

PN-APP-207
ISN-33216



AMERICAN PUBLIC HEALTH ASSOCIATION
International Health Programs
1015 Fifteenth Street, NW
Washington, DC 20005

PN AAP 207

AN OVERVIEW OF THE INFORMATION
SYSTEMS OF THE INDONESIAN NATIONAL
FAMILY PLANNING COORDINATING BOARD:
OPTIONS FOR SYSTEMS CHANGE AND DEVELOPMENT

A Report Prepared By:
JAMES F. PHILLIPS, Ph.D.

During The Period:
MAY 31 - JULY 8, 1983

Supported By The:
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
(ADSS) AID/DSPE-C-0053

AUTHORIZATION:
Ltr. AID/DS/POP:
Assgn. No. 582201

ACKNOWLEDGEMENTS

We are grateful to the staff of the BKKBN who coordinated this consultancy. Dr. Haryono Sukyono, Chairman of BKKBN, and Dr. Peter Sumburg, Vice Chairman, designed the scope of work and provided valuable guidance throughout the consultancy. Dr. Soemarmadi provided invaluable assistance for understanding on specific data sets. Throughout the consultancy Dr. Mazwar Noerdin assisted in all aspects of work: field visits, data collection, and translation of materials. Most importantly, this consultancy is based on discussions with BKKBN Bureau Chiefs and Provincial authorities. Their cooperation and support was most appreciated.

We are also grateful to the USAID mission staff for facilitating the reporting of findings. Mr. David Piet provided valuable assistance and access to word processing facilities. This, in turn, permitted feedback of the report and incorporation of BKKBN comments in the present version.

The careful organization and advanced planning for this consultancy at BKKBN was much appreciated.

LIST OF ACRONYMS AND BAHASA WORDS

BKKBN	Badan Koordinasi Keluarga Berencana Nasional, National Family Planning Coordinating Board or NFPCB.
CRS	Contraceptive Services Report.
FCSA	Field Control and Supervision Activities Report.
IEC	Information Education and Communication.
Kecamatan	Subdistrict
MOH	Ministry of Health.
PUS	Eligible couples or ELCOs.
VCDC	Village Contraception Distribution Centres.

EXECUTIVE SUMMARY

In 1970 the Republic of Indonesia established the Badan Koordinasi Keluarga Berencana Nasional (BKKBN) to coordinate the implementation of family planning services throughout the country. This consultancy is addressed to reviewing the content and design of the information systems of this programme. Throughout its brief history the BKKBN programme has been changing. Services have been extended to all areas of the country and strategies have proliferated in scope and content. While attention was initially focused on clinic based services and motivational campaigns, outreach was subsequently introduced to improve service coverage. More recently the programme has become community based with family planning services provided by the villages served with the BKKBN lending technical, organizational, and logistics support. More importantly, new service components have been added which concern not only family planning but also nutrition, community organization, and income generation. This growing operational complexity has complicated information needs. In this review we discuss the information implications of this growing operational complexity. Two themes dominate our presentation: 1) the existing data modules can be streamlined without impairing management information systems, and 2) the utility of information for management can be greatly improved by changing the computer operation from batch mode to a data base approach.

The changes that we present as options for consideration are not mutually exclusive: First, forms can be redesigned without loss of information (Option A). Next the flow of information could be altered to reduce dual reporting (Option B). Finally a scaled down information system could be converted to a data base approach (Option C), so that addition of new modules will not necessitate redesigning existing forms or procedures. This third option permits flexibility, not only in the management of data, but also flexibility in its analysis and use.

In the introduction to the report we note that increasingly complex organizational goals have led to a proliferation of data collection and to the compilation of a complex set of conceptually interrelated, but separately maintained data sets. As a consequence, service statistics and routine data tabulation will not adequately assess outputs for a particular service activity, since the success or failure of one programme will often confound interpretation of the effects of another. Therefore, multivariate analysis of operational data will be increasingly important to the interpretation of the contribution of services to outputs. To facilitate multivariate analysis record linkage of subsystems across units of analysis will be required. BKKBN should therefore begin to develop data base management capabilities so that record linkage is routine and utilization of data is unencumbered with elaborate software requirements. The growing complexity of programme operations also require diversification of research strategies. Community effects of "beyond family planning" programmes will be too intricate to assess with routine service statistics.

In Section II of the report we review the design of existing data systems with special emphasis on systems that measure programme outputs. Two systems, which monitor family planning outputs, are given special emphasis:

1. The Clinic Reporting System (CRS) maintains excellent compliance with reporting standards and rapid feedback. The estimation of outputs, however, requires assumptions about the numerators and denominators of contraceptive prevalence rates. With the successful implementation of community based programmes and changes in the characteristics of users these assumptions will be increasingly subject to challenge. Therefore, development of alternative systems on output assessment should be given a high priority. The CRS should be used to monitor the quantity and composition of clinical services rendered and its role in output and impact assessment should be deemphasized.

