 - MARCH 1984



NEH ACCEPTORS BY ISLAND GROUP: INDONESIA, APRIL 1972 - MARCH 1984

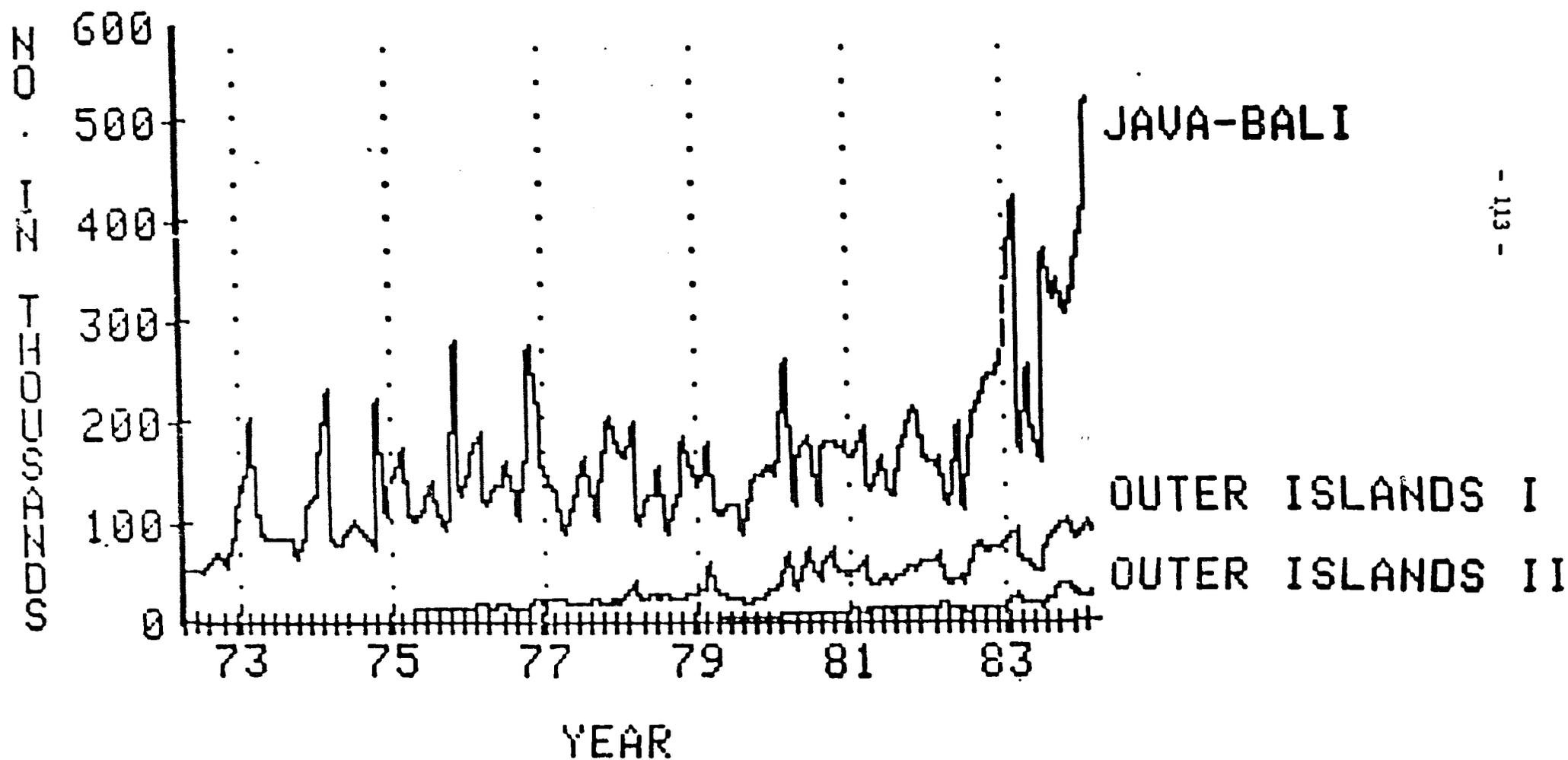


TABLE 5
CONTRACEPTIVE USERS BY PROVINCES: SEPTEMBER 1975 - SEPTEMBER 1984

Province	September									
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Java-Bali										
DKI Jakarta	98336	116238	152769	153960	173913	200958	242400	336927	474074	602861
West Java	413816	618111	752724	825349	878666	1009011	1162921	1458628	2107733	2870181
Central Java	315923	400322	472726	492591	507632	577754	623846	664553	799430	881973
DI Yogyakarta	37458	58113	88212	99811	104618	121059	14459	273926	490939	678900
East Java	1072248	1401109	1584345	1778813	2104716	2402319	2838459	2930289	3301738	363456
Bali	84947	113981	135417	145335	162831	188645	210933	245653	276230	300640
Total	2253081	2980581	3521236	3861422	4783666	5602927	6518668	7191599	9050114	10766916
Outer Islands I										
DI Aceh	7120	11387	19273	18402	21267	31635	50975	70207	133943	161055
North Sumatra	24983	42217	52725	85462	102729	170005	214131	426288	593511	695822
West Sumatra	18314	18717	24245	35477	45979	84979	124174	151899	196518	249605
South Sumatra	11149	18124	23811	31877	37411	52139	68337	148864	266433	337132
Langkat	11149	18124	23811	31877	37411	52139	68337	148864	266433	337132
West Nusa Tenggara	5027	15320	23221	31877	37411	52139	68337	148864	266433	337132
West Kalimantan	5167	16320	23221	31877	37411	52139	68337	148864	266433	337132
South Kalimantan	4876	16320	23221	31877	37411	52139	68337	148864	266433	337132
North Sulawesi	14387	31889	41981	55124	72403	94004	121575	103648	141809	198372
South Sulawesi	15462	20352	26372	38836	57403	76311	101575	119326	179550	208846
Total	119655	215166	264837	426581	515592	893043	1134700	1857881	2633057	3101354
Outer Islands II										
Sumatra					7897	11207	27137	34768	50379	67364
Jambi					8436	9469	18111	43713	52652	73956
Bengkulu					3127	16879	29030	33223	33902	61858
East Nusa Tenggara					1922	9488	23620	27455	32762	69688
Central Kalimantan					2722	7093	10560	15131	30176	41888
East Kalimantan					2209	12193	2276	15131	39700	55167
Central Sulawesi					2209	7363	15091	25549	41472	58851
South East Sulawesi					1890	4524	10577	17872	20180	42626
Maluku					1890	4524	10577	17872	20180	42626
Irian Jaya					1890	4524	10577	17872	20180	42626
East Timor					1890	4524	10577	17872	20180	42626
Total					31921	83479	171410	258864	378371	526992
Indonesia	2376738	3215927	3884071	4388003	5330997	6781449	7844778	9306344	12061542	14395262

Source: BKKBN Monthly Statistical Summaries

TABLE 6. CONTRACEPTIVE USERS BY PROVINCE: MARCH 1972 - MARCH 1984

Province	March												
	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
JAVA-BALI													
DKI Jakarta	29160	38708	38391	427624	117420	144033	174397	188024	188024	227773	273446	444677	500000
West Java	111111	111111	111111	111111	111111	111111	111111	111111	111111	111111	111111	111111	111111
Central Java	111111	111111	111111	111111	111111	111111	111111	111111	111111	111111	111111	111111	111111
East Java	111111	111111	111111	111111	111111	111111	111111	111111	111111	111111	111111	111111	111111
Bali	111111	111111	111111	111111	111111	111111	111111	111111	111111	111111	111111	111111	111111
Total	366669	1025472	1680665	2380594	2998931	3486323	4283013	5001811	5676258	6526528	6967286	8370381	10776236
Outer Islands I													
DI Aceh				34507	11924	16751	22544	22170	12000	154676	73937	22697	11111
North Sumatra				18103	11204	16751	22544	22170	12000	154676	73937	22697	11111
West Sumatra				10103	11204	16751	22544	22170	12000	154676	73937	22697	11111
South Sumatra				10103	11204	16751	22544	22170	12000	154676	73937	22697	11111
Lampung				10103	11204	16751	22544	22170	12000	154676	73937	22697	11111
West Nusa Tenggara				10103	11204	16751	22544	22170	12000	154676	73937	22697	11111
West Kalimantan				10103	11204	16751	22544	22170	12000	154676	73937	22697	11111
South Kalimantan				10103	11204	16751	22544	22170	12000	154676	73937	22697	11111
North Sulawesi				10103	11204	16751	22544	22170	12000	154676	73937	22697	11111
South Sulawesi				10103	11204	16751	22544	22170	12000	154676	73937	22697	11111
Total			88888	283373	322567	454718	539706	744469	112896	1628321	2589702	3137226	
Outer Islands II													
Riau													
Jambi													
Bengkulu									4755	73947	20000	11111	11111
West Nusa Tenggara									11111	11111	11111	11111	11111
Central Kalimantan									11111	11111	11111	11111	11111
East Kalimantan									11111	11111	11111	11111	11111
Central Sulawesi									11111	11111	11111	11111	11111
Southeast Sulawesi									11111	11111	11111	11111	11111
Maluku									11111	11111	11111	11111	11111
Irian Jaya									11111	11111	11111	11111	11111
East Timor									11111	11111	11111	11111	11111
Total									8665	144015	213493	331202	500001
Indonesia	366669	1025472	1680665	2469482	3202305	3888890	4687723	5561817	6497372	7791537	8899620	11211285	14622551

Sources: Data from 1972-1979 from "Buku Statistik Program Nasional Keluarga Berencana Periode 1972-1979" and from 1980 onwards from BKKBN Monthly Statistical Summaries

TABLE 7
ESTIMATED PERCENTAGE OF MARRIED WOMEN AGED 15-44 USING CONTRACEPTIVES:
SEPTEMBER 1975 - SEPTEMBER 1984

Province	September											
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1983*	1984	1984*
Java-Bali												
DKI Jakarta	11.9	13.6	17.2	16.8	18.3	20.4	23.7	31.8	43.2	43.0	52.9	53.0
West Java	10.2	14.8	17.8	18.3	19.6	22.0	24.8	30.4	47.0	47.1	61.0	61.5
Central Java	14.1	17.8	21.4	26.0	34.0	45.6	51.3	48.7	59.3	58.0	69.8	68.0
DI Yogyakarta	16.2	19.2	24.5	24.7	39.6	61.0	66.7	77.7	77.7	73.9	74.1	69.5
East Java	23.7	30.5	34.0	37.7	44.1	49.6	53.6	58.9	65.5	65.1	71.5	71.0
Bali	29.3	33.6	39.4	42.3	47.6	51.8	56.9	65.0	71.7	70.6	76.5	75.3
Total	16.4	21.3	24.7	27.3	32.4	38.6	42.6	46.1	57.0	56.6	66.7	66.1
Outer Islands I												
DI Aceh	2.1	3.9	5.4	5.1	5.7	8.4	13.2	17.8	33.3	32.7	39.2	38.2
North Sumatra	2.6	4.7	7.4	8.2	9.6	15.7	18.8	36.9	50.1	48.0	57.3	54.2
West Sumatra	2.0	3.9	6.2	8.1	11.8	18.0	21.8	31.7	40.2	39.6	50.1	49.0
South Sumatra	2.3	4.4	5.4	6.5	6.1	9.2	11.9	20.7	36.1	37.2	44.3	45.2
Lampung	1.9	3.2	5.3	7.7	9.4	18.7	16.9	27.3	34.9	34.7	38.6	40.1
West Nusa Tenggara	1.1	4.3	6.1	7.0	10.0	13.7	24.0	38.4	45.7	45.6	47.3	47.3
West Kalimantan	1.6	2.6	4.2	4.8	6.4	10.2	12.4	23.2	39.6	39.9	42.2	42.3
South Kalimantan	1.7	5.5	9.9	11.6	13.0	20.8	22.3	29.5	40.8	41.3	55.8	56.6
North Sulawesi	6.8	12.4	19.6	20.4	25.5	32.7	34.2	38.9	56.8	56.9	63.9	64.2
South Sulawesi	3.0	5.0	6.9	7.1	6.9	18.2	30.2	43.3	54.8	53.5	60.8	58.8
Total	2.4	4.7	7.1	8.0	9.5	16.1	20.2	31.7	43.8	43.3	50.3	49.7
Outer Islands II												
Riau					0.9	3.5	8.1	10.4	14.2	14.8	18.4	19.2
Jambi					1.7	4.1	7.6	17.6	20.4	21.1	27.6	28.9
Bengkulu					4.8	12.8	24.0	31.2	40.5	42.8	44.4	47.9
East Nusa Tenggara					0.5	2.8	6.8	7.8	14.9	14.3	19.4	18.5
Central Kalimantan					2.0	4.9	7.0	9.8	18.8	19.8	25.2	26.7
East Kalimantan					3.6	6.6	11.6	16.1	18.6	20.0	24.4	27.1
Central Sulawesi					1.5	4.0	7.9	12.9	20.3	21.5	27.7	29.1
Southeast Sulawesi					1.9	3.3	7.5	9.5	13.4	15.1	27.5	31.9
Maluku					1.0	2.3	4.2	5.9	9.5	9.8	14.9	15.5
Total					1.6	4.1	8.6	12.5	17.7	18.4	23.9	25.0
Indonesia	12.7	16.9	20.0	22.1	24.2	30.1	34.2	39.7	50.4	50.1	58.8	58.6

