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AGENCY FOR INTERNATIONAL DEVELOPMENT

OFFICE OF INFORMATION RESOURCES MANAGEMENT

FINAL REPORT:
MID-TERM ASSESSMENT OF THE
MODERN MANAGEMENT TECHNOLOGY COMPONENT,
VILLAGE DEVELOPMENT FAMILY SERVICES PROJECT
(PROJECT NUMBER 497-0327)

IRM/MPS/PROJECT SUPPORT

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FINAL REPORT:
MID-TERM ASSESSMENT OF
THE MODERN MANAGEMENT TECHNOLOGY COMPONENT
OF THE VILLAGE DEVELOPMENT FAMILY SERVICES PROJECT

Prepared for:

USAID/Jakarta Office of Population and Health and
The National Family Planning Agency of Indonesia (BKKBN)

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I. INTRODUCTION

This report was prepared for the management of the GOI National Family Planning Agency (BKKBN) and the USAID/Jakarta Office of Population and Health. It presents the findings of a midterm assessment of the Modern Management Technology Component (MMTC) within the Family Planning Development and Services II Project (#497-0327). The assessment team consisted of two SER/IRM analysts from AID/W, one consultant from the Education Development Center, and a staff member of the GOI Agency for the Assessment and Application of Technology (BPPT). The effort was funded by USAID/Jakarta, SER/IRM, and ANE in AID/W.

This report examines the status and impact of information technology (IT) within the BKKBN Central office in Jakarta, and two BKKBN Provincial Offices (Bali and Yogyakarta). This section describes the purpose of the assessment and the methodology utilized by the assessment team. Section II presents a brief summary of the background of the MMTC. Section III describes the objectives of the MMTC and progress toward their achievement. Section IV presents conclusions. Section V offers recommendations and lessons learned. Section VI briefly summarizes the findings and recommendations.

At the outset, the team would like to thank the BKKBN staff for their assistance and insights which were vital to this assessment effort. Dr. Haryono's support was particularly key. Mr. Made, Chief of the Center for Data Processing and Computers (PUKOM) and his staff at the Central PUKOM office and at the Provincial Data Processing Centers (PDJIs), provided information that was essential to understanding the role of computers in BKKBN. James Filgo, the key staff person of the MMTC was extremely generous in helping to make the assessment both fruitful and interesting. The USAID personnel also offered valuable support to the assessment activities.

Purpose of the Assessment

The assessment had two major purposes. The first was to assess the progress and impact of the Modern Management Technology Component of the Village Development Family Services Project in BKKBN. It utilized the objectives of the MMTC as a basis for assessing progress and impact:

- Improve data processing capabilities
- Increase analytical skills
- Improve financial management
- Establish an historical database of BKKBN

- o Expand access to data within BKKBN
- o Improve personnel management

The second purpose of the assessment responded to concerns that USAID evaluations too often focus solely on hardware and software without considering the impact of information technology projects on the management and decision-making capabilities of a host country agency. The intent was to test an interview and observation instrument as a means for revealing such impacts.

Methodology

To conduct the assessment, the team undertook several types of activities:

- o Interviews with principal MMTC personnel in USAID/Jakarta.
- o Interviews with computer staff and with key managers in the Central BKKBN Office in Jakarta and in two Provinces, Bali and Yogyakarta.
- o Interviews with advisors providing assistance to BKKBN in family planning programs.
- o Review of project documents.
- o Observation of computer use activities across the BKKBN Central Office and in the two Provincial offices
- o Examination of sample microcomputer output from various Bureaus and Divisions.

II. BACKGROUND OF THE MMTC

In 1981, BKKBN installed a minicomputer (a Data General Eclipse C-350), and has since used it to process data for monthly reports on contraceptive usage. In the Summer of 1983, a study of BKKBN's information system was conducted by Dr. J. Phillips. His key recommendations included: Build a staff of programmers and analysts, establish well-defined procedures for data collection and tabulation, train staff on database management systems, and integrate word processing and data processing.

In 1983, the Center for Data Processing and Computers (PUKOM) was created at BKKBN. In 1984, with the assistance of Dr. Tan Soie Tien, a five year strategic Information Systems Plan was formulated. One of the critical strategies in the plan was to introduce microcomputers, both at the central level as well as in the province level, in support of a major decentralization effort. In 1985, Dr. Tien's recommendations began to be implemented.

In April 1986, Mr. James Filgo was brought into the MMTC as a full-time automation consultant to assist the organization. By October 1986, PUKOM staff, under the direction

of Mr. Made Are Subrata, and with assistance from Mr. Filgo, had formulated a set of policies, procedures, and tactical plans to install the microcomputers in the Central Office and in the field. This plan was validated by an evaluation conducted by Dr. M. Rycus in October 1986.

In October 1986, training in microcomputer operations began with rented machines at a local facility in Jakarta. By November 1986, the first ten micros – four for the Central Office in Jakarta and six for the Java-Bali Provinces – arrived and were installed.

In January 1987, 21 more microcomputers were ordered for the outer Provinces. Due to bureaucratic delays in AID/W, however, no action was taken until August 1987, and the machines were not delivered until July of 1988. This delay had a negative impact on the introduction of microcomputers in some of the Provincial offices. In order to mitigate those effects, MMTC procured fourteen microcomputers locally as a stop gap measure. Those micros were used in early 1988, to provide training to the Outer Island Provinces.

By the Summer of 1988, microcomputers were operating in the BKKBN Central Office and 15 out of 27 targeted Provinces. The other Provinces were experiencing hardware problems. In addition, electronic mail, and a local area network had been installed in the Central Office, as well as a regional data communications link between the Central Office and most of the Provinces.

BKKBN is currently in the process of acquiring a new minicomputer to replace the present one. This effort is being funded by USAID under an extension of the present project. The technical requirements for the new minicomputer were drawn by a local consulting firm, PT. GIN, validated by a U.S. consulting firm (AMS), and approved by IRM AID/W. The Request for Proposal is now complete and ready to be released to vendors. It is
expected that by the first quarter of 1989, the vendor will have been selected and the machine installed.

III. ACHIEVEMENTS OF THE MODERN MANAGEMENT TECHNOLOGY COMPONENT

The MMTC conducted a number of activities to achieve its goals, outlined above (see pages 1-2).

Development of Hardware Architecture

The existing computer system architecture is composed of a Data General Eclipse minicomputer with 1 MB of RAM, 4 90MB disk drives, two 1600/6251 BPI tape drives and 8 terminals. Over 40 microcomputers are installed throughout central BKKBN headquarters. Most of these microcomputers are linked via a highly sophisticated and complex telecommunications architecture. It includes an Ethernet-compatible local area network (LAN) which links the microcomputers to three network servers (IBM compatible PC 80386-based machines), allowing them to transfer files, access data/programs, and send communications messages remotely using Telebit modems along with Seadog/Fido communications software and bulletin board system. In addition, a digital PBX (Harris 20/20) with 160 analog lines and 40 digital lines has been

installed. The microcomputers and the PBX are connected to the LAN backbone via Bridge CS/100 and CS/200 boxes.

During the past two years, a microcomputer has been installed in each of the 27 Provinces. A typical Provincial Office computer system configuration consists of an IBM PC/XT or AT compatible microcomputer, with a 360KB or 1.2MB floppy disk drive, 20MB hard disk, 2 serial/1 parallel parts, monochrome/graphics adapter and monochrome monitor, dot matrix printer and modem. Some technical problems have resulted due to power failures, faulty equipment and limited funding for technical support/maintenance. Some outer Provinces have only recently received machines. However, fifteen of the Provincial Offices can use their microcomputer for data communications, data entry, and basic analysis of program data. Some Provinces have also added another microcomputer through funding other than the MMTC.

In addition, a pilot project using packet radio has been implemented on an experimental basis. A Kantronics (KAM) Terminal Node Controller is connected to a 10 watts transmitter working on a UHF assigned frequency. The TNC is connected to the file server in the LAN.