2. The Field Control and Supervisory Activities Report (FCSA) monitors activities in a geographic area. It is conceptually sound in that estimation assumptions are not required; but implementation is flawed so that the results are suspect. The design of village data management is responsible for the limitations of the FCSA since BKKBN field workers do not routinely link their field work with village registers. These registers are maintained by volunteers who are understandably more concerned with services rather than with data. This may result in under enumeration of eligible couples and spuriously high prevalence reported from FCSA data.

A consolidated village register system and better instruction to field staff would improve the FCSA since cross-checking procedures would be inherent in any scheme in which several individuals use a common register. Moreover, redesign of the village record system could eliminate cumbersome data recapitulation. We recommend greater priority to establishing feedback of the FCSA results and correction of administrative problems that impair data quality.

We recommend experimentation with recording all clinic output data on the FCSA (Option B). This reduces data volume since computerization of the CRS would be unnecessary. Alternatively central processing of both systems can continue. The output of one can be compared with the other and reported to regency staff for resolution of discrepancies.

The quality of BKKBN data could be improved through data management changes. Verification of data is needed. Logical editing errors are unacceptably high indicating a need for a detailed review of the causes of this problem. Continuous sample validation of data is recommended.

Simplification of forms is much needed, but specific changes are recommended which could also reduce the volume of processing. 1) Redundant implementing agency forms exist in the field which are not coordinated by BKKBN central staff. These should be eliminated through negotiations with implementing agencies. 2) Acceptor slips can be more efficiently

sampled thereby reducing processing. 3) Greater involvement of field data collection staff in form design would reduce data volume and improve compliance with reporting.

We note that computer feedback of FCSA results should focus on data problems not just outputs. The trend in eligible couples, for example, is a useful indicator of whether enumeration is actually taking place. In general problems with the FCSA warrant the planning of a series of work conferences timed with initial release of output. Changing FCSA forms should not precede the conferences and should await improvements in the field management of the existing system.

In our review we briefly examine other systems and make recommendations for change:

1. Weighing Group data collection should be simplified and modified to improve services. A recent consultancy report by Sahn has useful suggestions in this regard. We also present forms for consideration.

2. For the Income Generation Schemes we recommend monitoring only the flow of cash, the types of loans, and possibly the incidence of default.

3. Separate processing of weighing groups and income generation data forms requires linkage of this data with the FCSA. Consideration should be given to recording summary weighing and income group data on the FCSA and elimination of processing of separate forms.

4. The Hospital Form is too complex to analyze and should be redesigned with pre-specified analysis plans serving as a guide to selection of variables.

5. The warehouse reports of logistics data should be augmented, on an experimental basis, with quarterly subdistrict supply requisition data. An ordering system greatly simplifies the task of managing many pill brands and multiple types of IUDs.

6. Personnel and training data can be more useful if linked since linkages eliminate the need for repetitious training information.

We conclude Section II with recommendations for tasks and priorities for the next few months:

1. Shift the CRS processing to the evening so that the FCSA backlog can be reduced and verification can be instituted.

2. Train the computer staff in Data General Utilities anticipated from the UNFPA grant.

3. Appoint a computer manager to coordinate all data processing. If necessary contract with a local firm for this. The forthcoming computer consultancy does not obviate the immediate need for a computer manager.

4. A formal review of village and subdistrict staff data needs can contribute to simplification of procedures, better data management in the village, and thus better data flowing into the computer.

5. Unwieldy forms and redundant data collection can arise from the procedures for the design of a new system. Piecemeal consideration of items of information that might be useful to have in the future should be augmented with an operations research approach. We recommend more rigorous justification of variables by specification of dependent and independent variables for tabulation and analysis. Prior specification of analysis plans will lead to data parsimony.

In Section III of the report we discuss the analytical power of BKKBN data, particularly if cross referencing capabilities are built into the design of each system. Examples of analyses and management information reporting are provided to illustrate the power of data base management. We recommend the following:

1. There should be a formal review of the option shifting routine processing to the provinces and using the central facility for data base applications.

2. Computer staff should be trained in data base management. The INFOS utility should be adequate.

3. A system of "special letters" should be developed in which the data base capabilities and word processors are combined to permit letters to be written to regencies in response to findings from data analyses.

4. Each Bureau of BKKBN should be assessing their particular high priority operations research questions. These questions, in turn, can lead of analysis plans. Analysis plans, in turn, are essential to effectively designing a data base system.

In Section IV we review options for continuous sample surveys data collection. Small scale rapid feedback data validation studies are much needed. Section IV briefly discusses strategies for study designs and discussed data management implications. In this section we stress the importance of shifting to a continuous flow data management system and we review the staff and task designation implications of this change.

In Section V of the report we consider staffing needs and recommend the following:

1. The BKKBN most urgently needs a computer manager. We recommend that local contracts be awarded, if possible, to cover this need while BKKBN staff are being trained. A scope of work is proposed.

2. The BKKBN needs a data base management specialist.

3. If accessibility to the computer is improved, BKKBN analytical demands will increase. At least one highly trained analyst programmer will be needed to direct technical software development. We recommend further formal training for existing staff.