Note: Data for contraceptive users obtained from the BKKBN Monthly Statistical Summaries.
Data for married women aged 15-44 calculated from the 1971 and 1980 Census using
geometric interpolation. Irian Jaya and East Timor not included due to lack of data.
* BKKBN estimates

ESTIMATED PERCENTAGE OF MARRIED WOMEN AGED 15-44 USING CONTRACEPTIVES: MARCH 1972 - MARCH 1984

Province	March													
	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1984*
Java-Bali														
DKI Jakarta	4.0	7.8	10.0	12.0	14.0	16.5	19.0	20.1	19.6	23.6	26.4	41.2	52.0	51.9
West Java	2.0	5.2	7.4	10.6	14.4	18.6	21.3	20.3	21.1	26.2	29.9	41.2	52.0	51.9
Central Java	2.1	5.7	9.0	12.9	17.4	20.5	27.3	34.9	43.4	51.1	47.4	55.0	70.9	69.1
DI Yogyakarta	4.0	9.9	14.2	16.2	18.8	20.5	27.6	31.2	37.1	63.4	73.1	75.2	79.5	75.0
East Java	3.6	11.0	19.4	27.4	32.2	34.5	39.0	48.5	51.1	54.1	58.4	63.4	71.8	71.4
Bali	6.7	15.7	22.8	28.3	32.8	36.6	41.6	45.7	50.1	53.9	62.0	67.4	74.2	73.0
Total	2.8	7.8	12.5	17.4	21.6	24.6	29.2	34.1	38.1	43.0	45.1	53.2	67.3	66.8
Outer Islands I														
DI Aceh				1.7	3.5	4.8	6.0	6.3	7.5	14.3	18.9	30.8	41.7	40.8
North Sumatra				1.9	4.3	6.8	8.3	9.2	14.1	14.1	26.7	46.7	54.9	52.2
West Sumatra				1.4	3.5	5.7	8.7	10.2	14.8	14.1	26.7	46.7	54.9	52.2
South Sumatra				1.8	3.6	5.1	6.7	7.7	14.8	20.8	29.9	37.4	47.5	46.6
Lampung				1.4	2.8	4.3	8.3	12.7	16.5	23.0	23.3	37.6	47.2	48.4
West Nusa Tenggara				0.9	2.5	5.4	8.1	10.1	13.1	23.6	42.4	49.0	53.2	55.2
West Kalimantan				1.4	2.4	3.6	7.6	5.4	7.4	13.2	25.4	38.3	48.4	48.7
South Kalimantan				1.9	5.2	7.6	13.6	13.8	17.3	24.5	29.7	41.3	52.2	52.9
North Sulawesi				4.4	10.7	17.4	23.4	20.5	32.2	37.7	31.9	47.7	64.1	64.3
South Sulawesi				2.2	4.6	6.8	9.9	8.4	13.8	25.7	36.9	52.2	59.9	58.2
Total				1.8	4.1	6.3	9.3	10.0	13.9	19.9	28.1	42.3	51.5	51.2
Outer Islands II														
Kiau										1.5	7.3	3.7	11.9	19.3
Lambi										3.8	7.8	13.1	20.6	27.2
Bergkulu										9.0	20.4	26.8	34.0	45.5
East Nusa Tenggara										1.1	4.6	7.1	11.0	19.9
Central Kalimantan										4.0	6.8	10.2	18.7	24.7
East Kalimantan										5.3	9.8	13.6	20.7	24.1
Central Sulawesi										2.8	6.6	10.6	18.1	27.3
Southeast Sulawesi										2.3	6.0	8.5	11.3	22.3
Maluku										1.9	4.0	5.4	6.9	13.6
Total									3.0	7.4	10.6	15.8	23.5	24.5
Indonesia	2.8	7.8	12.5	13.3	17.0	19.8	23.9	27.7	29.2	34.3	38.0	47.3	59.6	59.4

Note: Data on contraceptive users before 1976 from "Buku Statistik Program Nasional Keluarga Berencana Nasional Pelita I & II". Data from 1976 onwards from BKKBN Monthly Statistical Summaries. Data on married women aged 15-44 calculated from the 1971 Census (Series E, BPS) and 1980 Census (Series S, BPS) using geometric interpolation. Irian Jaya not included because rural areas not covered in the 1971 Census. East Timor not covered in the 1971 Census.

* BKKBN estimates

TABLE 9
 CONTRACEPTIVE USERS BY PROVINCE BY METHOD: SEPTEMBER 1979 - SEPTEMBER 1984

Province/ Year	Method					Total
	IUD	Pill	Condom	Injection	Other	
JAVA-BALI						
DKI Jakarta						
1979	78051	67453	7391	1449	19569	173913
1980	94453	68754	6513	5333	25905	200958
1981	114745	76770	7546	11368	31971	242400
1982	144545	115496	8928	29159	38499	336927
1983	185342	137401	21619	83760	46052	474074
1984	241579	180016	31756	100723	48287	602361
West Java						
1979	139502	712257	7154	2922	17129	878964
1980	195339	780116	4646	7159	21203	1009013
1981	256305	862148	3730	15100	25578	1162921
1982	329739	996540	2918	96674	32817	1458688
1983	558339	1249942	3399	442166	53337	2307733
1984	651993	1718762	3260	636446	59725	3070186
Central Java						
1979	305220	839095	138769	3401	22947	1309432
1980	354767	1169653	201912	21161	30261	1777754
1981	412987	1354140	199354	26259	41106	2023386
1982	496544	1146194	201602	46919	51294	1945553
1983	713109	1220646	164265	228568	72842	2399410
1984	923076	1443979	186160	218572	90188	2861975
DI Yogyakarta						
1979	45922	46515	41340	351	10490	144618
1980	51470	75053	81473	233	13829	224038
1981	66255	79637	80093	2869	7775	246659
1982	80026	86223	79899	4390	3648	273986
1983	98963	79128	73873	6946	32037	290939
1984	112722	64488	58449	7606	35635	278900
East Java						
1979	766940	1276255	37368	1228	24935	2106726
1980	813466	1475572	48157	982	32324	2402519
1981	898707	1608596	59517	10982	37374	2631859
1982	966871	1799963	69711	19784	45255	2631859
1983	1089892	1934430	69711	35014	59550	2930739
1984	1260300	2065104	106007	93180	78169	3301728
Bali						
1979	140731	14727	5717			365345
1980	153796	15165	6327	136	6520	169831
1981	170890	17197	8197	253	11104	188645
1982	185970	17197	8197	188	13511	210983
1983	203023	29049	12340	2018	15809	245386
1984	219103	34704	16430	6344	18811	276230
Total						
1979	1476340	2956302	237739	7372	18942	300040
1980	1655339	3584313	237739	9487	103590	4783484
1981	1919949	3988518	349028	47101	136646	5802927
1982	2209945	4173445	375337	76568	175196	6518668
1983	2849713	4652619	335955	214174	224617	7191599
1984	3408773	5507053	398692	860944	301238	9050114
				1101010	351388	10766946

Source: BKKBN Monthly Service Statistics

TABLE 9 (cont.)
 CONTRACEPTIVE USERS BY PROVINCE BY METHOD: SEPTEMBER 1979 - SEPTEMBER 1984

Province/ Year	Method					Total
	IUD	Pill	Condom	Injection	Other	
OUTER ISLANDS I						
DI Aceh						
1979	3213	16275	1068	159	572	21287
1980	3731	24331	2084	852	637	31635
1981	4336	39977	2209	3158	795	50975
1982	6319	55846	3211	3758	1073	70207
1983	8742	101336	9000	13320	1345	133943
1984	11557	120176	10357	17558	1407	161055
North Sumatra						
1979	22457	54039	12915	400	12968	102779
1980	27149	91532	33131	4184	17009	173005
1981	34019	122538	28190	6032	21402	212151
1982	49392	255056	74162	18430	28248	426288
1983	73027	324638	103005	57629	34962	593511
1984	111222	361708	118908	65728	38256	695822
West Sumatra						
1979	28635	19319	2637	242	2498	53382
1980	35903	34735	5128	3916	3244	82976
1981	43943	44242	5558	4610	3921	102174
1982	56954	71928	11470	7124	4693	151899
1983	68104	89537	14384	18736	5777	196538
1984	83145	122578	21995	15657	6230	249605
South Sumatra						
1979	6859	25831	4410	150	2541	39871
1980	8762	41039	7021	1556	3783	62136
1981	14401	53623	6787	2398	5328	82537
1982	20374	103275	12702	4260	7893	148464
1983	30549	182204	29537	12964	11341	266615
1984	54708	213300	41107	15067	12950	337132
Lamp.						
1979	10533	50561	4170	150	587	66006
1980	13962	111155	10864	1302	1052	133336
1981	17603	103631	5231	2559	1387	130386
1982	26192	181975	6325	4458	1825	220775
1983	51605	215654	9358	17240	2485	296342
1984	76074	235714	7352	20953	3058	344251
West Nusa Tenggara						
1979	10405	26948	949	48	585	38935
1980	12421	39122	1837	108	790	54348
1981	14062	70550	9056	1216	1070	96554
1982	23449	129177	2236	1011	1328	157201
1983	34861	148165	3029	2394	1581	190030
1984	49295	142128	2192	4781	1649	200045

Source: BKKBN Monthly Service Statistics

TABLE 9 (cont.)
 CONTRACEPTIVE USERS BY PROVINCE BY METHOD: SEPTEMBER 1979 - SEPTEMBER 1984

Province/ Year	Method						Total
	IUD	Pill	Condom	Injection	Other		
OUTER ISLANDS I (cont.)							
West Kalimantan							
1979	64446	15259	1004				
1980	68777	26938	3231		29	571	23309
1981	80860	34214	3014		375	793	38284
1982	10102	74462	4013		174	1163	47645
1983	12193	126735	12940		1534	1585	91696
1984	15439	129673	17687		6497	2049	160619
South Kalimantan							
1979	2312	36870	1169				
1980	3874	60849	1524		97	789	41737
1981	4917	65296	1985		706	989	67942
1982	6771	36936	1687		976	1218	74395
1983	10286	121479	1811		3524	1700	100648
1984	14256	165516	2295		6164	2085	141805
North Sulawesi							
1979	32257	34359	487				
1980	36583	45810	553		1397	2343	70883
1981	38795	48467	683		774	3284	94004
1982	41131	62276	857		9865	3765	101575
1983	58173	83105	2316		10714	4348	119326
1984	72625	95869	1709		30590	5361	179550
South Sulawesi							
1979	8505	42534	3641				
1980	12270	128390	6444		193	2480	57403
1981	21697	215380	6907		3131	3163	153398
1982	29531	317562	6332		8542	3785	256311
1983	37938	398016	8369		13385	4567	371377
1984	61645	427887	7377		24053	5678	474104
Total							
1979	132234	322105	32450				
1980	166532	604041	71817		2865	25934	515592
1981	201660	797858	69620		23904	34749	895043
1982	269205	1338523	122995		40530	3834	154700
1983	345958	1791119	193749		69198	52260	1857881
1984	550735	2014549	231479		189567	72664	2633057
					224122	80468	3101354

Source: AKKBN Monthly Service Statistics

TABLE 9 (cont.)
 CONTRACEPTIVE USERS BY PROVINCE BY METHOD: SEPTEMBER 1979 - SEPTEMBER 1984

Province/ Year	Method					Total
	IUD	Pill	Condom	Injection	Other	
OUTER ISLANDS II						
Riau						
1979	160	2520	162	30	25	2897
1980	2202	6741	1490	395	379	11207
1981	5781	17076	2270	1179	881	27187
1982	8001	21136	2805	2320	1506	35768
1983	9924	26943	3525	7889	2098	50379
1984	12680	36689	5730	9342	2920	67361
Jambi						
1979	270	3214	243	106	33	3866
1980	1117	7104	623	524	104	9472
1981	3051	13090	640	1129	201	18111
1982	5827	33458	2058	2038	322	43713
1983	8935	31626	2603	8950	548	52662
1984	12544	48331	2560	9826	723	73954
Bengkulu						
1979	93	4812	379	24	17	5325
1980	1811	11947	816	150	103	14827
1981	5832	20899	1617	429	253	29030
1982	10366	25109	3055	655	438	39623
1983	14977	29834	2350	6170	571	53902
1984	16042	33879	3073	8126	718	61858
East Nusa Tenggara						
1979	381	1272	96	41	64	1854
1980	3427	4639	763	335	324	9488
1981	6691	14631	952	555	781	23620
1982	10225	13230	1295	1368	1337	27455
1983	15723	12690	1553	20407	2389	52762
1984	23498	20736	2185	19962	3257	69688
Central Kalimantan						
1979	67	2537	121	46	1	2772
1980	436	5719	542	387	12	7096
1981	821	7969	518	1129	123	10560
1982	1918	10611	495	1938	169	15131
1983	4734	19225	860	5075	282	30176
1984	5985	28439	1018	6073	373	41888
East Kalimantan						
1979	304	5365	231	261	128	6269
1980	1199	9455	511	654	364	12193
1981	2628	15529	862	2873	684	22576
1982	5193	19407	1365	5754	1193	32942
1983	7290	23042	1463	6487	1618	39900
1984	11364	29259	2295	10132	2117	55167
Central Sulawesi						
1979	555	1918	104	50	53	2680
1980	2273	4019	161	654	236	7343
1981	4608	8313	336	1441	393	15091
1982	7134	15282	305	2231	597	25549
1983	9722	23658	407	6821	864	41472
1984	11923	35429	538	9757	1204	58851