Development of Software

In the Central Office of BKKBN, many organizational units are using simple microcomputer applications not currently supported by the minicomputer system. Examples of areas in which microcomputer applications are used include: personnel, education and training, salary data, library entries, research studies, program monitoring, integration of program data, and registration of family planning participants. Software packages being used to support these applications include:

- DOS
- WS2000
- Lotus 123
- Wordstar 4
- Quattro
- SPSS
- SAS
- Ventura Publisher
- Harvard Project Mgr
- Microsoft Chart
- Diagram Master
- Chart Master
- Formstool
- DBase III Plus
- Paradox
- Norton Utilities
- Symphony
- Lanlink

On the minicomputer, an AOS operating system is being run with a COBOL compiler to accommodate data entry from provincial sites and print critical financial and program reports. The following reports are now processed by PUKOM on the minicomputer:

- Clinical data/contraception services
- Field work control
- Registration of Fertile Age Couples
- Logistics/Warehouse
- Budget
- Office Inventory

Limited staff and hardware/software has kept PUKOM from developing other minicomputer applications, such as a corporate database. With the new minicomputer purchase, ORACLE DBMS software will allow BKKBN to standardize organizational data, reporting, and administration formats within a compatible software framework/environment. The decision to develop a machine-independent operating environment that is well supported from the vendor community should address many previous issues concerning data integrity, data access, and report flexibility.

Improvement of Management Capabilities

In addition to helping develop the hardware and software tools which BKKBN management can use, the MMTC undertook training and technical assistance to enhance computer staff skills and managers' ability to use the information system to improve management operations and decision-making.

Training for PUKOM Staff

For computer staff, a variety of training efforts were conducted. Within PUKOM, the staff are informally organized into four groups:

- Microcomputer Division
- Data Communications
- Administration
- Minicomputer Division

During the past two years, Mr. Made, Head of PUKOM, has greatly upgraded the computer staff, both through training and by bringing in staff with more education and quantitative skills. The MMTC has assisted in this development primarily by providing considerable hands-on on-the-job-training (OJT) in data communications and in microcomputer applications and operations. Extensive training in minicomputer operations and applications will begin with the introduction of the new minicomputer.

Microcomputer Staff

As a result of these efforts there is a reasonably strong microcomputer staff of nine. These trained staff understand, can use, and can train others in the use of several packages, including Lotus 1-2-3, Quattro, Paradox, Wordstar, and SPSS, as well as the DOS operating system. In addition, they can install a microcomputer and make routine repairs. Their training is primarily informal, by the MMTC advisor and through OJT and self-teaching. In addition, some received a week of formal training from the MMTC advisor on the network, and some have had training in particular software packages by outside organizations.

Communications Staff

MMTC training for the system communications staff of four has also been on-the-job training, supplemented with special workshops. This group has not, however, developed the depth of the other computer staff. The Division Chief understands how to maintain the existing network and can do much of the trouble-shooting. His assistant can do simple maintenance, set up a workstation, and do some diagnostics. Two others can install a network. Thus, the group is ready to undertake the routine duties of data communication installation and maintenance. They cannot, however, entirely take over all of the roles now played by the MMTC advisor. They still rely on the advisor for assistance in reconfiguring the overall system, and for more sophisticated trouble-shooting.

Minicomputer Staff

The minicomputer staff includes four programmers, three of whom have training in systems analysis, 10 data entry staff, and three operators. Most of the training in minicomputer operations and applications has been OJT. The head of the minicomputer division, for example, has his formal education in economics, but graduated while working as a programmer analyst, and knows COBOL, FORTRAN, BASIC, and DBASE III.

One of the most important roles associated with an information system involves identifying the information which managers and senior decision-makers really need and presenting it in a useful way. It is a role – often considered "systems analysis" – that has been difficult to develop in all countries, industrialized as well as developing. In PUKOM, some of the minicomputer staff understand the formal concepts of systems analysis. They have little experience, however, in identifying new ways an automated information system can help improve management and decision-making. Nor do they have experience teaching others how to present information to managers so it supports improved organizational performance.

Nonetheless, some staff (at least as represented and described by the head of the minicomputer division) do have the skills to learn such techniques. However, the existing formal organizational structure places this role in the Division of Reporting.

Training for Staff Outside PUKOM

PUKOM, with assistance from the MMTC, has provided training to computer staff in the Provinces and to upper and middle managers in the Central BKKBN Jakarta office and the Provinces. Training was revised after the early sessions in 1986, in response to feedback from participants.

The training has been organized in three layers (see organizational charts in Appendix B). First, executive training was held for Deputies in the Central office and Provincial Chiefs. These senior managers received three days of training that introduced them to major computer capabilities and microcomputer applications. The training included an introduction to DOS, a demonstration of SPSS, Lotus 1-2-3, Paradox, and word processing.

Second, Division Chiefs in the Central office and the Heads of the Provincial PDJIs received training. In the first round of this training, these staff received a three day introductory training sessions similar to the executive training. Afterwards, however, PUKOM and the MMTC advisor received complaints that training was not adequate for this level. As a result, the training for this level of staff was expanded. It now spans three weeks, including one week on Lotus 1-2-3, one week on Paradox, three days on word processing and two days on SPSS.

The third level of training is for two other people from a Central Office Division and from the Provincial PDJIs. It consists of a three week session similar to that given to the Central Division Chiefs and Provincial PDJI heads.

The total number of BKKBN staff who have received one of these types of computer training, with the support of the MMTC, is approximately two hundred.

In addition to this organized training, individual divisions in the Central Office have received informal training in particular applications or packages that fit their special needs. Often, such training is provided by PUKOM in response to requests for assistance from the Division.

Further training is planned for 1989. As part of a pilot project effort, West Java Kabupaten staff will be trained by the West Java Provincial PDJI staff in Bandung, reinforced by PUKOM staff. The training will focus on data entry, the use of "canned" applications developed by PUKOM, and word processing. There are also plans to upgrade the Provincial PDJI staff. Those who only received the three day training, or are new to the job, will receive the expanded three week introductory training. In addition, those who already had the three week training will receive upgrading training.

The Central Office Bureaus have also begun offering some training in computer applications. Thus far, however, this training has been limited to very brief (often one day or less) introductions and demonstrations of particular microcomputer applications like Lotus 1-2-3.

Improving Communications and Management Performance

A major obstacle to development in many countries is the lack of a readily accessible and reliable communications system. Indonesia is no exception. One of the most important contributions of the new BKKBN information architecture is therefore the ability to communicate easily and quickly between the Central office and the Provincial offices. Virtually every senior manager in BKKBN identified the communications facility between Jakarta and the Provinces as a key contribution made by the information system.

Unfortunately, the link is not reliable between Central office and certain Provinces. Telecommunications lines are of poor quality and often either busy or not functioning well. The PDJI staff of some provinces have little understanding of the network operations and maintenance.

Building on Achievements: Obstacles to Overcome

One of the major objectives of the MMTC has been to help provide BKKBN managers with improved IT services. At the Central office, these efforts have been highly successful. There is a reasonably strong microcomputer staff that services managers. There is a strong service mentality among the PUKOM staff. Building such a group can be considered the first "stage" of an IT transfer project.

The BKKBN Central Office and some PDJI offices are now ready for the second "stage:" Development of staff with strong computer skills who can communicate effectively with managers and who understand how the organization works so that they can help improve decision-making. Many people within PUKOM, and a few in the Provinces visited by the team, are ready and eager to provide such services.

To build this "second stage," however, several needs must be filled and obstacles overcome related to:

- Training
- The incentive system
- The organizational structure

First, PUKOM staff and the PDJI staff need more formal and in-depth training in the use of software packages and in skills in supporting decision-makers' information needs.

Second, managers and executive decision-makers need a greater understanding of the ways in which the information system can support their activities. A long step has been taken in making managers aware that computers can be an effective management tool. The leadership of Dr. Haryono has been key in developing this sense, as well as a conviction that the information system can be important in improving management and decision-making. In addition, in the Central office, training by the MMTC and PUKOM, as well as other advisors, has "seeded" many Divisions with people who have begun to use microcomputers to support improved decision-making.

Nonetheless, managers need more training that is more clearly focused on their needs. In the Central office, those with strong basic skills need more training specifically in how various software packages can help them do their jobs more effectively. In the Provinces, it appears that many managers have a vague sense that computers should be helping them, but have little grasp of how. Both groups need ready technical support if they are to utilize the information system as a powerful tool to enhance BKKBN's performance.