4. The BKKBN computer staff are fully occupied with the current workload and cannot be spared for long term training. A staff development plan is needed to insure that current needs are covered while staff are being trained.

We conclude by summarizing the challenges and prospects for data system development at the BKKBN.

C O N T E N T S

	<u>Page</u>
I. INTRODUCTION	
A. SPECIFIC AIMS	1
B. THE BKKBN: AN OVERVIEW	7
1. Implications of the Institutional Structure for Monitoring	7
2. Changing Service Strategies and Implications for Data Management	10
3. A Conceptual Framework	12
II. EXISTING DATA SYSTEMS	
A. AN OVERVIEW OF THE EXISTING DATA SYSTEM: ISSUES IN THE DESIGN OF DATA FLOW	19
B. THE UTILITY OF LINKAGE	26
C. BKKBN DATA SYSTEMS	28
1. The Clinical Data Subsystem	30
a. Introduction	30
b. Output Measures	35
c. Recommendation on Procedures for CRS Based Output Assessment	48
d. Revision and Simplification of Data Management: Option A	51
e. Revision and Simplification of Data Management: Option B	55
f. CRS Conclusions	57
2. The Subdistrict Reporting System	61
a. Introduction	61
b. Implementation of the FCSA	61
c. Computerization of the Existing Form	71
d. FCSA Summary and Conclusions	78

	<u>Page</u>
3. Nutrition Surveillance: The Weighing Group	80
a. Conceptual Issues in the Weighing Group Programme	80
b. The Weighing Group Information System	82
c. Proposed Weighing Groups from Revision	86
d. Items Proposed for Elimination from the Weighing Group Report	91
e. Forms Proposed for Elimination and Other Modifications	93
f. Summary and Recommendations	97
4. Income Generating Activities	99
a. Introduction	99
b. Conceptual Issues	101
c. Recommendations	103
5. Subdistrict Summary Reports	104
a. Introduction	104
b. Recommendations	106
6. The Hospital Report	107
a. Introduction	107
b. Recommendations	108
7. Logistics System	110
8. Financial Report	115
9. The IEC Mobile Unit Report	116
a. Introduction	116
b. Recommendations	116

10. The Radio Report	116
a. Introduction	116
b. Recommendations	117
11. The Personal History File	117
a. Introduction	117
b. Recommendations	118
12. The Training System	120
a. Introduction	120
b. Comments and Recommendations	122
D. DATA OVERLOAD: IMPLICATIONS FOR FUTURE PLANNING	124
1. The Volume of BKKBN Processing	124
a. Processing needs versus achievement	124
b. The Organization of Data Management	128
c. Tentative Agenda	131
E. SUMMARY AND CONCLUSIONS REGARDING EXISTING DATA SYSTEMS	134
III. INTRODUCTION	135
A. INTRODUCTION	135
B. DATA STRUCTURE: UNITS OF ANALYSIS AND BASIC CONCEPTS	137
1. Units of Analysis	137
2. A Practical Example of Operations Research	142
3. A Second Practical Example: Management Information	148
4. Option C: What is it?	150
5. Recommendations	153
IV. ALTERNATIVE DATA SYSTEMS	156
A. INTRODUCTION	156
B. MULTIROUND SU	158
C. CONCLUSIONS	161
V. DEVELOPMENT: RECOMMENDATIONS FOR NEW MANPOWER	164
VI. CONCLUSIONS	171

PART I

INTRODUCTION

A. SPECIFIC AIMS

Recent socio-demographic research has shown that fertility in Indonesia has declined markedly in the past decade¹ and most observers of this trend ascribe a significant role in the decline to the national family planning programme (see, for example, Freedman et al, 1981; Haryono et al, 1976). This programme, coordinated by the Badan Koordinasi Keluarga Berencana Nasional (BKKBN), is thus frequently cited as one of the more successful large scale public service programmes to be launched in a rural third world setting (Korten, 1975).

From its inception in the BKKBN has collected data from a variety of sources for monitoring operations and achievements. Throughout its brief history the programme has dramatically changed its institutional structure and mode of operation, expanded its objectives, and extended activities into areas that run far afield from its original focus on family planning. With each new activity there has been a concomitant expansion of the collection of data for monitoring and evaluation, and

¹ See, for example, Sullivan and Wilson, 1983 and McNicoll and Singarimbun, 1982.

the inevitable tendency for the institutional demand for timely information to outpace the capacity to process and interpret it. In the face of critical needs for information numerous ad hoc subsystems have been developed, some of which are hand tabulated, and many of which are laden with redundant information. Although redundancy is needed, in many instances, to insure that information routinely compiled for some purpose is linked to some other requisite information, BKKBN perceives a need to review the scope and content of field data collection. Owing to the growing complexity of organizational goals and activities and a corresponding proliferation of data collection, the BKKBN requested the Population Council to conduct a review of its data systems.