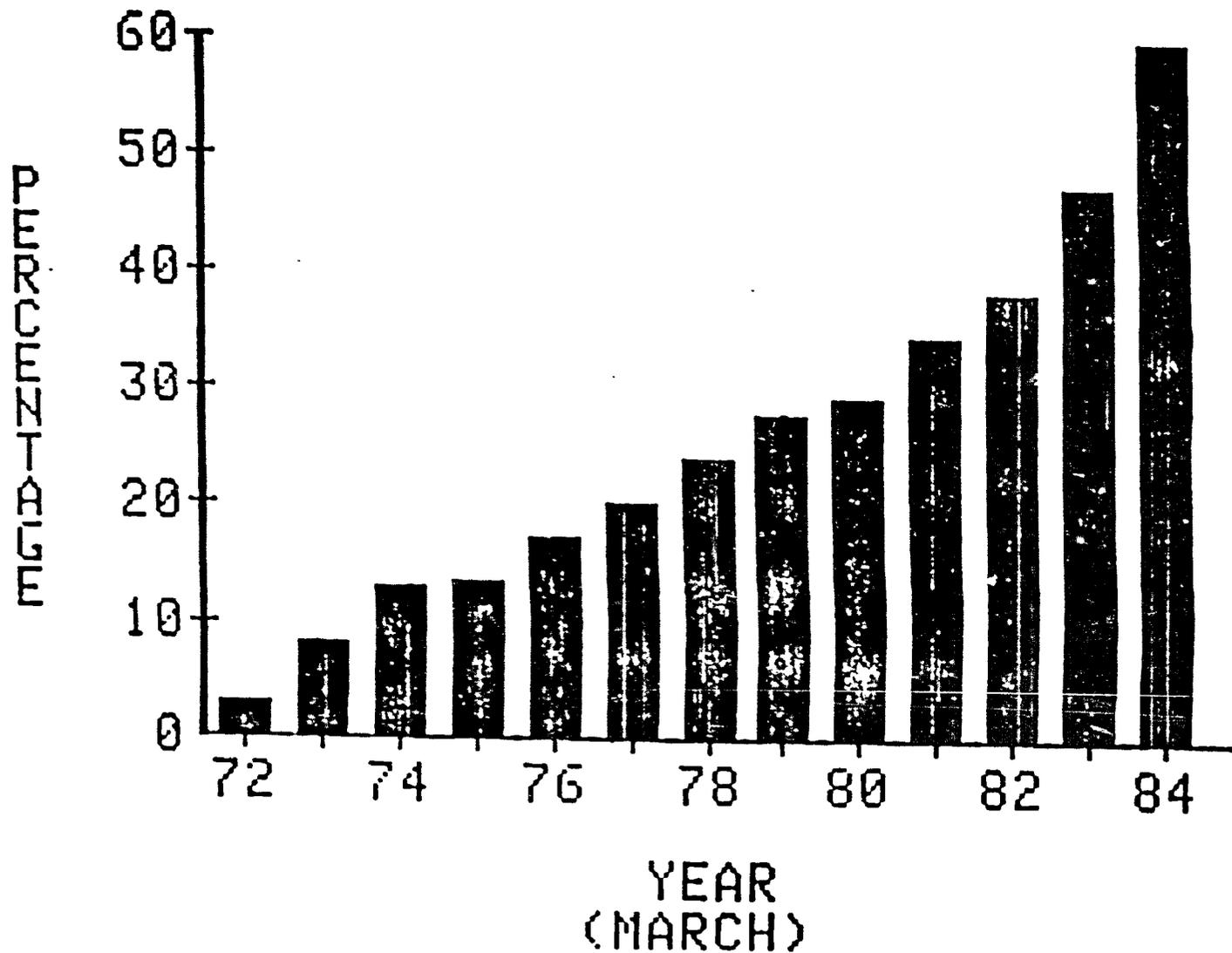
Source: BKKBN Monthly Service Statistics

TABLE 9 (cont.)
 CONTRACEPTIVE USERS BY PROVINCE BY METHOD: SEPTEMBER 1979 - SEPTEMBER 1984

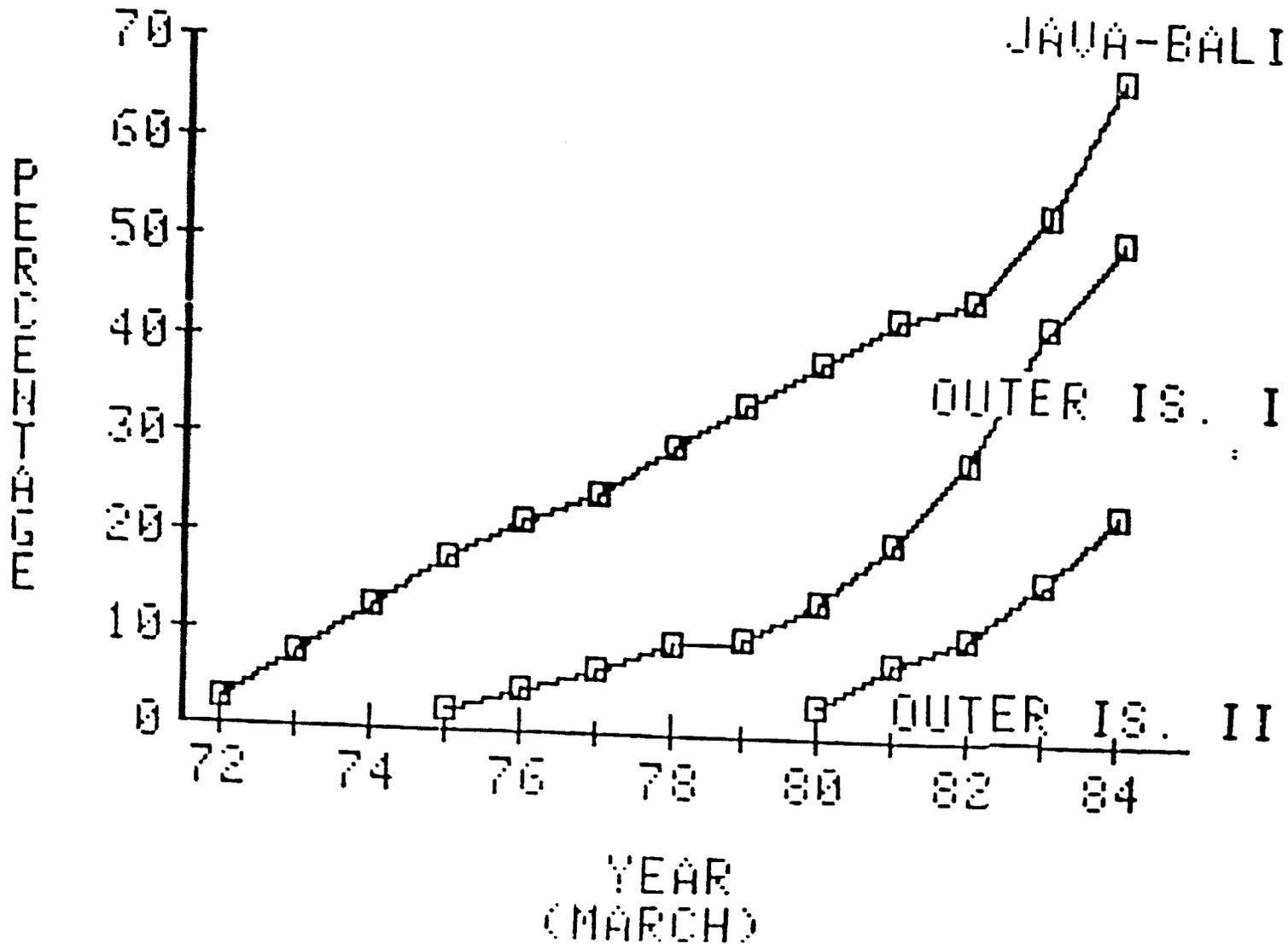
Province/ Year	Method					Total
	IUD	Pill	Condom	Injection	Other	
OUTER ISLANDS II (cont.)						
Southeast Sulawesi						
1979	50	2234	208	9	15	2516
1980	369	3620	395	47	133	4564
1981	833	8654	670	136	274	10577
1982	1225	11302	705	277	363	13872
1983	2542	12929	787	3415	507	20180
1984	5170	31017	1083	4653	703	42626
Maluku						
1979	218	1340	97	118	117	1890
1980	1114	2250	208	455	360	4384
1981	2954	3559	329	819	605	8266
1982	4717	4470	952	962	771	11872
1983	7546	6434	1463	3516	975	19934
1984	11727	11562	1070	6751	1253	32363
Irian Jaya						
1979	269	1358	185	21	19	1852
1980	911	1292	366	145	191	2905
1981	1910	1616	358	418	416	4718
1982	3581	2735	675	879	827	8697
1983	5132	3698	1218	2416	1536	14000
1984	6644	4685	1384	3190	2024	17927
East Timor						
1981	32	1513	105	11	13	1674
1982	147	2035	48	18	24	2242
1983	215	2310	104	330	42	3004
1984	428	3442	144	1227	68	5309
Total						
1979	2367	26570	1826	686	472	31921
1980	14859	56796	5875	3743	2206	83479
1981	35141	112859	8657	10129	4624	171410
1982	58334	158755	13758	18470	7547	256864
1983	86743	192339	16333	71476	11430	378371
1984	118005	283508	21080	89039	15360	526992
Indonesia						
1979	1610971	3304977	272015	13038	129996	5330997
1980	1861230	4245150	426720	74748	173601	6781449
1981	2157949	4899235	436714	127227	223654	7844778
1982	2532184	5670743	512151	301842	289424	9306344
1983	3322419	6656127	595677	1121987	385332	12061542
1984	4077514	7805110	651251	1414171	447216	14395262