The formal incentive system does little to support development of a strong information technology capability within BKKBN. This problem is not unfamiliar to public sector agencies in developed as well as developing countries. Pay scales make it difficult to recruit highly skilled people into computer facilities, and other incentives must usually be offered. In the case of BKKBN, the organization's reputation for being a highly respected and successful agency, as well as strong support for training and education within the agency can be an effective incentive. Nonetheless, these conditions pose a challenge for PUKOM staff.

The organizational structure of BKKBN also makes it more complicated for PUKOM to provide support to managers and decision-makers. The formal organization requires Bureaus and Divisions in the Central office to request reports and information from the Bureau of Planning and Analysis rather than directly from PUKOM. This may create a severe bottleneck as the demand for information increases. It is informally overcome by some divisions, who go directly to PUKOM with their requests.

Another source of potential problems is the overlap of responsibilities between PUKOM and the Documentation and Information Division (PUJID). This overlap impedes the proper coordination and implementation of an information technology strategy.

IV. CONCLUSIONS: IMPACT OF THE MMTC

The foregoing discussion described the achievements of the MMTC and some obstacles it still faces. This section summarizes the impacts of the MMTC on BKKBN information system capabilities and the effect on management performance.

Design of the MMTC

1. The approach adopted by the MMTC, to phase in computer technology first with microcomputers and associated training and then to adopt a new minicomputer, proved to be a viable and successful way to achieve the key goals of the MMTC.

Hardware Architecture

1. The information architecture is well-designed and rational. There is a well-balanced current and planned usage of microcomputers and a minicomputer to develop applications.

   The BKKBN experience clearly demonstrates the value of microcomputers when a minicomputer is expensive to upgrade.

2. There is a reliable minicomputer-microcomputer network at the Center and in many Provinces.

   The MMTC has helped BKKBN to establish a mini-microcomputer network, as well as to provide stand-alone microcomputers throughout the BKKBN Central office. Every division has approximately 2-4 microcomputers, about half of which are from the MMTC, and half provided through other donors, usually after the MMTC micros were being used.

   The microcomputers at the Central office are largely reliable and serviced in a timely manner. Differences in servicing seem to reflect the importance of microcomputers to the division. In the Research Division, for example, when a printer went "down" PUKOM loaned them another until it was fixed. In another division, a printer has been down for several days, and they do not know when it will be fixed.

   In general, however, managers reported that the machines from the MMTC rarely have problems and the problems that do arise are promptly fixed. The micros provided by other donors, however, have had somewhat more problems, which seem to be related to manufacturer.

3. A reliable hardware facility is key to keeping the confidence of managers and enabling those trained to retain their skills.

   At the Central Office, and in Provinces that have had few hardware problems, or have been able to make repairs quickly, managers have a great deal of confidence in the system and interest in using it. In contrast, Provinces where there have been serious hardware problems through lack of back-up equipment and/or the skills of the local computer staff, managers are very wary of using the information system. Furthermore, managers who got training in computer skills lost those skills when the computer system was down for some time. In those cases, it will take an extended period of reliable service to rebuild managers' confidence. It is always harder to rebuild the confidence of managers than to win it in the first place.

   This experience clearly shows the importance of investing enough resources to build a reliable system wherever a computer system is introduced. There need to be sufficient machines, parts, supplies, and accessories to ensure reliable service.

4. Developing an in-house maintenance capability has been vital to the successful use of microcomputers and will be critical to the success of the minicomputer adoption.

Software

1. Use of software, including spreadsheets, database management packages, and word processing, has been firmly established in groups that "seed" many Central Office Divisions.

   Most applications on the microcomputers and the minicomputer appear to be well established, at least among a few people in each division, and among many people in

some divisions. In some divisions Lotus 1-2-3 and Paradox represent 50% or more of the micro use. Central Office managers reported that they have no problem receiving assistance from PUKOM staff when they have a software question or problem.

2. Provincial office staff vary greatly in their ability to use software packages.

   The situation in the Provincial Offices is quite different from that in the Central Office, reflecting staff skills, quality of training, and insufficient local technical support. PDJI staff vary widely in their ability to provide microcomputer-related software assistance or applications to the managers.

   At one extreme is the situation represented by Bali, where the head of the PDJI is a highly sophisticated and skilled person who understands both the computer applications and management needs. He has developed applications that have improved management capability in the Provincial office. At the other extreme are provinces with PDJI staff who still do not really understand the computer applications and are struggling just to keep machines and "canned" applications running.

3. The use of spreadsheet and database management packages is not yet completely standardized.

   More than one spreadsheet or database management package are being used in some Central office divisions. In terms of spreadsheets, Lotus 1-2-3 was a standard. Some Central Office Divisions are now exploring the use of Quattro, which has better graphics and is faster in some areas.

   BKKBN is moving to standardize on two database management packages. Although some Divisions are using dBase III, they are shifting to Paradox for stand-alone micros, and expect to use Oracle on the mini and networked microcomputers.

Training

1. Developing a viable in-house training capability – in contrast to contracting outside services – has been critical to institutionalization of effective and successful use of microcomputers in BKKBN.

2. Training has developed a strong core of microcomputer users in many divisions in the Central office and a few in the Provincial offices.

   The tactic of training a few people in each Division to "seed" that Division has been an effective way to use scarce training resources. In the Central Office there is now a large enough pool of skill to support people who have learned how to use applications but need occasional assistance. They have begun training others. There is widespread interest in computer skills in the Central Office, both among those who have developed skills and those who have not.

3. Training has encouraged and supported the use of database management packages and spreadsheets in addition to word processing.

   The use of database management and spreadsheets has been quite high, reflecting training provided by PUKOM as well as some assistance or workshops from outside consultants. There is active interest in receiving training to use these packages more effectively and widely.

4. Training has been ambitious, and tried to cover too much too quickly.

   In the formal training sessions, managers are trained in a large number of software tools, covered in a very short time. As a result, most managers lack depth in any one package. This is a particular problem in the Provinces. Since many managers lack even fundamental knowledge of computers, they are left with little more than an impression about how computers might be used.

   It is important to note that PUKOM and the MMTC have recognized that this is a problem and lengthened the training period and reduced the material covered. Nonetheless, formal training plans continue to be too ambitious, covering too much material in too short a time.

5. Training does not address the vastly different levels of computer and quantitative skills within the Center and between the Provinces.

   The same training is provided to all computer staff and managers who are at the same staff levels. As a result, managers with a good background in statistics are taught the same material as those with few quantitative skills. Managers who can quickly grasp the use of computer applications are taught the same material, in the same classes, with those who are mystified by computers. Furthermore, managers who never do statistical analysis are taught about a statistical package. Managers who are unlikely to ever use a database management package are taught Paradox.

   As a result, some managers are frustrated because they want deeper training in certain packages that they use often. Others are completely lost and have no idea how packages can be used.

6. Training to bridge the communications gap between computer staff and managers has begun, but needs more attention.

   Although a good start has been made to develop an effective communication bridge between managers and computer staff, further training on both sides is needed. PUKOM has begun to take managers with quantitative skills and train them as computer staff. This will help develop a computer staff that serves the management needs of BKKBN. Yet much more training is needed to help the PUKOM staff develop skills in assessing the information needs of managers, and providing information in a form managers can use effectively.

In addition, managers need to gain more computer skills and access to trained staff that understand both computer capabilities and substantive management and organizational needs.

These training needs are beginning to be addressed at the Central office, although they need more attention. They need far greater attention in the Provincial offices.

7. Greater institutionalization of communications systems skills is essential.

The communications facility is clearly one of the most important aspects of the existing architecture. It is also the source of the greatest concern about institutionalization. A complex system like this needs ongoing maintenance, as well as updates and reconfiguration as new machines are added. It appears that the systems communications staff need far more experience running, maintaining, and altering the system independently of the MMTC advisor.

Organizational Structure

1. The informal structure of PUKOM has responded to the changes in hardware and software capabilities.

The formal organizational structure of PUKOM cannot change until a Presidential decree is enacted. There are some informal organizational changes, however, that have occurred. One is in response to the microcomputers. The formal organizational structure was designed for a mainframe-like environment. With the introduction of microcomputers that structure was no longer viable. The existing informal structure (described on page 6) makes much more sense for the current system architecture and use.