Five specific aims are guiding this review:

1. An aim of the review is to identify ways in which the data collection and reporting systems of BKKBN can be streamlined without sacrificing vital information, thus insuring that data systems are comprehensive enough to meet basic institutional needs but not unduly cumbersome. This involves identifying variables which should be recorded and reported on a routine basis without creating an undue burden on programme personnel who must manage it, and suggesting alternative modes of data collection for special operational research needs.

2. Ways of testing the reliability of data need to be developed. The consultancy will suggest mechanisms for data quality control.
3. Means of introducing flexibility into the data management system need to be developed so that new monitoring activities can be readily incorporated into the existing data system without major structural changes in the design of processing. This issue is to be addressed by the consultancy.
4. Certain data collection instruments and reporting activities can be modified to improve decision making capabilities. The consultancy should address the issue of how routine data reporting can improve programme management.
5. The consultancy should comment on analysis systems to include specific recommendations on analytical techniques appropriate for various subsystems.

The constraints imposed by the short duration of this consultancy requires us to focus on a general diagnostic assessment of data management needs. A final objective of BKKBN, that of developing software, cannot be addressed in this short time and, in any case, should not precede a BKKBN review and evaluation of the options presented in this report.

We assign priority to four data systems for monitoring programme activities and output: the Clinic Reporting System, the Subdistrict Control System, the Weighing Group Report, and the Income Generation Activities. This, in turn, has led to our review of several non-computerized data collection systems which merit consideration in the design of a unified system. We have not thoroughly reviewed certain critically important subsystems at this stage owing to time constraints: the urban management information system, the finance and accounting system, the unique special purpose provincial data systems, and various research projects such as the "Modular Survey". Thus our focus is on rural based routine data collection systems that require continuous electronic processing and reporting for assessing programme functions and output.

We proceeded by first discussing with BKKBN Bureau Chiefs their respective operations, data needs, and recommendations. Next, we prepared a semi-structured questionnaire for completion of Reporting and Evaluation Bureau Staff. Questionnaires were completed for each existing subsystem to assess their size, content, structure, objectives, and difficulties with data processing. While staff of the Reporting and Evaluation Bureau prepared these questionnaires, the consultant and a member of the Bureau of Reporting and Evaluation staff conducted a field trip to assess the content and volume of data management in the field,

field uses of data, the interrelationship of activities of relevant data collection staff, problems and difficulties, and other issues. Our approach was to select several field points and to follow the flow of information from the village to the clinics and to the subdistrict supervisor and on to the regency and provincial headquarters. Each service unit relevant to this exercise was observed in the field: clinics, weighing groups, acceptor groups, village contraceptive distribution centers, and income generating groups. Service personnel at all levels were interviewed, although the actual numbers of interviews was regrettably limited (See Appendix A).

Finally, we returned to Jakarta to review progress with the computer and Bureau of Reporting and Evaluation staff on the data system questionnaires. On the basis of this experience we are presenting a report with five sections: First, we present an overview of BKKBN and its data system together with a general overview of how alternative modes of storage and retrieval of could simplify the process of managing existing data. Secondly, we review each major data system with special emphasis on the Clinic Reporting System and the Subdistrict Control System with the aim of simplifying existing instruments. Thirdly, we propose an alternative concept of data management with examples of statistical models for analysis. Fourth, we present a strategy for data evaluation. Finally, we discuss future technical assistance needs.

Throughout this review we have sought to achieve a balance between "low technology" and "high technology" options. Three are ultimately proposed for review, although our "low-tech" options receive special emphasis because they can be implemented in a series of steps that can begin immediately with existing personnel and equipment.

"Option A" proposes to collect the current volume of existing information and retain existing reporting flows, but to streamline forms and procedures and eliminating redundancy thereby reducing the amount of data processed.

"Option B" reduces data volume through form revision and changes in the unit of reporting. Elements of Option B can be implemented even if Option A is chosen, so that the two are not necessarily mutually exclusive.

We also consider a "high-tech" option, which we term "Option C". This involves changing the data management system and utilization of new software. With proper planning and implementation of either A or B an Option C system could be readily implemented. Thus while Option C does not affect the volume of data collection, it is aimed at simplifying analysis and use of data.

B. THE BKKBN : AN OVERVIEW

1. Implications of the Institutional Structure for Monitoring

The BKKBN was established by a decree of the President of Indonesia in 1970. Numerous reports and monographs have described BKKBN, and its contribution to demographic change in the archipelago¹. Nevertheless, a brief description of BKKBN will serve to motivate our discussion of its data management system. Since its inception the BKKBN has been designed to coordinate disparate vertical programs into a coherent population programme. As an institution it therefore has well developed mechanisms for achieving "lateral authority". Fully 18 implementing organizations are mentioned in the BKKBN handbook (BKKBN, 1982, p.27) although many more organizations must be coordinated into the program from time to time. The BKKBN organizational design has the obvious advantage of mobilizing many sectors of government and public institutions for population activities. Its nonbureaucratic structure has had the potentially debilitating effect of diluting the central authority of the BKKBN, since implementing agencies are not directly controlled by BKKBN staff. This potentially serious problem has been avoided, however, since the political authorities in Indonesia have made a strong commitment to the population programme and lend critical administrative support to BKKBN at all levels. This support

1 Of these reports, the most recent and most comprehensive is a BKKBN handbook entitled: "Basic Information on Population and Family Planning Program" (BKKBN, 1982).

system is formally recognized in the BKKBN handbook (BKKBN, 1982, page 28) and is reproduced in Figure 1 below. Clearly, the ingenious structural design of BKKBN contributes much to its success: it has a strong authority system characteristic of classical bureaucracies, but it also has much flexibility and broad spans of authority not characteristic of public service organizations elsewhere in the world. An organization theorist would classify the BKKBN as a "matrix organization".