Source: BKKBN Monthly Statistics

**ESTIMATED PERCENTAGE OF MARRIED WOMEN
AGED 15-44 USING CONTRACEPTIVES:
INDONESIA, 1972-1984**

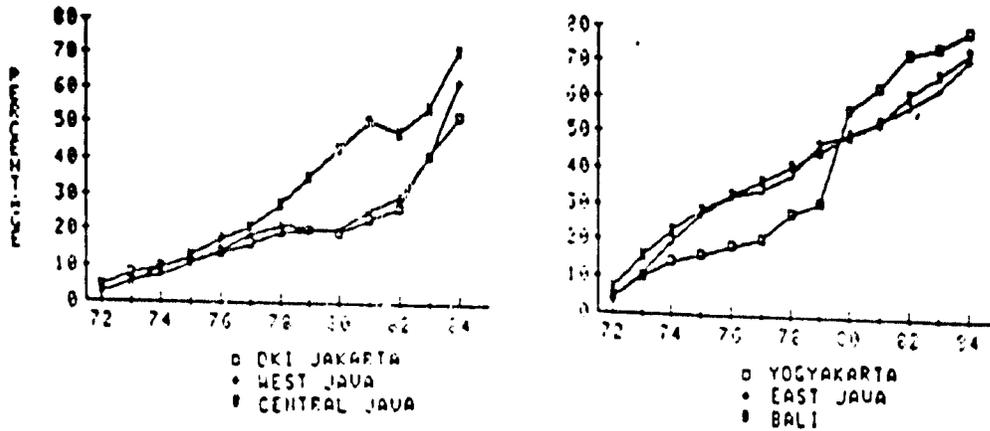


**ESTIMATED PERCENTAGE OF MARRIED WOMEN
AGED 15-44 USING CONTRACEPTIVES BY
ISLAND GROUP: INDONESIA, 1972-1984**

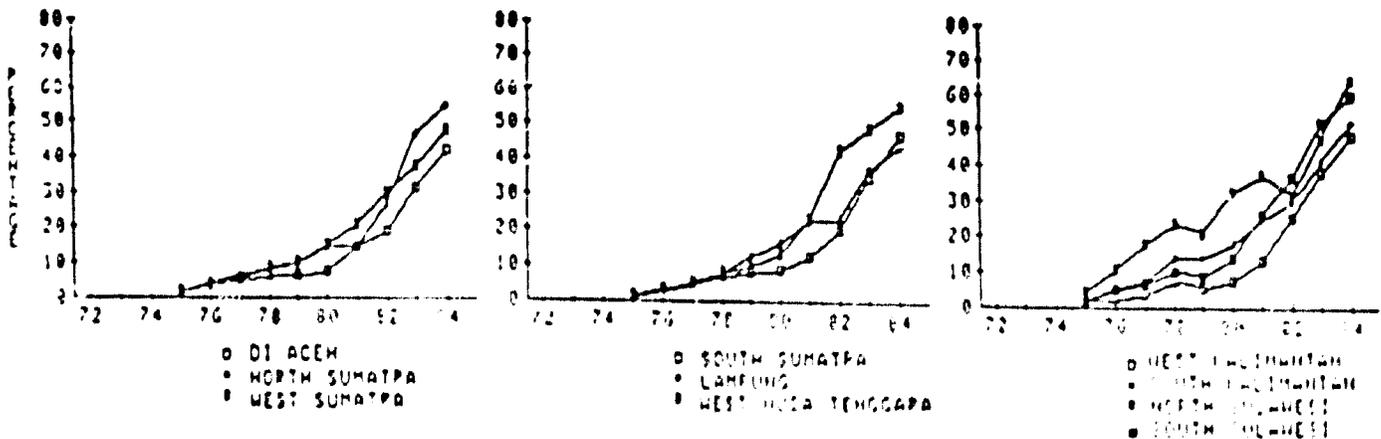


ESTIMATED PERCENTAGE OF MARRIED WOMEN
AGED 15-44 USING CONTRACEPTIVES BY
PROVINCE, INDONESIA, 1972-1984

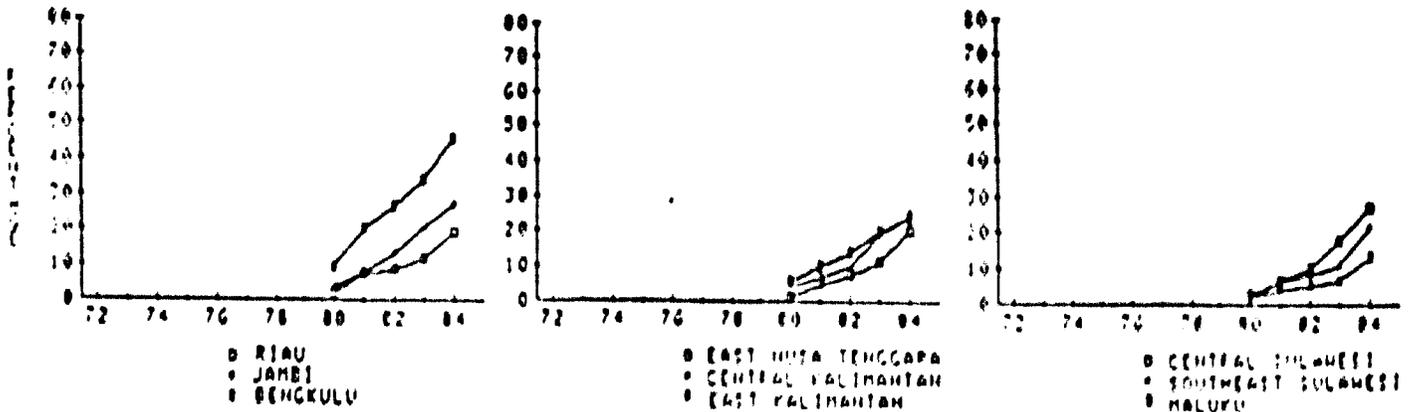
JAVA-BALI



OUTER ISLANDS I

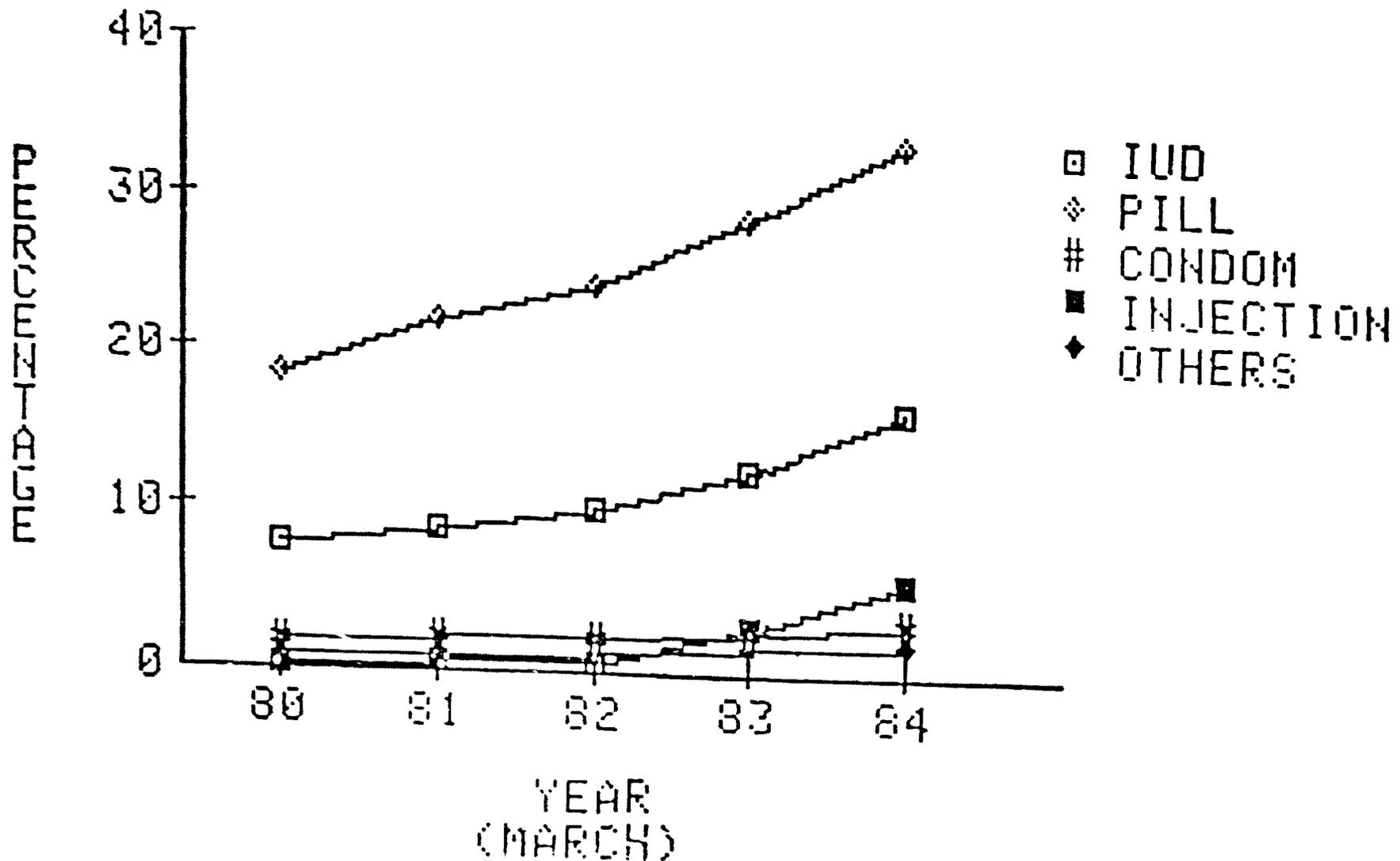


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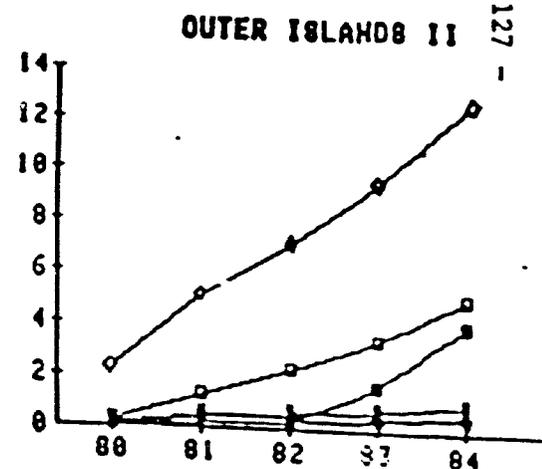
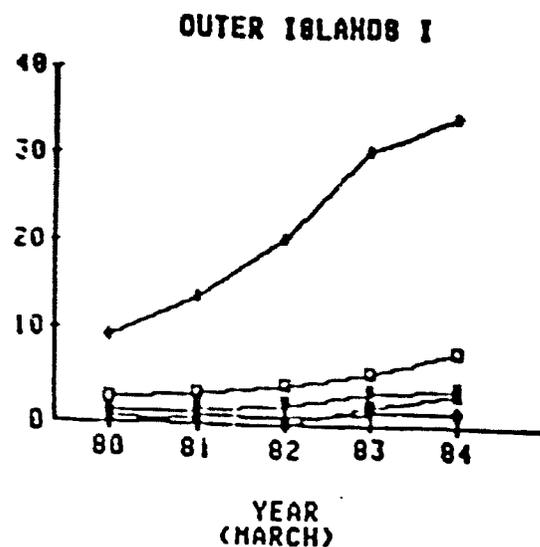
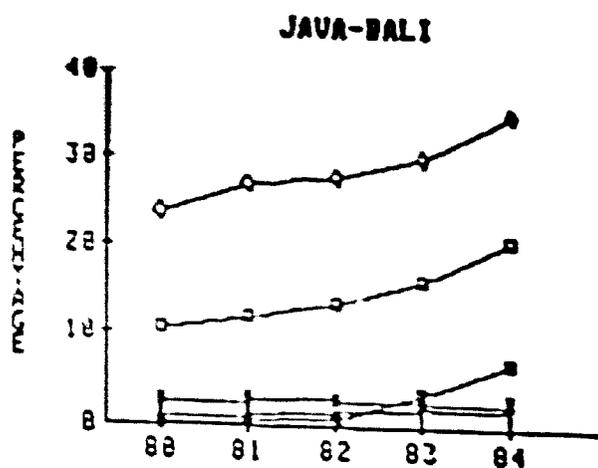


YEAR
(MARCH)

**ESTIMATED PERCENTAGE OF MARRIED WOMEN
AGED 15-44 USING CONTRACEPTIVES
BY METHOD: INDONESIA, 1980 - 1984**

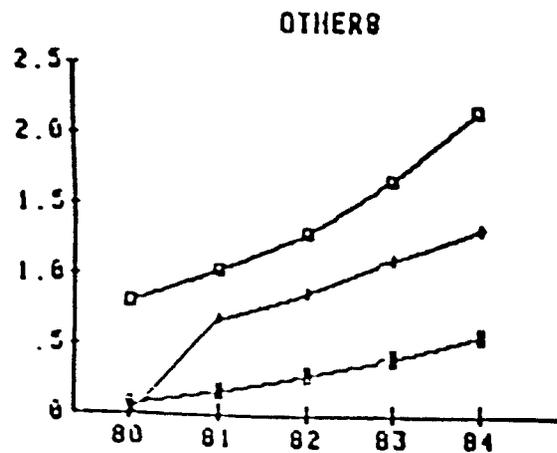
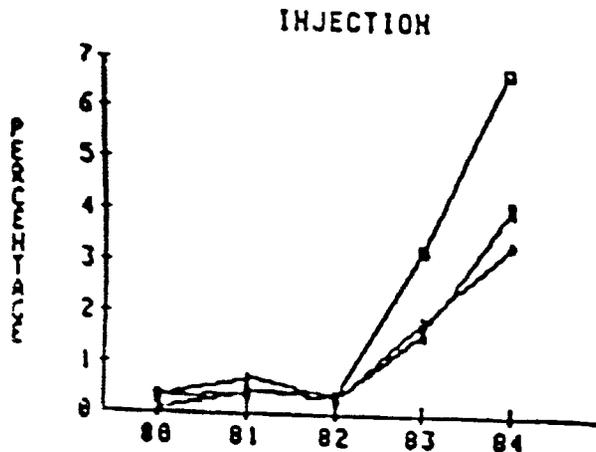
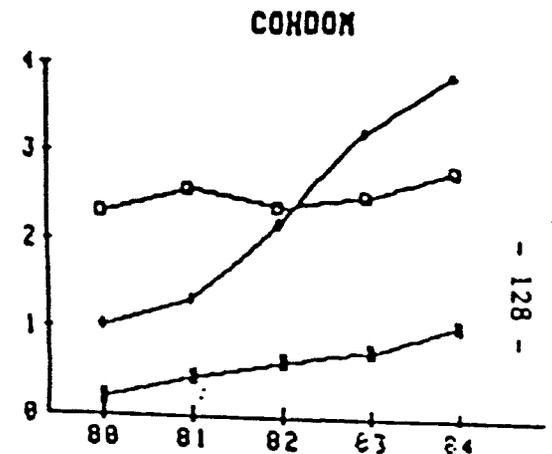
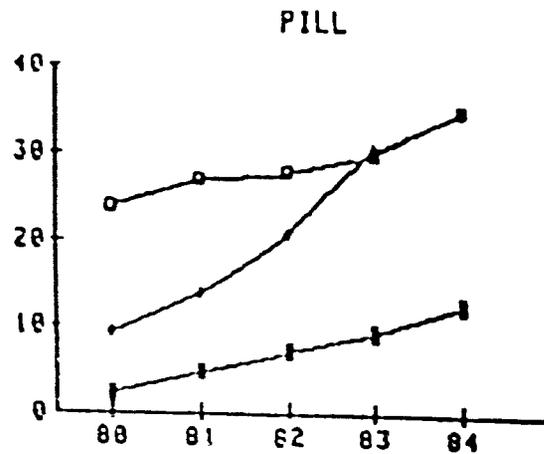
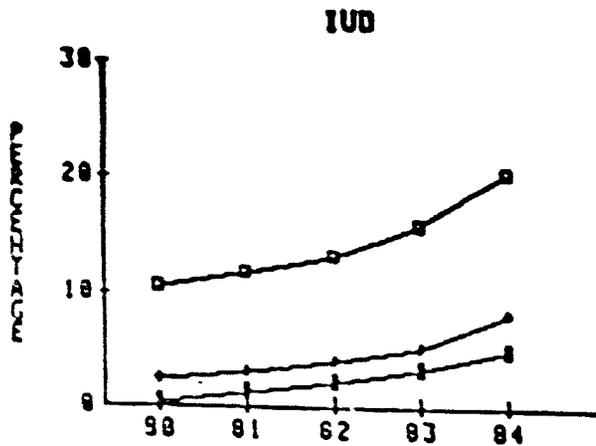