PUKOM staff have been highly supportive of the decentralization of computer facilities, strongly supporting microcomputer use in the Divisions and in the Provinces. Considering the difficulty with which this type of support has been developed among computer staff in other countries, including the U.S., this is no small achievement.

2. There is no specific data administration position to respond to the needs of a new minicomputer database management system (DBMS).

The existing informal structure is intended to operate when the new minicomputer along with a new, powerful, multiuser database – is adopted. There is no specifically designated full-time data administration function within PUKOM either formally or informally. This will be a critical function with the adoption of the new mini. The consequences of not having a data administrator after the DBMS is up and running on the mini would include potential problems with data integrity, security, consistency, recovery, and backup.

3. A strong service orientation has been built in PUKOM, but is not fully institutionalized.

Reports from managers at the Central division level were consistently positive about the responsiveness of PUKOM to their needs, given PUKOM's resource constraints. Nonetheless, there are problems that result from PUKOM's limited staff and equipment. These limitations make it imperative for PUKOM to use staff and equipment as efficiently and effectively as possible. Yet there is no role within the administrative section of PUKOM to manage overall technical assistance, to keep track of requests, coordinate response, and analyze problem spots and trends that indicate future manpower, equipment, or software needs.

4. A formal Planning and Budgeting role has not been defined within PUKOM.

   There is an overlap in the role of PUKOM planning and budgeting responsibility. Right now, several people fulfill parts of that role, including the Head of PUKOM, the head of the microcomputer section, and the MMTC advisor.

5. No PUKOM staff keeps track of updates in hardware and software.

   The MMTC advisor currently fulfills the role of monitoring changes in hardware and software. The head of the systems communications section can read English and does follow some technical literature, and there are a few local journals in Indonesian that track hardware and software updates. However, tracking updates is done only informally, and the organization relies on the advisor to fulfill this need. In addition, there is no routine channel for dissemination of application updates to the Provincial offices.

Communications

1. The communications network has captured the interest and support of managers, particularly at the highest levels.

   One of the most important lessons learned from early microcomputer adoption projects has been the necessity of gaining leadership support early in a project by meeting the urgent needs of upper management. The MMTC project has done just that by establishing a network that has greatly improved communications between the Central office and the Provinces. The ability to communicate with the Provinces more quickly and accurately was named as a key and valuable contribution of the computer system by virtually every high level manager in the Central office, as well as the heads of Divisions in the Provinces.

   Dr. Haryono has capitalized on the network to encourage all of his staff to learn to use the computer. He has asked that reports and information be sent to him via the computer network, and makes it clear that he uses the computer system effectively himself.

   In addition, other senior managers log into their own PCs every morning to get their messages.

   This type of use sends a strong message to all those working in BKKBN, making it clear that senior management supports and encourages the use of the computer

system. This type of leadership support is invaluable to a successful information technology project.

2. Communication between the Central Office and the Provinces has improved the access of central decision-makers to information used for decision-making.

   Information from the Provincial Offices is used each month to monitor programs, determine progress, and to make necessary reallocation of funds. Central Office managers are obviously better able to make these decisions if they have access to timely and accurate information from the Provinces. The computer system has enabled some Provinces to send this financial management and project management information via modem. It is often the only way that accurate, up-to-date information can reach the Center. Although the MMTC assessment team could not observe the actual use of the information in these decision-making sessions, the fact that both Central Office Deputies and Provincial Division Chiefs considered this an important step toward improving decision-making is indicative.

3. Improved communications has enabled the Provinces to get faster feedback about project performance and need for changes.

   BKKBN is a service organization. To be successful, it must respond to the demand from individuals for contraceptive services in a timely manner. This demand varies greatly among provinces, and even villages within districts. Thus, it is important for the local offices to have rapid feedback on shifts in demand and supply. The communications system provides a channel through which the Center can give the Provinces rapid feedback on local performance. However, not all Provinces have a reliable link to the Center as yet.

4. There is strong support for a computer network between the Provinces and the Kabupatens.

   At the Central office and at the Provincial offices, strong support was voiced for computers to be placed at the Kabupaten level to improve communication of information. It is envisioned that such a system will enable the Provinces to get information from the field more quickly and improve their ability to respond to local changes in demand and supply.

Data Management Capabilities

1. The use of computers has supported greater research efforts within the Central Bureaus.

   Several Divisions have launched research projects to improve understanding of such issues as the factors that determine differences in acceptor rates or affect drop-out rates. These Divisions are gathering data themselves from survey questionnaires in the field, and analyzing the data using Paradox or Lotus 1-2-3. They look forward to being able to use the larger capacity of the new minicomputer for very large studies.

2. Where computer staff understand the needs of management, valuable tools have been developed to improve decision-making.

   Where the computer staff understand the needs of managers, they have been able to develop software that helps to improve decision-making. One of the most impressive examples is a target-setting application developed by the head of the Bali PDJI. It has helped the head of the Planning Division to set more realistic targets and, most importantly, to argue effectively with the Central Office to support those decisions. The head of the PDJI office was able to develop the application because he has good computer skills and a solid understanding of planning, having worked in planning for several years.

   This experience points up the importance of transferring knowledge between management and computer divisions, so that both understand the needs of each other, and can communicate those needs effectively.

3. There is an intention to use Project Management information more effectively to monitor projects.

   In some Divisions, Division Chiefs reported that they currenly use or intend to use microcomputers to analyze Project Management reports to determine changes that are needed and to respond more quickly to urgent needs.

   Although the MMTC assessment team could not verify this use, the fact that managers had developed Lotus spreadsheets to determine changes in project service activities, demand, and financial activities indicated that at least there was understanding of how the information could be used and interest in using it to monitor and improve program performance.

4. The information system has been a valuable tool to the Chairman of BKKBN.

   The Chairman of BKKBN is a rare individual both in his personal charisma and professional skills. He has enthusiastically adopted the computer system as a way to get information he needs to monitor organization performance and to conduct public relations activities critical to BKKBN's success. For example, he uses the network to maintain a dBase file of important GOI contacts, and to develop a mass mailing list of Family Planning private and non-profit organizations.

5. Leadership from top management has been key to supporting the improved use of information for decision-making.

   While the computer system can offer improved access to information, only management can encourage people to take advantage of the information to improve decision-making. Leadership from the highest levels of BKKBN has been a key factor in generating widespread enthusiasm and interest in using the information system to improve decision-making and the performance of BKKBN. This is especially critical because BKKBN is a service organization that must respond very quickly to changes in demand.

V.RECOMMENDATIONS

Role of BKKBN in Developing Private Sector Capability

1. BKKBN has now developed a unique array of skills, with staff experienced in logistics, determining demand for contraceptives ("market research"), and efficient dissemination of contraceptives. The addition of analytic capabilities through the use of computers results in a very strong resource. BKKBN can offer valuable services as a consultant to private sector organizations active in these areas. By further strengthening BKKBN, and involving them in private sector initiatives, it will be possible to leverage this capacity to develop other organizations.

Hardware

1. Assure that a maintenance budget and plan are adopted.

   A formal maintenance plan and budget allocation will be critical to the continuing successful use of information technology in BKKBN. An integrated minicomputer and microcomputer maintenance contract may be a good method of assuring reliable maintenance services.

2. Ensure adequate hardware with backup.

   Wherever computers are introduced, there should be adequate resources to ensure they are quickly repaired and well maintained. Thus it is essential to procure at least two computers in every adopting Provincial and Kabupaten office. There must also be sufficient spare machines, including printers, so PUKOM can respond quickly to the needs of Provinces or Central Divisions.

Software

1. The minicomputer vendor should migrate the present COBOL applications to the new machine.

   The minicomputer group is capable of maintaining the present portfolio of mainframe applications. It is doubtful, however that the current staff will be able to handle simultaneously the introduction of a new computer and the development of new applications under the ORACLE database management system – their attempt to do so will involve considerable hardship and risk of failure.

   Therefore, we recommend that the selected vendor should migrate the present COBOL applications to the new machine before implementing them under the new DBMS.

2. Develop an executive support system for the Chairman.

Dr. Haryono now receives a tremendous amount of information on his computer, much of which he manipulates himself to provide the information he needs on trends and comparisons. It would be valuable to provide technical assistance to help develop an executive support system that filters the growing volume of information he receives.