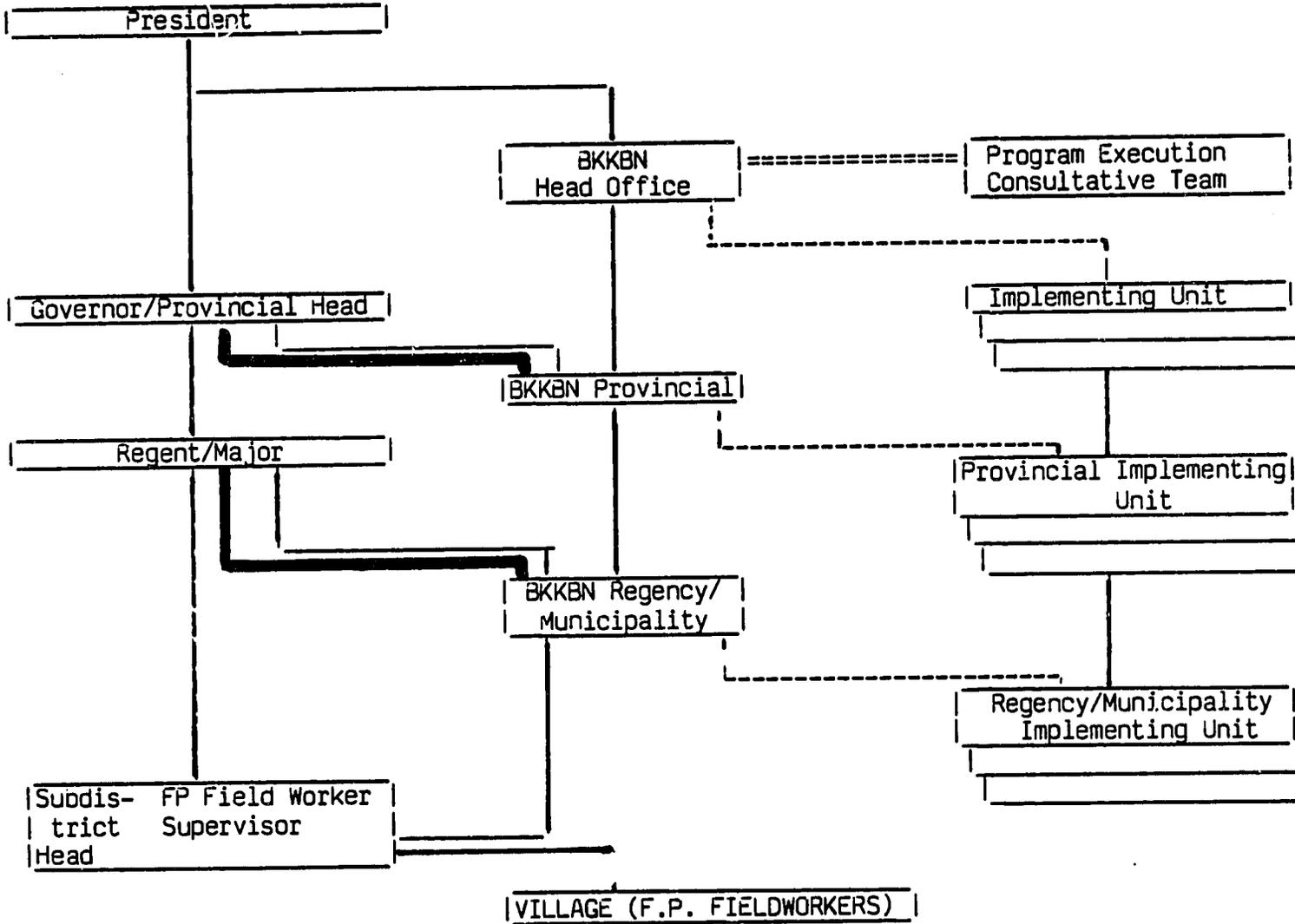
A well developed data system is crucial to successfully implementing the BKKBN "matrix design". BKKBN executives must continuously understand the achievements of various program components so that overall accountability to the central authorities is insured. Information lends support to BKKBN cooperation with the Government authorities and external donors and provides the basis on which BKKBN coordinates implementing agencies and plans activities in the field. Thus the BKKBN information system is more sophisticated than management information systems in the ministerial organizations that it coordinates.¹

Nevertheless, concerns about the design of this information system have led to the present consultancy. In part, these concerns relate to a consensus within BKKBN that the complexity of existing data

¹ The Information collection in various ministries is extensive, but BKKBN differs in that the processing of output data is timely with reports circulated to implementing agencies and relevant BKKBN units within six weeks of data collection.