ESTIMATED PERCENTAGE OF MARRIED WOMEN AGED 15-44 USING CONTRACEPTIVES BY ISLAND GROUP BY METHOD: INDONESIA, 1980 - 1984



- ◻ IUD
- ◊ PILL
- CONDOM
- INJECTION
- OTHERS

ESTIMATED PERCENTAGE OF MARRIED WOMEN AGED 15-44 USING CONTRACEPTIVES BY METHOD BY ISLAND GROUP: INDONESIA, 1980 - 1984



□ JAVA-BALI
 ● OUTER ISLANDS I
 ■ OUTER ISLANDS II

YEAR
(MARCH)

Table 13

CONTRACEPTIVE USERS BY PROVINCE BY METHOD: INDONESIA, MARCH 1980 - MARCH 1984

Province/Year	Method						Total
	I	IUD	Pill	Condom	Injection	Other	
Java-Bali							
DKI Jakarta							
1980		86703	67535	7391	5554	22800	189983
1981		105729	87059	8113	7373	29039	237313
1982		129513	93298	10220	6808	35307	275146
1983		164638	163677	23310		50954	444677
1984		224658	104515	27155		94429	581125
West Java							
1980		170189	748740	5057		10178	953482
1981		227641	939636	11804		10073	1212411
1982		291411	1055181	6065		36330	1417945
1983		467676	1193373	5618		287783	2000312
1984		655108	1714292	6235		636645	3073311
Central Java							
1980		332041	1110412	194555		17629	1681263
1981		380480	1350757	215464		23859	2005751
1982		451161	1203360	173102		9900	1885506
1983		572612	1264637	192093		121359	2212737
1984		879262	1475516	207435		237382	2887867
DI Yogyakarta							
1980		48265	77181	69535		2172	209376
1981		59730	75769	80237		2436	233803
1982		74059	86370	88150		1188	270903
1983		85983	93844	77910		5218	280683
1984		104835	76681	74120		6548	298327
East Java							
1980		811668	1546125	64145		9764	2461594
1981		873095	1639593	70996		16335	2639197
1982		936273	1817703	74726		5279	2685754
1983		1022033	1955983	83603		44154	3174897
1984		1208718	2118926	114130		44154	3647336
Bali							
1980		147742	15465	7113		474	180560
1981		162938	15640	6538		672	198053
1982		176807	26203	13393		886	231952
1983		194730	28529	13239		3382	257075
1984		210986	32556	18205		6268	288268
Total							
1980		1596608	3565458	347796		45771	5676258
1981		1809613	4106454	393152		60748	6526528
1982		2059224	4282115	365956		60391	6967206
1983		2507672	4690043	395773		512850	8370381
1984		3283597	5602486	447280		1093140	10776234

Source: BKKBN Monthly Statistical Summaries

CONTRACEPTIVE USERS BY PROVINCE BY METHOD: INDONESIA, MARCH 1980 - MARCH 1984

Province/Year	Method					Total	
	I	IUD	Pill	Condom	Injection		Other
Outer Islands I							
DI Aceh							
1980		3359	21808	1514	777	578	28036
1981		4420	44316	2969	2265	706	54676
1982		5630	62566	3878	922	941	73937
1983		7972	100161	6527	6822	1215	122697
1984		10630	127900	11852	17650	1461	169693
North Sumatra							
1980		24680	81099	30525	2766	14716	153806
1981		28971	83082	21941	4313	18894	157201
1982		43855	188612	45402	2638	24980	305487
1983		59729	316314	106146	34103	31757	547049
1984		98018	347232	114283	60044	38684	658261
West Sumatra							
1980		30443	27620	3507	3066	2926	67562
1981		40242	40273	6757	5926	3852	96850
1982		52859	66574	16144	1773	4320	141670
1983		62299	87231	16669	9609	5281	181089
1984		77224	116889	19344	14599	6393	234449
South Sumatra							
1980		7281	38184	5918	1111	3124	55618
1981		12057	55812	11603	2522	4349	86343
1982		17754	101748	13037	1483	6446	140468
1983		26596	177671	29307	8405	9635	251614
1984		49393	234031	43199	13995	12815	353433
Lampung							
1980		11769	98427	6097	1153	711	118157
1981		15284	143221	11471	1742	1237	172955
1982		21548	154194	6071	1041	1617	184471
1983		41705	249573	6092	10123	2134	311627
1984		68767	275096	10592	22966	2729	380150
West Nusa Tenggara							
1980		11443	36843	2189	129	720	51324
1981		13772	75174	3933	623	926	94430
1982		17409	136759	16261	428	1180	172037
1983		28523	166354	3922	1984	1426	202209
1984		47068	175183	3956	3613	1718	231538

Source: BKKBM Monthly Statistical Summaries

CONTRACEPTIVE USERS BY PROVINCE BY METHOD: INDONESIA, MARCH 1980 - MARCH 1984

Province/Year	Method					Total	
	I	IUD	Pill	Condom	Injection		Other
Outer Islands 1(cont.)							
West Kalimantan							
1980		6345	16919	1264	163	619	27310
1981		7504	37264	3076	1292	966	50104
1982		8948	83312	5018	599	1362	99239
1983		11401	124763	11806	3510	1834	153314
1984		14667	152361	21073	8335	2238	198674
South Kalimantan							
1980		3371	50079	954	530	885	55827
1981		4408	72932	1496	963	1087	80908
1982		6018	90435	1560	816	1361	100212
1983		8044	126446	1660	4003	1893	142252
1984		12894	156763	2567	9108	2304	183636
North Sulawesi							
1980		33696	46430	577	7109	2787	91061
1981		37399	57634	1342	10162	3348	110085
1982		40156	47765	1191	2675	4133	96140
1983		46796	61862	1197	13725	4850	148430
1984		69285	99773	2309	28692	6136	206195
South Sulawesi							
1980		10147	96070	4680	2035	2836	115768
1981		17257	178241	10105	8361	3476	217442
1982		26664	263109	17405	3385	4097	314660
1983		34983	383109	7746	18332	5251	449421
1984		55996	424366	8336	26236	6261	521197
Total							
1980		142536	515479	57625	18927	29902	764469
1981		181314	768149	74697	38189	38645	1120994
1982		240841	1195094	125987	15962	50437	1628321
1983		327048	1813484	193278	110616	65276	2509702
1984		504142	2109596	237511	205236	80739	3137226

Source: BKKBN Monthly Statistical Summaries

CONTRACEPTIVE USERS BY PROVINCE BY METHOD: INDONESIA, MARCH 1980 - MARCH 1984

Province/Year	Method					Total
	IUD	Pill	Condom	Injection	Other	
Outer Islands II						
Riau						
1980	544	3418	600	106	88	4756
1981	4430	14604	2850	1365	693	23942
1982	7225	17523	3094	478	1098	29418
1983	9041	23619	3523	3697	1780	41660
1984	12215	37331	7060	10466	2536	69608
Jambi						
1980	618	7154	444	274	79	8569
1981	2275	11061	860	922	150	18266
1982	4581	23905	1983	1162	262	31813
1983	8378	35097	2471	5722	311	52079
1984	11206	47141	2876	9759	646	71628
Bengkulu						
1980	655	8600	745	121	47	10168
1981	4138	17936	1665	231	172	24142
1982	8390	22561	1707	152	358	33168
1983	13260	28607	1914	1853	504	44138
1984	16251	33914	2814	6381	634	61994
East Nusa Tenggara						
1980	1173	2225	241	77	151	3867
1981	5209	8387	930	778	507	15811
1982	8205	13061	1887	473	1075	24701
1983	12445	17272	1688	5324	1688	38617
1984	23704	20561	3821	20043	2961	71090
Central Kalimantan						
1980	222	4774	552	182	7	5737
1981	591	8122	574	759	45	10091
1982	1301	12725	996	382	152	15556
1983	3290	21025	1041	3901	221	29478
1984	5613	26394	1149	6812	334	40302
East Kalimantan						
1980	719	7424	690	447	264	9544
1981	1951	13550	820	1709	499	18529
1982	3791	20294	902	1152	920	27059
1983	6601	25545	2084	7049	1472	42751
1984	9900	29012	2128	10273	1865	53178

Source: BKKBM Monthly Statistical Summaries

CONTRACEPTIVE USERS BY PROVINCE BY METHOD: INDONESIA, MARCH 1980 - MARCH 1984

Province/Year	Method					Total	
	I	IUD	Pill	Condom	Injection		Other
Outer Islands II(cont.)							
Central Sulawesi							
1980		1226	3338	120	260	133	5071
1981		3553	7250	335	962	322	12422
1982		6099	13131	462	419	474	20585
1983		8697	23391	458	3172	750	36468
1984		11349	34200	582	9776	1045	56952
Southeast Sulawesi							
1980		128	2644	250	24	66	3112
1981		598	6930	434	283	202	8447
1982		1072	10037	774	36	319	12238
1983		1579	12667	1230	863	457	16804
1984		3776	24834	936	3841	615	34002
Maluku							
1980		557	2316	161	323	215	3572
1981		2015	3332	265	578	470	7660
1982		3918	4930	819	351	713	10731
1983		5993	4619	1065	1691	854	14222
1984		10582	10356	1054	5920	1126	29038
Total							
1980		5836	41893	3803	1814	1050	54396
1981		24760	95172	8733	7587	3060	139312
1982		44582	138067	12624	4625	5371	205269
1983		69284	189842	15682	33272	8137	316217
1984		104596	263743	22420	65271	11762	487792
Indonesia							
1980		1744980	4122830	409224	66512	151577	6495123
1981		2015687	4991775	476582	106524	196266	7786834
1982		2344647	5615276	504567	80978	255328	8800796
1983		2904004	6693369	604733	650738	337456	11196300
1984		3892335	7975827	707211	1363649	442230	14401252

Source: BKKBN Monthly Statistical Summaries

Table 14

ESTIMATED PERCENTAGE OF MARRIED WOMEN AGED 15-44 USING CONTRACEPTIVES
BY PROVINCE BY METHOD: INDONESIA, MARCH 1980 - MARCH 1984

Province/Year	Method					Total
	IUD	Pill	Condom	Injection	Other	
Java-Bali						
DKI Jakarta						
1980	8.95	6.97	0.76	0.57	2.35	19.61
1981	10.53	8.67	0.81	0.73	2.89	23.63
1982	12.77	8.96	0.98	0.65	3.39	26.65
1983	15.26	15.17	2.16	4.72	3.90	41.21
1984	20.09	16.50	2.43	8.44	4.50	51.97
West Java						
1980	3.76	16.56	0.11	0.22	0.43	21.06
1981	4.91	20.27	0.25	0.22	0.50	26.16
1982	6.14	22.24	0.13	0.77	0.61	29.88
1983	9.63	24.57	0.12	5.93	0.94	41.18
1984	13.18	34.46	0.13	12.81	1.23	61.82
Central Java						
1980	8.57	28.66	5.02	0.45	0.69	43.39
1981	9.70	34.42	5.49	0.21	0.90	51.71
1982	11.35	30.28	4.36	0.25	1.20	47.44
1983	14.23	31.43	5.77	5.02	1.34	54.99
1984	21.58	36.21	5.09	5.83	2.17	70.87
DI Yogyakarta						
1980	13.17	21.07	18.98	0.59	3.34	57.15
1981	16.20	20.56	21.77	0.66	4.24	63.43
1982	19.97	23.29	23.77	0.32	5.70	73.05
1983	23.05	22.47	20.88	1.40	7.63	75.23
1984	27.93	20.43	19.75	1.74	9.63	79.48
East Java						
1980	16.86	32.12	1.33	0.20	0.62	51.14
1981	17.90	33.61	1.56	0.33	0.80	54.11
1982	18.94	36.77	1.51	0.11	1.05	58.38
1983	20.40	39.04	1.67	0.88	1.38	63.37
1984	23.81	41.74	2.25	2.20	1.84	71.84
Bali						
1980	40.99	4.29	1.97	0.13	2.71	50.10
1981	44.36	4.26	1.78	0.18	3.34	53.92
1982	47.24	7.00	3.58	0.24	3.92	61.97
1983	51.05	7.58	3.57	0.89	4.51	67.40
1984	54.28	8.38	4.68	1.61	5.21	74.16
Total						
1980	10.71	23.91	2.33	0.31	0.81	38.06
1981	11.92	27.07	2.59	0.40	1.02	43.00
1982	13.33	27.72	2.57	0.39	1.29	45.31
1983	15.95	29.83	2.52	0.76	1.48	50.53
1984	20.51	35.00	2.79	2.83	2.18	63.31

Note: Data on contraceptive users from BKKBN Monthly Statistical Summaries. Married women aged 15-44 calculated from the 1971 and 1980 Census using geometric extrapolation.