3. Standardize on a package wherever possible.

   In order to facilitate both depth of skills, ease of training, and data transfer, it will be useful to standardize on particular packages to the extent possible.

   Since Lotus 1-2-3 is already the standard, it would be more effective to train people deeply in Lotus than to introduce a new spreadsheet package. It will be important to carry through the shift from dBase III to Paradox as the DBMS standard for stand-alone PCs as quickly as possible. Also, Paradox should be made the standard throughout BKKBN for stand-alones and Oracle (with the new mini) for the minicomputer applications.

Training

1. Allocate funds to assure that training and associated costs, e.g., for travel, are earmarked for BKKBN staff.

   An excellent start of IT use in BKKBN has begun. Ongoing training is essential, however, for progress to continue. Regular funds must therefore be allocated to training for PUKOM and PDJI staff and for BKKBN managers.

2. Cover less training material – and particularly fewer packages – over a longer period.

   The fact that PUKOM has responded quickly to feedback on training sessions is noteworthy. It appears to the assessment team, however, that the training is still too ambitious, particularly considering the skill and experience level of participants. Computer skills are likely to take root in the Central Divisions and the Provinces more quickly if people are taught only word processing and one other package that specifically fits their needs, and taught those in depth during a three week course.

3. Design training to fit the needs and experience of the particular participants.

   Training in computer skills is extremely difficult in BKKBN because the level of existing skills and experience varies so widely within and between the Center and the Provinces. One way to deal with this challenge is to define several levels of computer skills and tailor upgrading training to each level.

   For example, many managers at the Center and those from Provinces that have quite high skill levels could receive more advanced, in-depth training that moves fairly quickly. Those who have fewer skills and/or face more difficult conditions in their Province could receive training in one basic computer package and an introduction to DOS. Those from Provinces where there is no real skill base and where conditions are extremely challenging can get a basic introduction to DOS and some "canned"

menu-driven applications, and given plenty of time to become comfortable with the machines.

3. Integrate training in computer skills with training in other substantive research and management areas.

   An effective way to improve computer skills among management staff is to integrate computer training in the regular curriculum of researchers and managers. Thus, when managers are taught statistics, they can receive in-depth training in the use of a statistical package. Currently, it appears that managers may get a brief introduction to computers when they receive substantive training in their fields, but they do not get enough to learn to use the computer applications effectively.

   In addition, those who go out of the country for training in economics, management, and other fields should get training in microcomputer use whether or not they expect to be in a position of responsibility for microcomputers. In virtually any program in the U.S., students can avail themselves of microcomputer training, and they should be strongly urged to do so (perhaps including funds to purchase a microcomputer).

4. More hands-on, independent training is needed for the communications staff.

   There are generally three stages of OJT in a skill like communications system management, which demands hands-on experience. First, the trainee receives information and observes the use of the technology. Second, the trainee begins to use the technology along with the trainer. Finally, the trainer acts only as an advisor-of-last-resort, and the trainee takes on the independent responsiblity for using and maintaining the technology. The communications staff is now in the third stage, and will be best served if they struggle to provide service as independently of the MMT advisor as possible, until the advisor eventually becomes only an observer.

   The development of a strong independent capacity within the communications system staff to install, maintain, reconfigure, and trouble-shoot will be essential to the long-term success of the MMTC after the advisor leaves.

Organization Structure

1. Establish a data administration position within PUKOM.

   Data administration is likely to be a full time job in BKKBN after the minicomputer database management system is in place. This role cannot be adequately fulfilled by someone whose primary responsiblities are programming or other areas of computer staff management. It requires the continual attention of someone responsible for control and coordination of data, collection and dissemination of information, and data transfer. A data administrator will ensure that BKKBN will not run into serious problems in maintaining the massive databases that will be used on the minicomputer by multiple users. It would seem most appropriate to locate this position within PUKOM.

2. Develop a formal position to design, organize, and monitor computer training.

   Establishing a position responsible for organizing all computer-related training efforts would enable BKKBN to improve the design and organization of training. This position would manage and monitor the development of a high quality training program that fits the needs and skills of participants and integrates computer skills with other kinds of training. Possibly this role could be undertaken by the Manpower Division, who would coordinate the training and bring in PUKOM and others to actually deliver training.

3. Bring PBX management responsibilities under PUKOM.

   The capabilities of the modern PBX facility in BKKBN have yet to be fully realized, e.g., direct dialing. The PBX is most likely to be effectively utilized if it is managed by PUKOM as part of an integrated data/voice communications facility.

4. Establish a head of PUKOM technical service.

   PUKOM has shown itself to be highly service-oriented and able to provide a high quality of service to managers at the Center and, within resource constraints, to computer staff in the Provinces. Nonetheless, a position as coordinator of technical service would help this function operate more efficiently and effectively. Right now, there is no tracking of service calls, types of problems, or who delivered what kind of service. Such a tracking system would help PUKOM assign services requests more efficiently, sending those who specialize in a particular problem to the site. It would also help identify where there are special problems, where preventative measures can be taken, as well as projected manpower needs within PUKOM.

5. Create a rotation policy between PUKOM staff and the Divisions.

   We cannot, of course, recommend any formal changes in organizational structure. We would, however, urge both PUKOM and the Bureaus to consider a rotation policy that would bring skilled economists, managers, and researchers from the other Divisions into PUKOM to be trained, and to place PUKOM staff in those Divisions. It appears that there is now a sufficiently large pool of skill within PUKOM to support such a policy. This would greatly strengthen the skill base on both sides, and could be used to build applications specialists within the Divisions, e.g., people in research who are highly skilled in SPSS. This policy would also improve communications between the PUKOM and management.

6. Develop a career track to provide incentives for skilled staff to develop deep computer skills integrated in their professional area.

   Computers have introduced many new skills and abilities among staff that are not yet recognized by the formal incentive systems. If people are going to build strong computer skills that are integrated in their professional specialities, and particularly if rotation takes place, the system must provide incentives and a viable career track for these individuals. Even if this career track must be informal, it must be clear to

staff that they will be rewarded if they develop these skills and leave their Divisions to work in PUKOM for some time.

In addition, there should be a "special skill" indicator to identify and reward those who have developed these skills and to place them in appropriate positions.

7. Assigning roles currently carried out by the MMTC advisor.

   Although the MMTC advisor has done extensive training in many areas, there are several roles that he fulfills that must be transferred to BKKBN staff before he leaves in a year and a half. It will be important for the advisor and the head of PUKOM to determine exactly what activities the advisor does that must be taken over by PUKOM staff, and to assign those roles to staff well before the advisor leaves.

Lessons Learned

The assessment of the MMTC offered two important overall lessons regarding the design and evaluation of such projects.

1. One fundamental lesson for future projects is the importance of including two advisors. One would be primarily responsible for encouraging and training managers in the use of computers for their work. The other would focus on introducing hardware, software, and computer training capabilities. No single individual can fully undertake both of these sets of tasks successfully.

2. In designing this assessment effort, we explored the use of many questions that might reveal management impacts. We found that certain questions were extremely valuable in revealing these types of impacts, while others were not helpful for this purpose. A list of some sample questions that were found to be useful is presented in Appendix C.

VI. SUMMARY

In sum, the MMTC project has been unusually successful in helping to introduce information technology into BKKBN. The hardware and software are up and running in Divisions throughout the Central Office, and in many Provincial Offices. Hardware and software maintenance functions for the microcomputers and the LAN have come a long way toward being fully institutionalized. A training capacity is also largely in place.

Managers at the Central Office and in some Provinces have become skilled in using several microcomputer packages including spreadsheets, database management packages, and word processing, as well as some other packages like Forms tool and SPSS. There is widespread interest in learning to use such packages not only for administration but also to improve decision-making.

Several factors contributed to these accomplishments. One is the leadership in BKKBN. The Chairman and managers two levels down have demonstrated strong support for using computers to improve decision-making and the performance of BKKBN. The choice to develop a network, while risky given the existing skill base, turned out to be a

good one, winning support for the system throughout BKKBN. Training further won senior level support before establishing a skill base at the lower levels.

The adoption of microcomputers made efficient and effective use of resources and created a good base for the overall architecture, which will include a minicomputer and integrated database.