FIGURE 1

WORKING RELATION CHART BETWEEN BKKBN, PROGRAM EVALUATION CONSULTATIVE TEAM, LOCAL GOVERNMENTS AND IMPLEMENTING UNITS



————— : Command Line
..... : Coordinating Line
————— : Consultative Line

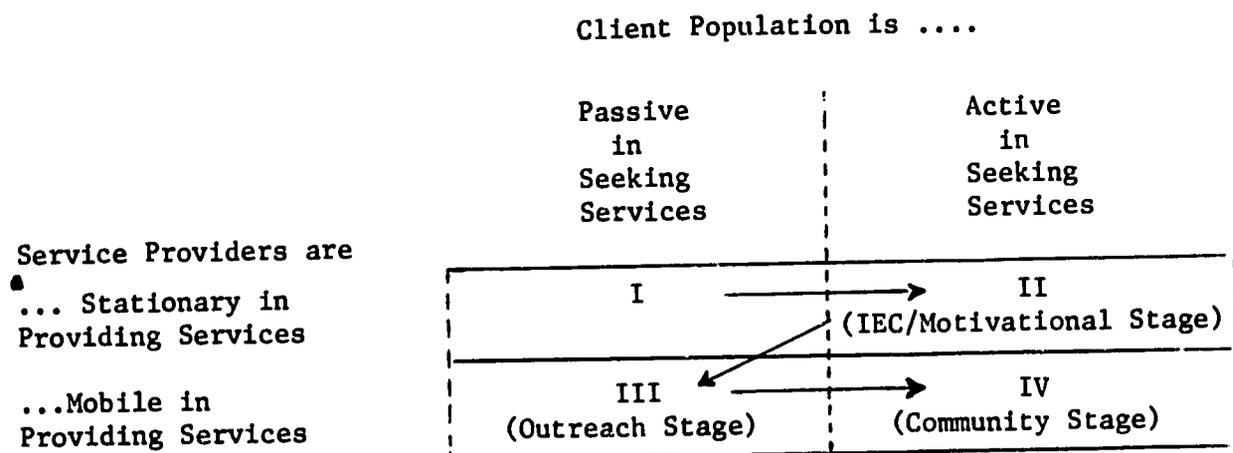
systems merits external review, but concerns are also born out of an awareness that new computer technology can improve upon the speed and versatility of central processing and can also contribute to the decentralization of management information processing.

Two themes in discussions with BKKBN officials indicate that the organization has changed in ways that have changed data system requirements: 1. Service strategy changes have greatly complicated the analysis of outputs. 2. The shifting strategies have produced a complicated programme with many intermediate operational objectives. We shall review each these themes, in turn.

2. Changing Service Strategies and Implications for Data Systems

Figure 2 depicts a typology for three stages in BKKBN service strategy development over the past decade. In the early 1970s the

Figure 2 : A Typology for a Three Phase Transition in BKKBN Service Strategies



client population was served with clinics which provided contraceptive services. Although static services were successful, programme strategists recognized the need to create more demand for services through information and community based motivational campaigns. The initial service strategy goal was to shift from a "Type I" situation (Figure 2) to a "Type II" situation with more extensive utilization of static facilities. The data requirements of this initial static service/IEC approach was addressed to monitoring the number of clients served and acceptors enrolled. The excellent data system that was developed to monitor this programme is still in operation. With the emphasis on both services and communication (Type II, Figure 2) clinical service monitoring alone was inadequate.

The information system also incorporated motivational activities and eventually special modules for monitoring information campaigns. By the mid-1970s service outreach activities were added in response to the view that no amount of static services would fully address the nation's needs since a substantial proportion of the population were not motivated to travel for services (Type III). Mobile medical teams were added and outreach workers were equipped to provide contraceptive services to couples willing to use contraception but insufficiently motivated to travel for services. This strategy created new monitoring challenges. The clinic centered strategies were still actively in force, but the new outreach activities removed the monitoring of output from controlled confines of the clinic. An outreach programme was added to the list of

things to monitor, and procedures for the indirect assessment of programme effects were instituted. Surveys and estimation procedures were thus increasingly important adjuncts to the monitoring lexicon.

In the 1980's the programme strategy has shifted again, this time with aim of developing a series of activities designed to shift responsibility for services to the community and to alter reproductive motivation by mobilizing traditional institutions to support the birth control programme. This bold and exceedingly complex endeavour is highly decentralized and variable from locality to locality, but is pervaded by common theme: BKKRN staff constitute community groups to directly improve accessibility of contraceptive services or to foster community activities which indirectly alter reproductive motives. This strategy is termed Type IV in Figure 2: both service outreach and strategies for changing motives are components of the programme.