ESTIMATED PERCENTAGE OF MARRIED WOMEN AGED 15-44 USING CONTRACEPTIVES
BY PROVINCE BY METHOD: INDONESIA, MARCH 1980 - MARCH 1984

Province/Year	Method					Total	
	I	IUD	Pill	Condom	Injection		Other
Outer Islands I							
DI Aceh							
1980		0.90	5.83	0.40	0.21	0.15	7.49
1981		1.16	11.60	0.78	0.59	0.18	14.31
1982		1.44	16.03	0.99	0.24	0.24	18.95
1983		2.00	25.13	1.64	1.71	0.30	30.79
1984		2.66	31.42	2.91	4.34	0.36	41.69
North Sumatra							
1980		2.27	7.46	2.81	0.26	1.35	14.14
1981		2.60	7.45	1.97	0.39	1.70	14.10
1982		3.84	16.51	3.97	0.23	2.19	26.74
1983		3.02	27.02	9.07	2.91	2.71	46.73
1984		8.17	28.94	9.53	5.00	3.22	54.87
West Sumatra							
1980		6.68	6.06	0.77	0.67	0.64	14.83
1981		8.66	8.67	1.45	1.28	0.79	20.87
1982		11.13	14.04	3.41	0.37	0.91	29.88
1983		12.88	18.03	3.65	1.99	1.09	37.74
1984		15.65	23.69	3.92	2.96	1.30	47.51
South Sumatra							
1980		1.10	5.75	0.89	0.17	0.47	8.37
1981		1.76	8.15	1.70	0.37	0.64	12.61
1982		2.52	14.42	1.85	0.21	0.91	19.91
1983		3.66	24.44	4.03	1.16	1.33	34.61
1984		6.59	31.24	5.77	1.87	1.71	47.18
Lampung							
1980		1.64	13.73	0.85	0.16	0.10	16.49
1981		2.03	19.03	1.52	0.23	0.16	22.98
1982		2.73	19.52	0.77	0.13	0.20	23.35
1983		5.03	30.09	0.98	1.22	0.26	37.57
1984		7.90	31.60	1.22	2.64	0.31	43.67
West Nusa Tenggara							
1980		2.91	9.37	0.56	0.03	0.18	13.05
1981		3.45	18.81	0.98	0.16	0.23	23.63
1982		4.29	33.68	4.00	0.11	0.29	42.37
1983		6.91	40.32	0.95	0.48	0.35	49.01
1984		11.23	41.78	0.94	0.86	0.41	55.22

Note: Data on contraceptive users from BKKBN Monthly Statistical Summaries. Married women aged 15-44 calculated from the 1971 and 1980 Census using geometric extrapolation.

**ESTIMATED PERCENTAGE OF MARRIED WOMEN AGED 15-44 USING CONTRACEPTIVES
BY PROVINCE BY METHOD: INDONESIA, MARCH 1980 - MARCH 1984**

Province/Year	Method					Total
	I	IUD	Pill	Condom	Injection	
Outer Islands I(cont.)						
West Kalimantan						
1980						
1981		1.71	5.10	0.34	0.04	0.17
1982		1.97	9.80	0.81	0.34	0.25
1983		2.29	21.36	1.29	0.15	0.35
1984		2.85	31.12	2.95	0.88	0.46
		3.57	37.13	5.14	2.03	0.55
South Kalimantan						
1980						
1981		1.04	15.48	0.29	0.17	0.27
1982		1.33	22.09	0.45	0.30	0.33
1983		1.78	26.82	0.47	0.27	0.40
1984		2.34	36.72	0.54	1.16	0.55
		3.67	44.59	0.73	2.59	0.66
North Sulawesi						
1980						
1981		1.91	16.41	0.35	2.53	0.98
1982		2.80	19.80	0.46	3.79	1.15
1983		3.32	15.83	0.39	0.95	1.37
1984		3.03	26.29	0.38	4.41	1.56
		2.56	31.04	0.72	8.93	1.91
South Sulawesi						
1980						
1981		1.21	11.47	0.56	0.24	0.34
1982		2.04	21.08	1.19	0.99	0.41
1983		3.12	30.82	2.04	0.40	0.48
1984		4.06	44.46	0.90	2.13	0.61
		6.44	48.79	0.96	3.02	0.72
Total						
1980						
1981		2.59	9.36	1.05	0.34	0.54
1982		3.21	13.96	1.32	0.68	0.68
1983		4.16	20.64	2.18	0.88	0.87
1984		5.51	30.53	3.25	1.86	1.10
		8.27	34.63	3.90	3.37	1.33

Note: Data on contraceptive users from BKKBN Monthly Statistical Summaries. Married women aged 15-44 calculated from the 1971 and 1980 Census using geometric extrapolation.

ESTIMATED PERCENTAGE OF MARRIED WOMEN AGED 15-44 USING CONTRACEPTIVES
BY PROVINCE BY METHOD: INDONESIA, MARCH 1980 - MARCH 1984

Province/Year	Method					Total
	IUD	Pili	Condom	Injection	Other	
Outer Islands II						
Riau						
1980	0.17	1.07	0.19	0.03	0.03	1.49
1981	1.35	4.45	0.87	0.42	0.21	7.29
1982	2.13	5.17	0.91	0.14	0.32	8.68
1983	2.58	6.75	1.01	1.06	0.51	11.91
1984	3.38	10.34	1.96	2.90	0.70	19.28
Jambi						
1980	0.27	3.17	0.20	0.12	0.03	3.79
1981	0.97	5.99	0.37	0.36	0.06	7.75
1982	1.88	9.77	0.81	0.48	0.11	13.05
1983	3.31	13.86	0.98	2.26	0.16	20.57
1984	4.26	17.92	1.09	3.71	0.25	27.25
Bangkulu						
1980	0.58	7.63	0.66	0.11	0.04	9.02
1981	3.50	15.17	1.41	0.20	0.15	20.43
1982	6.77	18.21	1.38	0.12	0.29	26.77
1983	10.21	20.48	1.47	1.43	0.39	33.98
1984	11.93	24.91	2.07	6.15	0.47	45.53
East Nusa Tenggara						
1980	0.34	0.65	0.07	0.02	0.04	1.16
1981	1.51	2.44	0.27	0.23	0.15	4.59
1982	3.36	3.73	0.54	0.16	0.31	7.09
1983	5.53	4.90	0.54	1.51	0.48	10.95
1984	6.64	5.75	1.07	3.62	0.83	19.95
Central Kalimantan						
1980	0.16	3.35	0.39	0.13	0.00	4.03
1981	0.40	5.51	0.39	0.52	0.03	6.85
1982	0.85	8.35	0.65	0.22	0.10	10.20
1983	2.09	13.33	0.66	2.47	0.14	18.68
1984	3.44	16.16	0.70	4.17	0.20	24.63
East Kalimantan						
1980	0.40	4.14	0.38	0.25	0.15	5.32
1981	1.03	7.17	0.43	0.90	0.26	9.81
1982	1.91	10.20	0.45	0.58	0.46	13.61
1983	3.13	12.20	1.00	3.59	0.70	20.62
1984	4.49	13.16	0.97	4.66	0.85	24.12

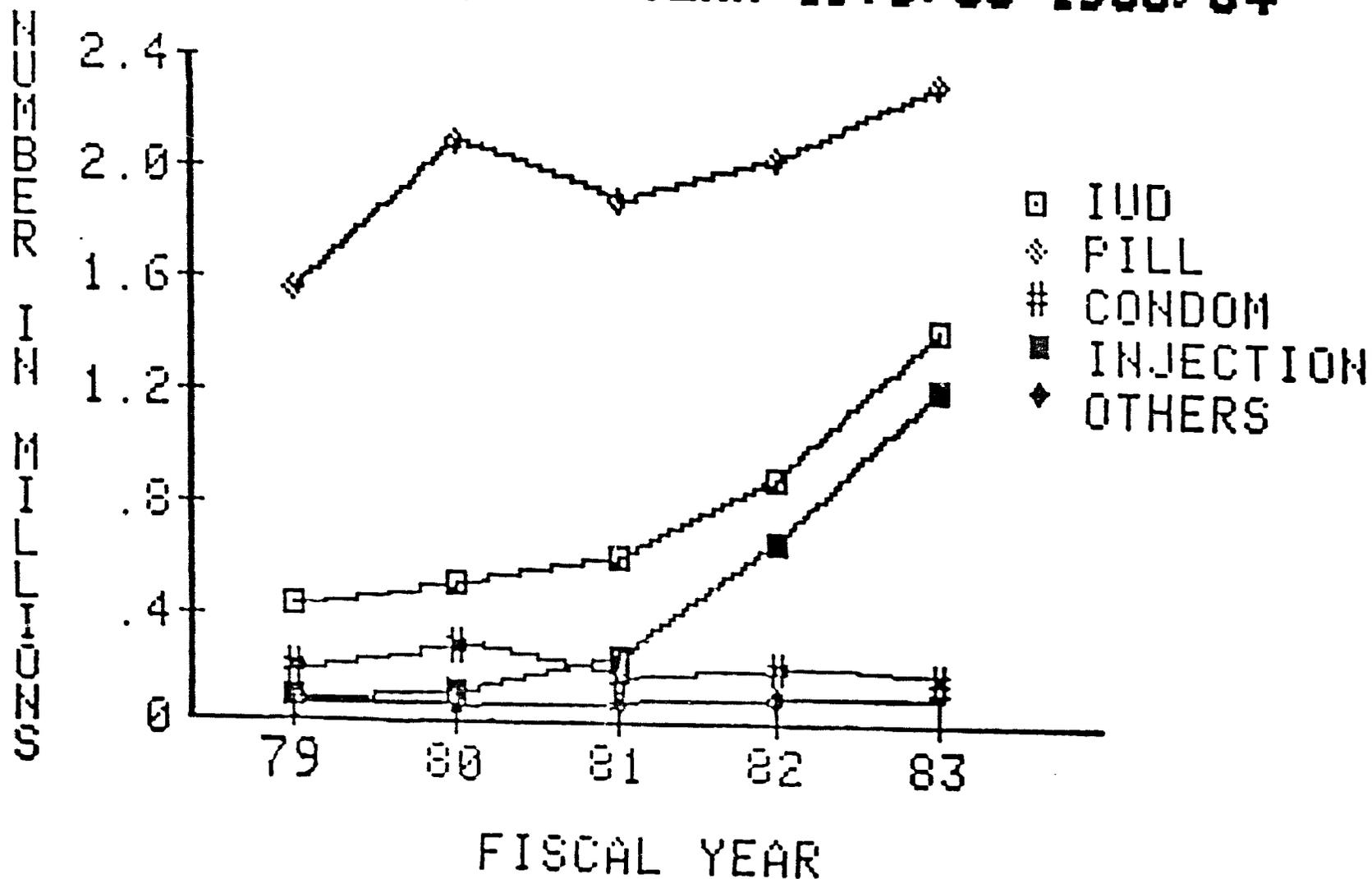
Note: Data on contraceptive users from BKKBN Monthly Statistical Summaries. Married women aged 15-44 calculated from the 1971 and 1980 Census using geometric extrapolation.

ESTIMATED PERCENTAGE OF MARRIED WOMEN AGED 15-44 USING CONTRACEPTIVES
BY PROVINCE BY METHOD: INDONESIA, MARCH 1980 - MARCH 1984

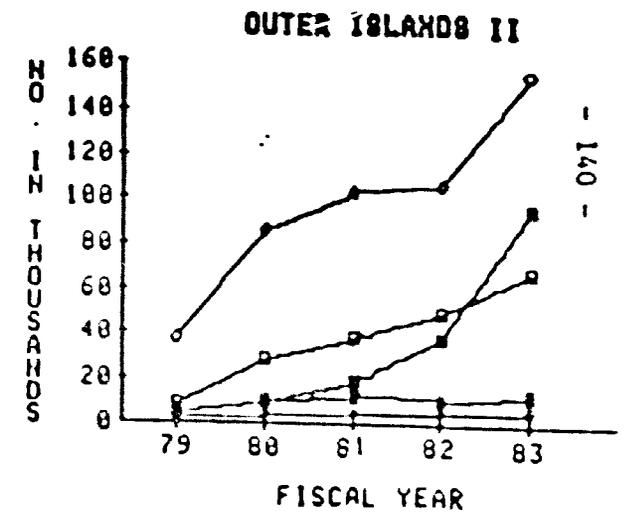
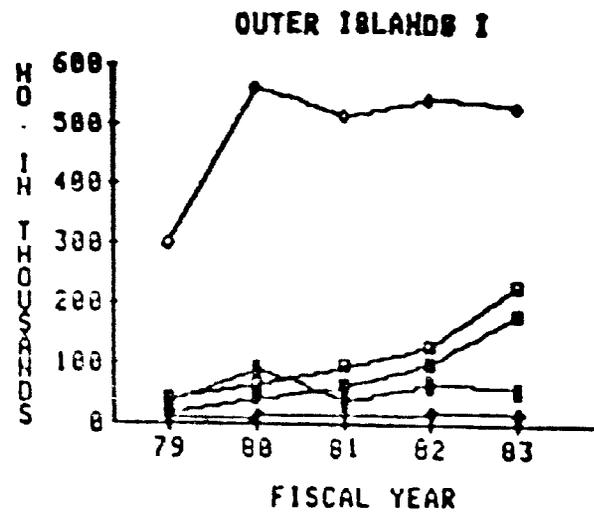
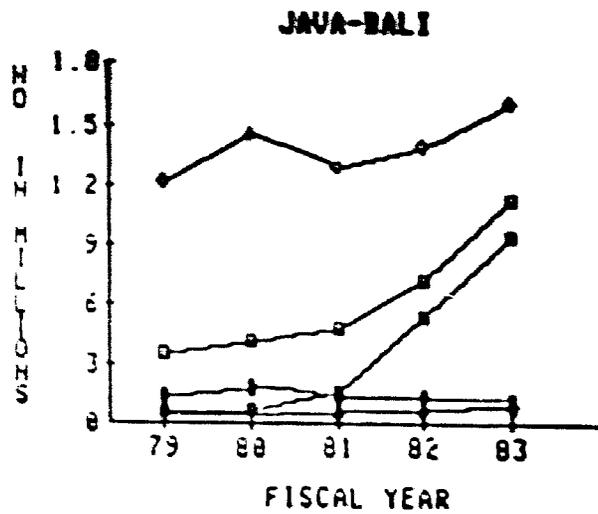
Province/Year	Method					Total
	IUD	Pill	Condom	Injection	Other	
<u>Outer Islands II(cont.)</u>						
<u>Central Sulawesi</u>						
1980	0.68	1.85	0.07	0.14	0.07	2.81
1981	1.90	3.88	0.18	0.31	0.17	6.64
1982	3.15	6.78	0.24	0.22	0.24	10.63
1983	4.33	11.64	0.23	1.58	0.37	18.15
1984	5.74	16.41	0.28	4.69	0.50	27.62
<u>Southeast Sulawesi</u>						
1980	0.09	1.95	0.18	0.02	0.05	2.30
1981	0.43	4.96	0.31	0.20	0.14	6.04
1982	0.74	6.97	0.54	0.03	0.22	8.50
1983	1.06	8.54	0.83	0.58	0.31	13.30
1984	2.27	16.25	0.61	2.51	0.40	22.04
<u>Maluku</u>						
1980	0.30	1.25	0.09	0.17	0.12	1.93
1981	1.05	2.26	0.14	0.30	0.25	3.99
1982	1.97	2.48	0.41	0.18	0.36	5.40
1983	2.91	2.25	0.52	0.82	0.52	6.97
1984	4.97	4.86	0.49	2.78	0.53	13.64
<u>Total</u>						
1980	0.32	2.30	0.21	0.10	0.06	2.99
1981	1.32	5.06	0.46	0.60	0.16	7.54
1982	2.39	7.11	0.65	0.74	0.16	10.97
1983	3.75	9.16	0.78	1.66	0.28	15.57
1984	5.04	12.71	1.08	4.11	0.57	23.51
<u>Indonesia</u>						
1980	7.85	18.54	1.84	0.30	0.68	29.21
1981	8.88	21.99	2.10	0.47	0.86	34.30
1982	10.11	24.22	2.18	0.35	1.10	38.97
1983	12.27	28.28	2.55	2.77	1.43	47.30
1984	16.10	32.99	2.95	5.72	1.83	59.57