Given the very limited computer technology base in BKKBN three years ago, the achievements of BKKBN and the MMTC are unusual and impressive. In many ways, this project can be considered to have sucessfully finished the first "phase" of information technology transfer. It is now ready to move on to the next "phase," by improving training, smoothing out some processes, and developing a more sophisticated structure and functional roles for information technology use.

The major changes we believe will be useful include expanding managers' ability to use software packages, strengthening the independent roles for computer staff, particularly for communications, and establishing certain functions within PUKOM or Manpower. These suggestions are described in greater detail in the Recommendations section of this report.

We believe that BKKBN has demonstrated the principles that determine the success of computer adoption, both in its overall success – particularly given its resource and time constraints – and in the few key problem areas indicated above.

With its unique combination of skills – and particularly as analytic capabilities are strengthened – BKKBN can serve as an important resource for Indonesia and other developing countries. This resource can be leveraged by involving BKKBN as a technical consultant in efforts to build the private sector's capacity to deliver family planning services and supplies.

APPENDIX A: LIST OF INTERVIEWEES

Central Office

Chairman of BKKBN - Dr. Haryono
Deputy of the Bureau of General Management - Dr. Affandi
Deputy of the Bureau of Manpower Development - Dr. Sudarto
Deputy of the Bureau of Planning and Analysis - Dr. Supari
Deputy of the Bureau of Operational Development - Dr. Sutajo
Deputy of the Bureau of Research and Development - Dr. Pandi
Head of PUKOM (Center for Data Processing and Computers) - Mr. Meade
Heads of the PUKOM minicomputer, microcomputer, and data communications divisions, and other staff
Heads and/or Staff of the Divisions of:

- Center for information and documentation network - Dr. Zairin
- Finance - Dr. Kartadisastra
- Supply logistics - Dr. Aminarto
- Planning - Dr. Eddyono
- Recording and reporting - Dr. Pabbedja
- Program implementation analysis - Dr. Panjeitan
- Information and motivation - Dr. Sumarsono
- Contraceptive services - Dr. Rukanda
- Integrated program services - Dr. Astawa
- Community institution development - Dr. Mahyi
- Center for the development of national family planning policy - Dr. Rabarjo
- Center for the national family planning studies - Dr. Watuya
- Center for the biomedical and human reproduction studies - Dr. Sudomo
- Personnel and program workers management - Dr. Tjiptorahardo
- Center for education and training of program workers - Dr. Hutabarat
- Center for education and training of employees - Dr. Sutedi

Provincial Office in Bali

Chairman of the Provincial Office - Dr. Gorde
Head of the Data Processing Division - Mr. Permana
Head of the Planning and Reporting Division - Mrs. Wartini
Head of the Administration Division - Mrs. Japani
Acting Head of the Finance Division and Head of Logistics - Mrs. Puji
Acting Head of the Finance Section - Mr. Suweti
Staff of the Data Processing Division

Provincial Office in Yogyakarta

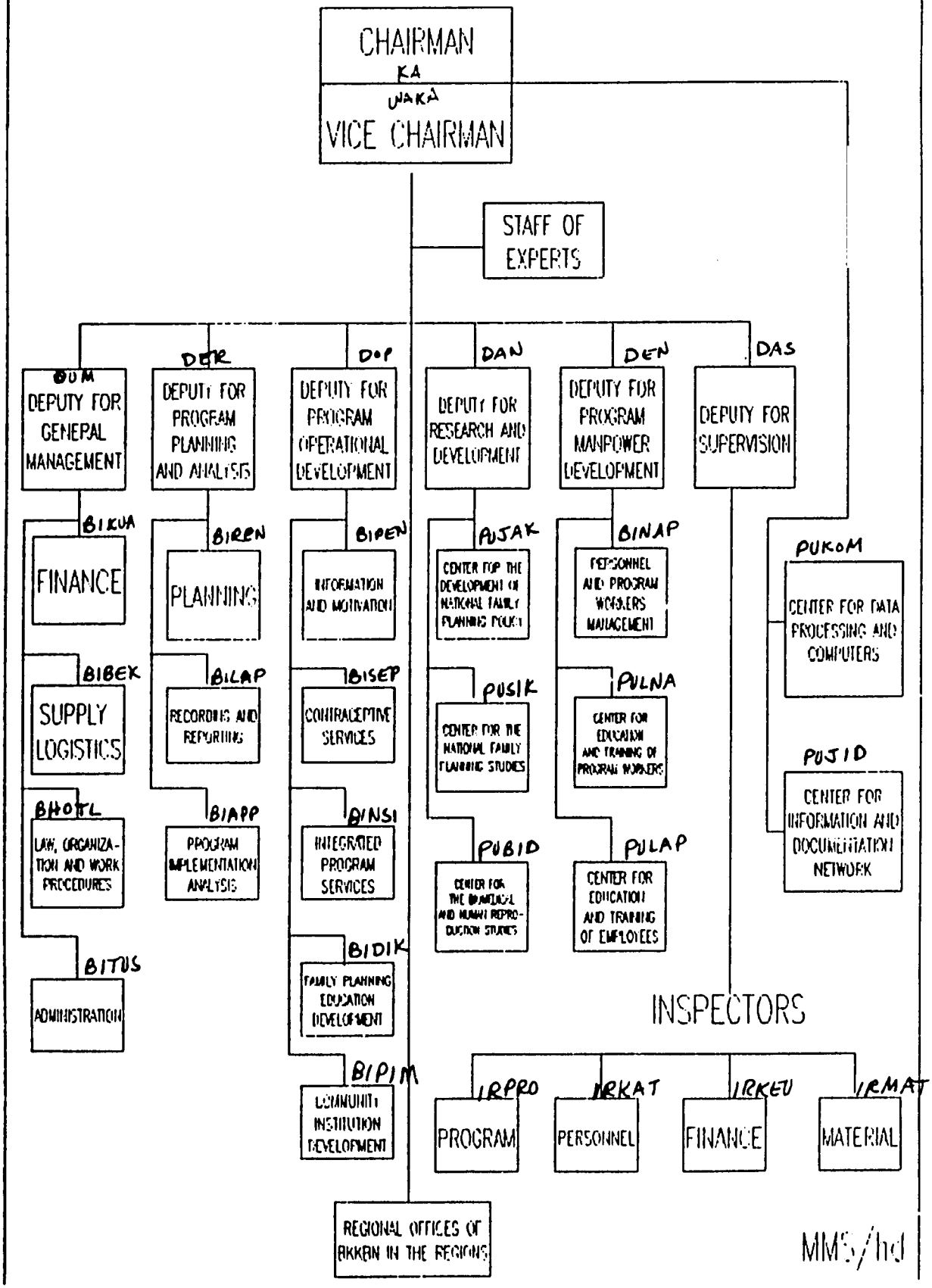
Chairman of the Provincial Office - Dr. Sudjono
Head of the Data Processing Division - Mr. Humam
Head of the Planning and Reporting Division - Mrs. Siswatiniwoci
Head of the Administration Division - Mr. Suryadi
Staff of the Data Processing Division