3. A Conceptual Framework

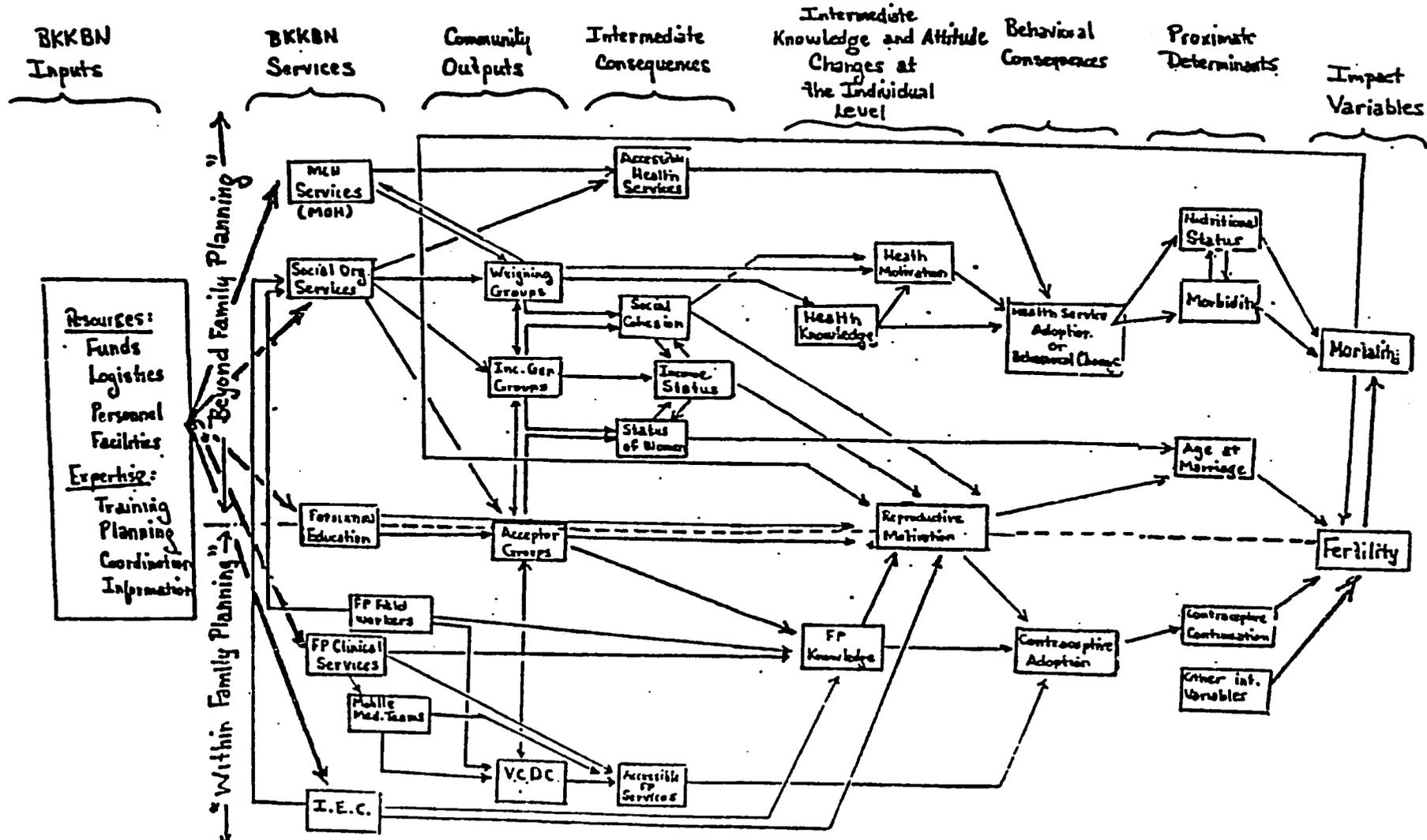
It is useful, in structuring a data systems review, to cast the goals of data collection into a conceptual framework. Preliminary discussions with BKKBN Bureau Chiefs and Deputies were exceedingly useful for this purpose, since we could sit together and discuss the goals and purpose of data collection in one bureau and review the posited interrelationships between activities of bureaus. Although

these conversations encompassed several hours, we attempt to present them here as a single conceptual scheme to illustrate the collective hypotheses embodied in stated analytical goals.