Note: Data on contraceptive users from BKKBN Monthly Statistical Summaries. Married women aged 15-44 calculated from the 1971 and 1980 Census using geometric extrapolation.

ESTIMATED NUMBER OF NEH ACCEPTORS BY METHOD, INDONESIA, FISCAL YEAR 1979/80-1983/84

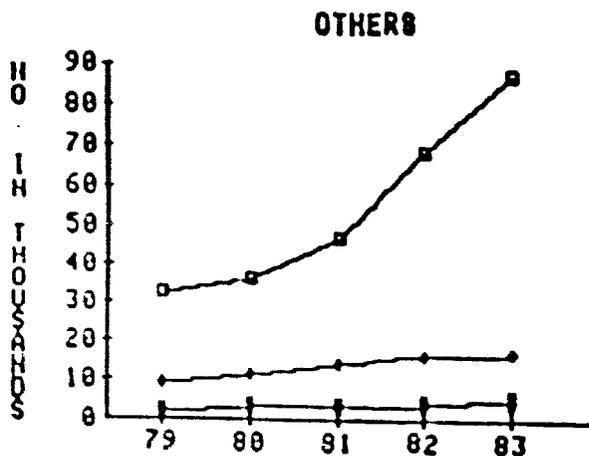
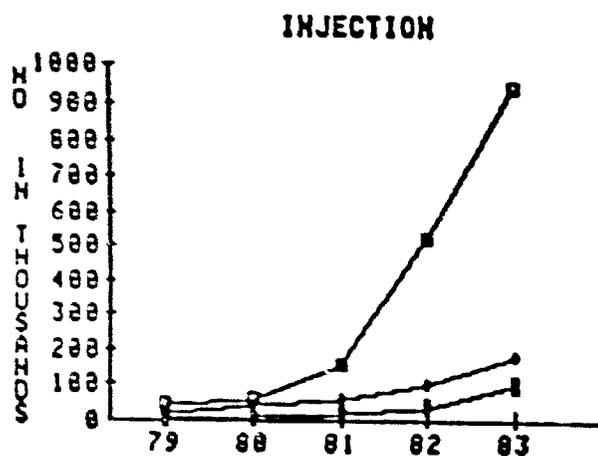
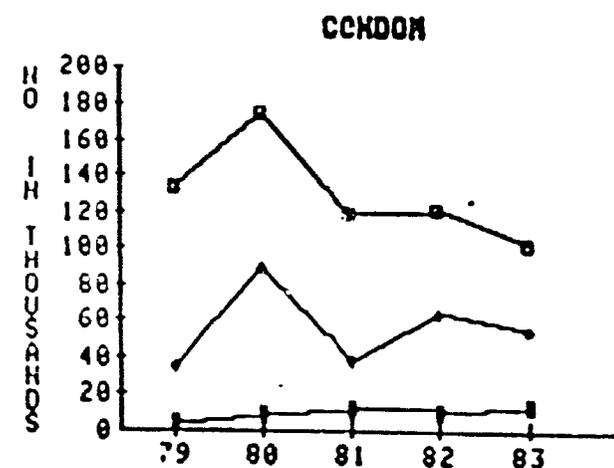
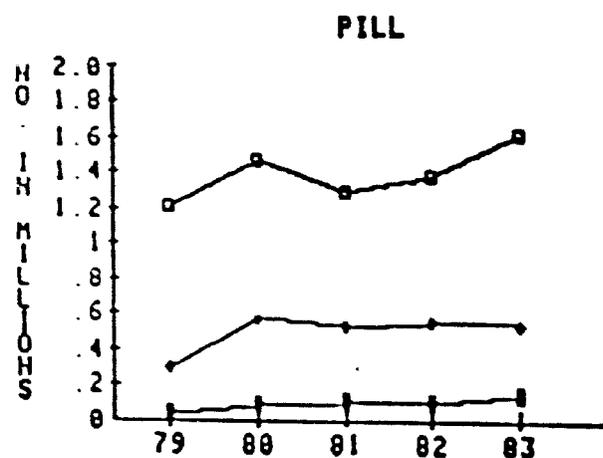
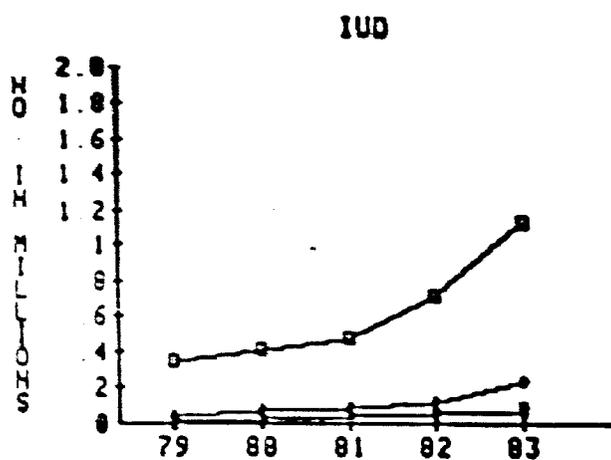


ESTIMATED NUMBER OF NEW ACCEPTORS BY ISLAND GROUP BY METHOD: INDONESIA, FISCAL YEAR 1979/00-1983/84



- IUD
- PILL
- CONDOM
- INJECTION
- OTHERS

ESTIMATED NUMBER OF NEH ACCEPTORS BY METHOD BY ISLAND GROUP: INDONESIA, FISCAL YEAR 1979/80-1983/84



■ JAVA-BALI
 ◆ OUTER ISLANDS I
 ■ OUTER ISLANDS II

FISCAL YEAR

Table 18
ESTIMATED NUMBER OF NEW ACCEPTORS BY PROVINCE BY METHOD: FISCAL YEAR 1979/80-1983/84

Province/ Fiscal Year	Method					Total	% of New Acceptors that were reported on time
	IUD	Pill	Condom	Injection	Other		
Java-Bali							
DKI							
1979/80	27281	77244	8224	6428	6615	125795	95.1
1980/81	35298	106473	10169	9992	2710	167646	93.2
1981/82	42924	106650	7613	20205	6553	181947	95.6
1982/83	59887	109131	7413	51460	7159	234635	94.9
1983/84	91634	133249	9020	96175	8623	338704	95.8
West Java							
1979/80	74636	437271	3467	12380	4489	532046	94.2
1980/81	100061	503477	2186	16097	4396	626200	90.0
1981/82	115008	399404	3631	72472	6136	596856	93.1
1982/83	235956	421762	12039	305314	17173	1002246	98.4
1983/84	295863	724697	4302	490887	15419	1531175	98.7
Central Java							
1979/80	83643	388370	8707	16536	7147	576408	98.3
1980/81	95020	535619	10245	31649	18902	770439	96.0
1981/82	123484	426122	70313	4999	18874	667795	96.7
1982/83	187968	470056	67296	12246	15984	86352	95.7
1983/84	202266	340471	48547	241034	27740	1060060	94.3
DI							
1979/80	9552	12266	18927	1504	3405	52697	97.9
1980/81	17073	20559	24687	3564	3338	68423	97.3
1981/82	22213	11200	10412	4026	5529	53393	99.6
1982/83	22035	1291	8901	599	6594	32722	96.7
1983/84	31615	6430	4315	5870	8493	56726	99.0
East Java							
1979/80	127382	284728	15353	6407	8747	42621	97.2
1980/81	131133	296060	21531	11657	9718	470072	95.7
1981/82	137821	336757	19210	21638	13296	528725	95.2
1982/83	169901	373252	22070	38682	18732	622639	97.5
1983/84	28093	412254	32960	106661	25014	856974	96.8
Bali							
1979/80	26241	7137	5969	726	2531	42607	99.5
1980/81	27927	7162	4141	789	2532	42624	98.6
1981/82	27682	8513	3793	2071	2461	46525	97.3
1982/83	33203	6931	3881	3057	5674	50148	94.3
1983/84	32844	6133	3880	3506	3115	51481	98.4
Total							
1979/80	39543	1211248	134395	43957	33029	1772174	96.6
1980/81	407399	1463130	175994	62767	36210	2145402	93.8
1981/82	469977	1284696	118576	13559	47219	2075029	95.3
1982/83	718315	1390853	121113	527163	68512	2825938	97.0
1983/84	1124739	1625947	101913	948398	88124	3895120	96.8

ESTIMATED NUMBER OF NEW ACCEPTORS BY PROVINCE BY METHOD: FISCAL YEAR 1979/80-1983/84

Province/ Fiscal Year	Method					Total	% of New Acceptors that were reported on time
	IUD	Pill	Condom	Injection	Other		
Outer Islands I							
DI Aceh							
1979/80	931	12962	560				
1980/81	1958	34763	2723		897	15679	
1981/82	2128	25469	1684		159	41273	83.1
1982/83	3485	29949	2330		3053	32592	80.0
1983/84	4289	35444	2369		5254	41216	88.4
North Sumatra							
1979/80	6917	57270	20677				
1980/81	8790	135615	54875		2639	2639	
1981/82	21885	89032	12261		4630	4414	91919
1982/83	22959	126054	34152		8679	4907	208820
1983/84	51867	98104	22296		28455	6591	137447
West Sumatra							
1979/80	9166	19851	2138				
1980/81	14162	35745	4805		1817	727	
1981/82	17694	37287	4039		7035	842	33703
1982/83	15637	29623	5227		9463	987	63591
1983/84	22932	37655	4077		11452	993	69473
South Sumatra							
1979/80	1541	21702	2102				
1980/81	5743	47596	9168		866	956	27171
1981/82	7185	50441	6873		2570	1403	66483
1982/83	10936	27029	10197		4601	2587	71990
1983/84	26725	78050	11662		7713	3169	99247
Lampung							
1979/80	3733	48506	3850				
1980/81	5057	65360	3966		1242	320	57654
1981/82	8375	57820	2270		2348	652	77386
1982/83	23591	68618	2405		4841	501	73809
1983/84	33414	84487	2829		8766	587	103970
West Nusa Tenggara							
1979/80	4103	28599	1415				
1980/81	5069	56301	2615		204	275	34598
1981/82	7354	61778	4061		719	333	64939
1982/83	16353	46743	1013		1824	295	75315
1983/84	26409	29518	514		2819	284	67214
					3549	316	60304