LIST OF ACRONYMS

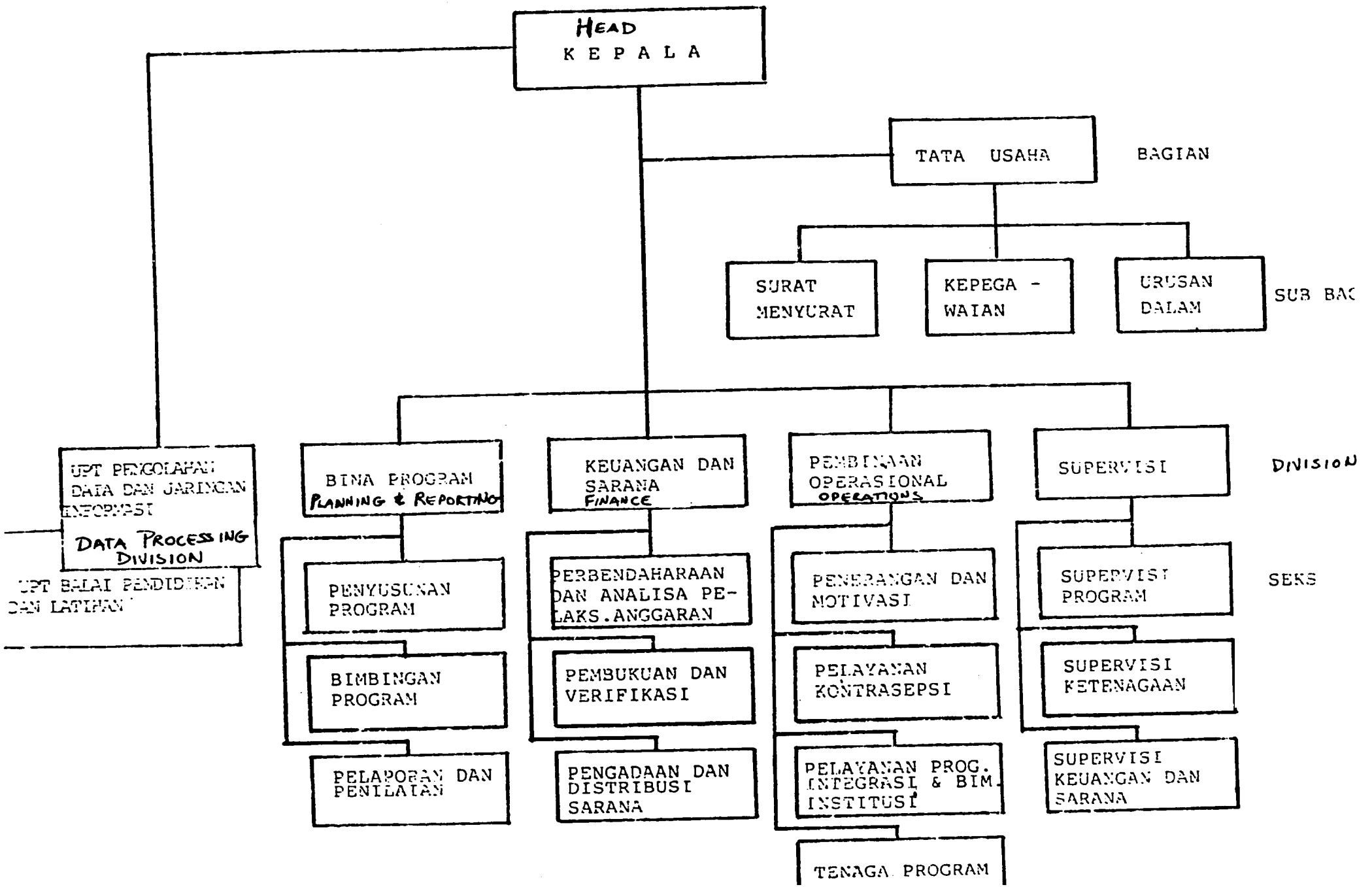
BKKBN	National Family Planning Agency
DBMS	Database Management System
IT	Information Technology
LAN	Local Area Network
MMTC	Modern Management Technology Component
PDJI	Provincial Center for Data Processing and Information Communication.
PUKOM	Center for Data Processing and Computers
USAID	United States Agency for International Development

APPENDIX B:

BKKBN ORGANIZATION
PRESIDENTIAL DECREE NO. 64, 1983



BKKBN PROVINCIAL ORGANIZATION



APPENDIX C:
IDENTIFYING MANAGEMENT IMPACTS OF INFORMATION TECHNOLOGY TRANSFER

SOME QUESTIONS FOR MANAGERS

1. Please describe the resonsibilities of this office.

2. How do you use computer-generated reports?

3. Has the computer system affected the work (operations) of this office? How?

   Benefits contributed by the computer system?

   Problems resulting from the computer system?

4. Are you getting the information you need when you need it?

   Probe for such issues as:

   - o Sufficiency and quality of data
   - o Timeliness
   - o Security
   - o Report relevance and flexibility

5. Are there any changes in the computer oprations or the output you can suggest, so that it can better contribute to this office?

6. Do you and your staff have adequate hands-on access to computers?

7. Do you and your staff have adequate training in the use of computer?

8. Is there anything you expected us to ask that we have not yet asked?

APPENDIX D: SAMPLE PAGES OF MICROCOMPUTER REPORTS

SAMPLE: CONTRACEPTIVE SERVICES REPORT USING DBASE III

BULAN : JUNI 1988

PROPINSI	BAGIAN : PENYAKIT DALAM								JUMLAH
	MOW	MOP	IUD	SUNTIKAN	P I L	KONDOM	O.VAG	IMPLANT	
DKI JAKARTA	0	0	0	1	1	0	0	0	2
JAWA BARAT	1	0	12	0	1	0	0	0	14
JAWA TENGAH	2	0	2	6	1	0	0	0	11
DI. YOGYAKARTA	0	0	1	1	0	0	0	0	2
JAWA TIMUR	0	0	1	0	0	0	0	0	1
B A L I	0	0	0	0	0	0	0	0	0
JAWA BALI	3	0	16	8	3	0	0	0	30
DI. ACEH	0	0	0	0	0	1	0	0	1
SUMATERA UTARA	0	0	7	16	17	4	0	0	44
SUMATERA BARAT	0	0	0	2	0	0	0	0	2
SUMATERA SELATAN	0	0	0	0	0	0	0	0	0
LAMPUNG	0	0	0	0	0	0	0	0	0
NUSA TENGGARA BARAT	0	0	0	0	0	0	0	0	0
KALIMANTAN BARAT	0	0	0	0	0	0	0	0	0
KALIMANTAN SELATAN	0	0	13	10	21	0	0	0	44
SULAWESI UTARA	0	0	0	2	0	0	0	0	2
SULAWESI SELATAN	0	0	1	0	0	0	0	0	1
LUAR JAWA BALI I	0	0	21	30	38	5	0	0	94
R I A U	0	1	1	5	2	0	0	0	9
J A M B I	0	0	0	0	0	1	0	0	1
BENGKULU	0	0	0	0	0	0	0	0	0
NUSA TENGGARA TIMUR	0	0	0	0	0	0	0	0	0
KALIMANTAN TENGAH	0	0	0	0	0	0	0	0	0
KALIMANTAN TIMUR	0	0	0	0	2	1	0	0	3
SULAWESI TENGAH	0	0	0	0	0	0	0	0	0
SULAWESI TENGGARA	0	0	0	0	0	0	0	0	0
M A L U K U	0	0	0	0	0	0	0	0	0
IRIAN JAYA	0	0	0	0	0	0	0	0	0
TIMOR TIMUR	0	0	0	0	0	0	0	0	0
LUAR JAWA BALI II	0	1	1	5	4	2	0	0	13
N A S I O N A L	3	1	38	43	45	7	0	0	137