ESTIMATED NUMBER OF NEW ACCEPTORS BY PROVINCE BY METHOD: FISCAL YEAR 1979/80-1983/84

Province/ Fiscal Year	Method					Total	X of New Acceptors that were reported on time
	IUD	Pill	Condom	Injection	Other		
<u>Outer Islands I (cont.)</u>							
West Kalimantan							
1979/80	2158	13015	905	157	149	16387	75.1
1980/81	3829	38133	6017	1582	449	49515	77.4
1981/82	4631	33715	4763	1582	500	43894	80.9
1982/83	6213	39898	4758	3391	532	54495	90.7
1983/84	7643	45170	6587	7405	453	67261	92.0
Sou Kalimantan							
1979/80	1428	29482	448	637	209	32207	85.3
1980/81	1893	40602	829	1142	237	44705	84.8
1981/82	2663	43766	655	1909	309	49293	89.1
1982/83	3533	33570	538	4099	590	42403	91.1
1983/84	6522	35130	655	6950	426	49685	94.5
Nor Sulawesi							
1979/80	7826	20964	692	6863	827	37156	85.7
1980/81	11458	27730	1230	11114	1204	52740	81.2
1981/82	9331	16605	356	13084	952	40330	84.3
1982/83	13685	16849	400	15071	819	46827	87.9
1983/84	28871	16858	396	21942	1300	69339	96.4
Sou Sulawesi							
1979/80	3963	46529	1684	1641	818	54638	89.2
1980/81	8862	80066	2749	8052	810	100542	89.4
1981/82	12029	97121	2063	11079	652	122947	96.8
1982/83	11521	87068	1812	13136	1206	114746	96.5
1983/84	21927	72521	1430	18969	1033	115883	97.2
Total							
1979/80	42202	297727	35000	16982	8999	400912	86.3
1980/81	67195	561638	88496	40773	10888	768992	84.6
1981/82	91524	515120	37304	59369	13771	717090	85.5
1982/83	126246	545162	63679	100784	16025	851598	93.1
1983/84	230289	531472	53083	178391	16615	1009852	93.8

ESTIMATED NUMBER OF NEW ACCEPTORS BY PROVINCE BY METHOD: FISCAL YEAR 1979/80-1983/84

Province/ Fiscal Year	Method					Total	% of New Acceptors that were reported on time
	IUD	Pill	Condom	Injection	Other		
<u>Outer Islands II</u>							
Riau							
1979/80	744	3021	659	304	112	4840	78.1
1980/81	5723	12386	3074	1762	854	23804	70.7
1981/82	5040	13641	2730	1868	456	23738	87.9
1982/83	4553	14331	2360	3771	758	25776	90.0
1983/84	6223	21277	4205	10165	822	43095	91.5
Jambi							
1979/80	946	5706	577	708	136	8076	57.7
1980/81	2333	11325	795	1043	116	15614	60.2
1981/82	3473	15589	993	1945	155	22158	72.8
1982/83	5747	20291	2273	5865	201	34377	71.0
1983/84	6250	18324	1255	8301	277	34410	88.1
Benkulu							
1979/80	783	7140	620	138	52	8736	90.3
1980/81	4253	14270	985	358	144	20036	86.5
1981/82	5806	8262	583	629	208	15598	89.2
1982/83	8040	8660	546	2040	154	19462	94.2
1983/84	7276	12639	1043	9285	155	30381	94.9
East Nusa Tenggara							
1979/80	1627	2812	291	168	197	5097	76.1
1980/81	5676	10832	1252	1759	431	19145	51.4
1981/82	3435	12473	1260	1262	661	21074	84.8
1982/83	7562	11769	1205	5790	700	27029	69.1
1983/84	17853	20033	3099	29780	1916	72684	65.8
Central Kalimantan							
1979/80	403	4568	705	313	20	6013	74.4
1980/81	726	7283	631	337	88	9685	72.1
1981/82	1922	15796	946	3309	224	22200	48.1
1982/83	3249	12743	477	3713	90	20276	79.3
1983/84	4275	16777	440	5996	134	27624	83.9
East Kalimantan							
1979/80	917	5321	323	1375	391	8329	67.5
1980/81	1539	10873	539	2367	353	15654	66.5
1981/82	2833	11597	615	5116	504	20670	82.5
1982/83	4512	11740	745	7970	641	25610	83.5
1983/84	6126	13795	1005	9595	572	31096	77.6

ESTIMATED NUMBER OF NEW ACCEPTORS BY PROVINCE BY METHOD: FISCAL YEAR 1979/80-1983/84

Province/ Fiscal Year	Method					Total	X of New Acceptors that were reported on time
	IUD	Pill	Condom	Injection	Other		
<u>Indonesia</u>							
1979/80	404119	1545359	173206				
1980/81	507887	2109890	272543	63795	43310	2229791	
1981/82	604216	1898657	168054	110769	50153	3051244	94.2
1982/83	896203	2039605	193735	231150	64820	2966897	90.3
1983/84	1433697	2312037	167641	666945	88986	3885476	91.8
				1222480	110327	5246182	95.4
							95.3

Note: Total new acceptors obtained from the BKKBN Monthly Statistical Summaries' total new acceptors as of the end of a fiscal year. Number of new acceptors by method estimated by prorating total new acceptors as of the end of a fiscal year according to the distribution of the new acceptors that were reported each month on time for the whole fiscal year.

APPENDIX III

Table A-1

Fertility Assumptions Under Different Projections

Year	Projection* A	Projection** B	Projection*** C
1971	40.6	41.1	40.9
1972	39.9	40.6	40.3
1973	39.2	40.1	39.7
1974	38.7	40.5	39.6
1975	38.1	40.8	39.5
1976	37.5	40.6	39.1
1977	37.0	41.1	39.1
1978	36.4	41.2	38.8
1979	35.2	40.5	37.9
1980	34.0	40.3	37.2
1981	32.9	40.8	36.9
1982	31.8	40.2	36.0
1983	30.7	41.1	35.9
1984	29.6	42.8	36.2
1985	28.5	45.5	37.0
1986	28.5	44.5	36.5
1987	28.5	43.5	36.0
1988	28.5	42.5	35.5
1989	28.5	41.5	35.0
1990	28.5	40.5	34.5
1991	28.5	40.5	34.5
.	.	.	.
.	.	.	.
.	.	.	.
2001	28.5	40.5	34.5

*Actual Crude birth rates from 1971 to 1985 as estimated by Ross

**Hypothetical CBR in the absence of family planning programs as estimated by Ross

***Average of * and **

Table A-2
Assumed Life Expectancies For All Projections

Year	Male	Female
1971	*45.0	*48.0
1972	45.7	48.7
1973	46.3	49.3
1974	47.0	50.0
1975	47.6	50.7
1976	48.3	51.3
1977	48.9	52.0
1978	49.6	52.7
1979	50.2	53.3
1980	*50.9	*54.0
1981	51.2	54.3
1982	51.5	54.6
1983	51.8	54.9
1984	52.1	55.1
1985	52.4	55.4
1986	52.6	55.7
1987	52.9	56.0
1988	53.2	56.3
1989	53.5	56.6
1990	53.8	56.9
1991	54.1	57.1
.	.	.
.	.	.
.	.	.
2001	57	60

*Values reported by Ross, all other values are extrapolations.

Table A-3
Total and Per Capita Routine Expenditure on
Public Health

Year	Total Expenditure in Current Price* (in million Rps)	Total Expenditure in 1984 Price (in million Rps)	Per Capita Expenditure in 1984 Constant Price
1971	5,219.7	48,804	387.3
1972	6,024.8	49,403	383.6
1973	6,484.4	39,879	302.9
1974	11,285.0	47,284	351.5
1975	19,190.1	71,195	517.8
1976	17,379.1	56,482	401.9
1977	21,645.7	62,556	435.7
1978	25,978.6	67,285	458.8
1979	32,398.2	63,500	424.0
1980	50,082.5	76,125	498.0
1981	74,410.1	102,686	659.0
1982	78,531.0	100,520	633.2
1983	82,428.0	91,495	566.2
1984	93,526.4	93,526	568.9
1985	116,766.4	109,177	653.4

* Prepared by the Planning Division of the Ministry of Health

Table A-4
Total and Per Capita Development Expenditure on
Public Health*

Year	Total Expenditure in Current Price** (in million Rps)	Total Expenditure in 1984 Constant Price (in million Rps)	Per Capita Expenditure in 1984 Constant Price
1971	4,700.0	43,945	14,634
1972	5,684.0	45,609	15,317
1973	6,522.0	40,110	13,216
1974	13,488.3	56,515	18,132
1975	28,455.2	105,569	33,156
1976	37,254.0	121,076	38,050
1977	49,004.1	141,622	43,429
1978	50,547.3	130,918	39,386
1979	74,432.8	145,888	45,083
1980	114,546.5	174,111	54,156
1981	161,274.7	222,559	71,173
1982	204,199.9	261,376	85,167
1983	203,549.1	225,940	75,233
1984	203,549.1	203,549	70,383
1985	209,859.1	197,268	71,139

* Figures include expenditures for INPRES starting in 1974.

** Prepared by the Planning Division of the Ministry of Health.

Table A-5
Educational Enrollment Rates

Year	Primary* (%)	Lower Secondary (%)	Upper Secondary (%)
1971	63.0	11.5	6.6
1972	64.0	13.4	7.0
1973	64.0	15.3	7.5
1974	64.0	17.0	7.9
1975	66.3	18.7	8.3
1976	68.6	20.6	9.6
1977	70.9	22.1	11.2
1978	73.1	27.3	12.8
1979	75.4	27.9	15.0
1980	77.7	29.9	17.0
1981	80.0	33.7	19.0
1982	81.4	37.4	20.8

Total number of students for various school levels are taken from School Statistics Summary published by the Research and Development Division of the Ministry of Education and Culture.

* 1971's net enrollment rate in primary school was estimated by the World Bank and reported in Education Sector Survey Report, Feb. 5, 1975. Net enrollment rate for the rest of the years were derived by assuming the proportion of over-age students remained the same.

Table A-6
Total and Per Capita Development Expenditures on
Primary Education

	Total Development Expenditure in Current Price* (in million Rps)	Total Development Expenditure in 1984 Constant Price (in million Rps)	Per Capita Development Expenditure in 1984 Constant Price (in thousand Rps)
1971	11,100.0**	103,785	232.2
1972	13,700.0**	112,340	437.7
1973	16,300.0***	100,245	418.7
1974	20,643.0***	86,494	117.1
1975	21,833.7	81,003	105.2
1976	61,583.0	200,145	243.6
1977	94,236.9	272,345	319.0
1978	32,919.5	85,262	101.3
1979	170,700.0	334,709	389.2
1980	272,660.0	414,443	465.2
1981	409,504.0	565,116	838.4
1982	314,610.0	402,701	641.2
1983	597,510.0	663,236	1,064.4
1984	679,690.0	679,690	1,055.0
1985	592,308.0	556,770	954.1

* Figures reported by the Research and Development Division, Ministry of Education and Culture.

** Extrapolations

*** "Education Sector Survey Report." World Bank Report No. 4430-IND. February 5, 1975. P.27, Table 11.

Table A-7
Total and Per Capita Development Expenditure
on Lower Secondary Education

	Total Development Expenditure in Current Price* (in million Rps)	Total Development Expenditure in 1984 Constant Price (in million Rps)	Per Capita Development Expenditure in 1984 Constant Price (in thousand Rps)
1971	---	40,000*	205.0
1972	---	43,245*	212.8
1973	---	46,490*	241.1
1974	11,870	49,735	247.1
1975	12,550	46,561	203.4
1976	15,430	50,148	257.2
1977	16,870	48,754	82.3
1978	37,010	95,856	778.9
1979	30,000	58,800	216.8
1980	52,070	79,146	166.2
1981	71,390	98,518	205.4
1982	205,170	262,618	1,338.0
1983	206,170	228,849	1,089.3
1984	249,730	369,890	1279.3
1985	363,500	369,890	1,714.7

* Research and Development Division, Ministry of Education and Culture

** Extrapolations

Table A-8

Total and Per Capita Development Expenditures on
Upper Secondary Education

	Total Development Expenditure in Current Price* (in million Rps)	Total Development Expenditure in 1984 Constant Price (in million Rps)	Per Capita Development Expenditure in 1984 Constant Price (in thousand Rps)
1971	---	30,000**	646.3
1972	---	31,299**	592.4
1973	---	32,598**	724.0
1974	8,090	33,897	702.8
1975	15,320	56,837	415.9
1976	18,810	61,133	355.7
1977	26,340	76,123	424.8
1978	25,390	65,760	266.9
1979	43,200	84,672	361.0
1980	63,660	96,763	397.7
1981	76,820	106,012	455.0
1982	120,000	153,600	1,022.3
1983	121,000	134,310	884.0
1984	146,600	146,600	937.9
1985	213,340	200,540	1,124.0

* Research and Development Division, Ministry of Education and Culture

** Extrapolations

Table A-9
Per Capita Routine Expenditures in Education*

(rupiahs)

Year	Primary		Lower Secondary		Upper Secondary	
	1980 Price	1984 Price	1980 Price	1984 Price	1980 Price	1984 Price
1980	36,000	54,720	97,000	147,440	108,000	164,160
1990	62,000	94,240	165,000	250,800	184,000	279,680

* "Indonesia: Financial Resources and Human Development in the Eighties."
World Bank Report No. 3795-IND, May 3, 1982. P.122, Table 6.4.

Table A-10

Total Expenditures of the Family Planning Program

Year	Total Expenditure in Current Price (in million Rps)	Total Expenditure in 1984 Constant Price (in million Rps)
1971	2,676	25,021
1972	3,472	28,470
1973	7,542	46,383
1974	7,812	32,732
1975	9,495	35,226
1976	12,699	41,272
1977	19,552	56,505
1978	21,788	56,431
1979	30,735	60,241
1980	50,007	76,011
1981	59,250	81,765
1982	62,553	80,068
1983	62,816	69,726
1984	66,606	66,606