SAS

BADAN KOORDINASI
KELUARGA BERENCANA NASIONAL

Biro Pencatatan dan Pelaporan

SAMPLE: TARGET SETTING REPORT USING LOTUS 1-2-3
IN BALI PROVINCE

KODE PROYEK:
NAMA PROYEK: RUTIN
LOKASI : BALI
TAHUN ANG : 1988/1989

KODE PR: RUTIN
BULAN : AGUSTUS
KODE BL: 08-88

SUMBER DANA : RUT
WILAYAH I : JB
WILAYAH II : PE

KODE-TU	NAMA TOLOK UKUR / KEGIATAN	KODE JP	SATUAN /UNIT	TARGET FISIK	TARGET ANGGARAN	REALISASI FISIK	S.P.M	KAS/BANK DIBENDAHARAWAN	BUKTI SPJ PADA BENDAHARA	SPJ DIKIRIM KE ESELON I	REALISASI UUDP: KAS/BANK DI PELAKSANA	REALISASI UUDP: BUKTI SPJ PADA PELAKSANA	REALISASI UUDP: SUDAH DISALURKAN OLH BUKTI SPJ
1	2	3	4	5	6	7	8	9	10	11	12	13	14
KODE_TU	NAMA_TU	KODE_JP	SATUAN	TAR_FIS	TAR_ANG	REA_FIS	SPM	KAS_BANK	BUKTI_BEN	SPJ	KAS_PEL	BUKTI_PEL	DISALURKAN
1.440.000	PROYEK RUTIN PROPINSI BALI				$208.592.000,00		$94.139.691,00	$3.573.025,00	17.716.229,00	$72.275.437,00	0,00	0,00	$75.000,00
1.440.000	BELANJA PEGAWAI				$174.507.000,00		$77.514.691,00	$0,00	15.227.779,00	$62.286.912,00	0,00	0,00	0,00
1.440.110	Gaji Upah	110 ob		1872	153.474.000,00	780	68.744.580,00	0,00	13.521.579,00	$5.223.001,00	0,00	0,00	0,00
1.440.120	Tunjangan Beras	120 ob		1872	19.763.000,00	780	8.770.111,00	0,00	1.706.200,00	7.063.911,00	0,00	0,00	0,00
1.440.150	Lain - lain	150 pkt		1270	1.270.000,00	0	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1.440.000	BELANJA BARANG				$23.585.000,00		$11.385.000,00	$2.484.690,00	1.229.940,00	$7.095.370,00	0,00	0,00	$575.000,00
1.440.210	A T K	210 ob		1872	9.160.000,00	780	4.080.000,00	75.950,00	659.415,00	2.769.635,00	0,00	0,00	575.000,00
1.440.210	Pemb.Peng.Kant. oleh Satpam	210 ob		120	1.200.000,00	45	600.000,00	150.000,00	90.000,00	360.000,00	0,00	0,00	0,00
1.440.220	Inventaris Kantor	220 pkt		4	600.000,00	2	300.000,00	10.000,00	70.000,00	220.000,00	0,00	0,00	0,00
1.440.230	Langganan Daya dan Jasa	230 pkt		3	12.810.000,00	1,25	6.405.000,00	2.248.740,00	410.525,00	3.745.735,00	0,00	0,00	0,00
1.440.250	Alat - alat dan Peralatan					0	0,00	0,00	0,00				
1.440.250	- Pakaian Kerja Pesuruh/Pengemudi	250 pkt		22	335.000,00	0	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1.440.250	- Pakaian Kerja Satpam	250 pkt		10	500.000,00	0	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1.440.000	BELANJA PEMELIHARAAN				$8.900.000,00		$4.450.000,00	$554.335,00	1.002.510,00	$2.893.155,00	0,00	0,00	0,00
1.440.310	Gedung Kantor	310 keg		12	4.300.000,00	5	2.150.000,00	336.500,00	570.000,00	1.243.500,00	0,00	0,00	0,00
1.440.330	Pemeliharaan Kendaraan	330 bh		2	2.600.000,00	0,83	1.300.000,00	217.835,00	432.510,00	649.655,00	0,00	0,00	0,00
1.440.360	Lain - lain Pemeliharaan	360 pkt		1	2.000.000,00	1,49	1.000.000,00	0,00	0,00	1.000.000,00	0,00	0,00	0,00
1'440.000	BELANJA PERJALANAN				$1.580.000,00		$790.000,00	$534.000,00	256.000,00	$0,00	0,00	0,00	0,00
1.440.410	Perjalanan Dinas	410 ob		45	1.580.000,00	4	790.000,00	534.000,00	256.000,00	0	0,00	0,00	0,00

BADAN KOORDINASI KELUARGA BERENCANA NASIONAL

SAMPLE: PLANNING AND BUDGET REPORT USING LOTUS 1-2-3

NAMA PROYEK : KELUARGA BERENCANA BANTUAN LUAR NEGERI DI PUSAT
TAHUN ANGGARAN : 1988 - 1989 (SUPLEMENT)
BULAN : AGUSTUS - 1988

F/I/KEU/05

LOKASI : PUSAT

NO	KODE TOLOK UKUR	NAMA TOLOK UKUR / KEGIATAN	TARGET: KODE JENIS PENGELUARAN/ RATA ANGGARAN	TARGET: SATUAN/UNIT KEGIATAN	TARGET: FISIK	TARGET: ANGGARAN (Rp.)	REALISASI FISIK	SPM (Rp.)	KAS / BANK PADA BEBERAPA BENDAHARAWAN (Rp.)	BUKTI PERTANGGUNGJAWABAN DARI PELAKSANA PUSAT DAN PROPINSI YG BELUM DI SPJKAN	SPJ DIKIRIM KEPADA ESELON I/KPN	REALISASI ANGGARAN (Rp): UUDP: KAS/BANK PADA PELAKSANA PUSAT DAN PROPINSI	UUDP: BUKTI PERTANGGUNGJAWABAN PADA PELAKSANA PUSAT DAN PROPINSI	UUDP: SDH. DISALURKAN OLEH PELAKSANA PUSAT DAN PROPINSI BELUM ADA BUKTI PERBAYARAN	DISETOR KE KAS NEGARA	JUMLAH	DROPPING KE PROPINSI YANG BELUM ADA BUKTI PERTANGGUNGJAWABAN (Rp.)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
01		AB BANTUAN LUAR NEGERI				30.559.329.000		6.190.400.516,98	45.163.400,00	0	5.859.915.829,48	0	0	285 321.287,50	0	6.145.237.116,98	0
01	02	PENINGKT. OP.LAPANGAN . .				48.500.000											
01	02.06	Konsultan Dlm Negeri	06	DB	6	16.380.000		0,00	0,00	0	0,00	0	0	0,00	0	0,00	0
01	02.06	Pengadaan Peralatan	06	PAKET	1	32.120.000			0,00							0,00	
																0,00	
01	03	PENGEMB PEND. TEN. PROG .				2.726.775.000		487.551.950,00	27.975.100,00	0	380.533.812,50	0	0	159.043.037,50	0	459.576.850,00	0
01	03.05	Transport dan uang harian peserta PJP LN angk II	05	OR	21	111.043.000	12	49.952.250,00	0,00		49.952.250,00					49.952.250,00	
01	03.07	Penyelengg.PJP LN ang II	07	OR	21	1.639.871.000	20	202.555.000,00	2.987,50		202.552.012,50					202.552.012,50	
01	03.07	Persiapan PJP-LN Angk.II	07	OR	15	56.860.000	5	8.109.700,00	2.673.062,50		1.916.300,00			3.520.337,50		5.436.637,50	
01	03.05	Pend.Jangka Pendek LN	05	X	7	113.226.000			0,00							0,00	
01	03.07	Pend.Jangka Pendek LN	07	OR	100	48.194.000			0,00							0,00	
01	03.05	Penjajagan Institusi	05	OR	4	24.636.000			0,00							0,00	
01	03.07	PJP-DN S1 Angk I/I	07	OR	30	134.525.000		49.475.000,00	0,00		11.640.300,00			37.834.700,00		49.475.000,00	
01	03.07	PJP-DN S2 Angk.I/II	07	OR	19	135.000.000		30.300.000,00	0,00		23.150.000,00			7.150.000,00		30.300.000,00	
01	03.07	PJP-DN S2 Angk.II/I	07	OR	17	83.775.000		34.275.000,00	4.425.650,00		6.897.300,00			22.952.050,00		29.849.350,00	
01	03.03	Lat.Statistik PJ.Ess III	03	OR	33	1.485.000		1.485.000,00	1.485.000,00							0,00	
01	03.05	Lat.Statistik PJ.Ess III	05	OR	33	38.275.000		38.275.000,00	11.378.400,00							0,00	
01	03.07	Lat.Statistik PJ.Ess III	07	ANGK	1	8.010.000		8.010.000,00	8.010.000,00					26.896.600,00		26.896.600,00	
01	03.03	Lat.Statistik PJ.Ess IV	03	OR	99	4.455.000			0,00							0,00	
01	03.05	Lat.Statistik PJ.Ess IV	05	OR	99	114.825.000			0,00							0,00	
01	03.07	Lat.Statistik PJ.Ess IV	07	ANGK	3	26.370.000			0,00							0,00	
01	03.03	Lat.Demografi PJ.Ess IV	03	OR	33	1.485.000		1.485.000,00	0,00					1.485.000,00		1.485.000,00	
01	03.05	Lat.Demografi PJ.Ess IV	05	OR	33	38.275.000		38.275.000,00	0,00					38.275.000,00		38.275.000,00	
01	03.07	Lat.Demografi PJ.Ess IV	07	ANGK	1	8.010.000		8.010.000,00	0,00					8.010.000,00		8.010.000,00	
01	03.07	Persiapan dan rekruitment	07	OR	15	17.345.000		17.345.000,00	0,00		4.425.650,00			12.919.350,00		17.345.000,00	
01	03.06	Pengadaan Konsultan DN	06	DB	36	98.280.000			0,00							0,00	