Figure 3 illustrates a representation of the logical framework underlying current BKKBN activities. In all, eight sets of variables are of interest to BKKBN. Two are operational sets of variables while the remaining six are consequences of operations: Support variables represent programme inputs (funds, personnel, logistics, supplies, operational plans and training). Service variables are the operational consequences of inputs. These, in turn, fall into sets of "within family planning variables" and "beyond family planning variables". "Within family planning" activities are information, education and communication ("I.E.C."), family planning clinical services and out-reach activities (mobile medical teams and family planning field staff). These are mainly addressed to improving services accessibility and family planning knowledge. "Beyond Family Planning" activities constitute a wide range of programmes each with community effects. Groups in the community are formed for income generating activities such as women's clubs, acceptor groups, and "weighing groups" which monitor the nutritional status of children. The purpose of these activities is to create cohesive social units in which group motivation for family planning can be fostered or roles for women can be developed

FIGURE 3

A Framework for Interrelationships of BKKBN Field Strategies and their Effects



14

which alter reproductive motives by creating roles that compete with child bearing. These activities are thus intended to create a forth set of outputs which are labeled "intermediate consequences" in Figure 3. These variables are hypothesized to alter knowledge and attitudes in ways that affect health service utilization and family planning adoption. Most important among these intermediate variables to the BKKBN is reproductive motivation, something that is posited as being influenced by both within and beyond family planning activities of the programme. Intermediate outcomes are changes in nutritional status, morbidity, the age of marriage and contraceptive use, all proximate variables that directly affect either fertility, mortality, or both. Changes in the age at marriage is cited as a consequence of "beyond family planning" strategies, but other intermediate fertility variables (abortion, fecundity, coital frequency, etc.) are not programmatic variables and are not discussed by BKKBN officials.

Figure 3 is presented to illustrate the complexity of BKKBN operational goals, and to lend structure to our forthcoming observations regarding the appropriate goals of service statistic systems. The fundamental constraint of any such system is that service providers and supervisory staff are the providers of the information. They are not expected to be skilled data collectors. The system must therefore be simple to understand and use. Since service statistics must be simple,

emphasis is best placed on issues most directly relevant to collectors of information (variables on the left hand side of Figure 3). Monitoring modules should assess Figure 3 input components and immediate and most proximate consequences. Where intermediate effects are intricate and poorly understood, as is the case with any of the beyond family planning community level interventions, the utility of a service statistics system as an evaluation tool is diluted by the complexity of interrelationships.

Clearly, a routine service statistics system cannot monitor all aspects of the Figure 3 system. Rather, information modules should be designed to monitor services rendered and perhaps a few well defined community outputs. Particularly troubling is the case of proximate variables in Figure 3 which interact. Nutritional adversity, for example, is both a cause and a consequence of morbidity. Successfully monitoring one proximate variable requires careful attention to the other; and, by implication, successful intervention in nutrition requires attention to intervention in a wide range of other MCH issues.

The complexity of BKKBN service strategies presents three challenging theoretical problems to the designers of service statistics:

First, it should be noted that the addition of a new field activity should not necessarily lead to the addition of a new routine

data system designed to measure services and proximate determinants of fertility or mortality. It is increasingly evident that operational goals of BKKBN are becoming more sophisticated than the capacity of routine data systems to evaluate their effects. Thus, for output assessment, new strategies for data collection are required.

Secondly, although the analysis of routine service statistics will continue to have an important role in monitoring inputs, operations, and outputs, multivariate analysis will be increasingly relevant to the interpretation of service effects. Multivariate analysis will be required because variation in the inputs and outputs of one service strategy will confound interpretation of another service component. Thus data systems must be structured to permit common units of analysis for multivariate operational research.

Thirdly, this system of interrelated operational components requires crosslinkage of data. A complex service strategy makes it impossible to anticipate all the analytical needs of various Bureaus. Data systems must therefore permit flexibility -- ease in the creation of special purpose data sets for answering a particular operational question.

Finally, despite the emerging operational complexity, the need for simplicity and parsimony remains. Even with the development

of micro-computers and low cost mainframes it is important that data collection needs not distract the BKKBN from its fundamental goal -- to provide services.

We appeal, in summary, for routine monitoring systems that have clear and concise analytical goals: a variable that is monitored should be monitored in a system that also monitors its proximate determinants or immediate consequences. Monitoring should also concern the potentially confounding effects of intercorrelated variables or unmonitored intermediate variables. Although Figure 3 is complex, our purpose in presenting it is to simplify routine data collection. In the absence of requisite management software, BKKBN monitors inputs, activities and outputs for each strategy. Since a given output can be common to several programmes, redundancy is required. With appropriate technology, however, data collection for one purpose can be linked with other data and used for another purpose. Small, simple to understand modules can be cross-referenced and linked so that simplicity and complexity can coexist.

The designers of service statistics systems, however, must operate within the context of routine large scale data collection. Complex issues and theories can be analyzed and tested, but this is best achieved through special studies involving surveys, economic or anthropological studies, panel studies, or other mechanisms. The primary objective of routine data collection should be to contribute to an understanding of inputs and immediate consequences that can be directly measured. Data management should therefore aim to facilitate analysis, by resolving the seemingly contradictory goals of collecting as little data as possible for monitoring an increasingly complicated programme.

PART II

EXISTING DATA SYSTEMS

A. AN OVERVIEW OF THE EXISTING DATA SYSTEM : ISSUES IN THE DESIGN
OF DATA FLOW

In this section of the report we describe the existing BKKBN data systems and make recommendations for future work. We address the question of how much processing is required for the present system and how current instruments can be streamlined or combined to reduce the volume of processing. We proceed by examining the data collection instruments of each system separately and proposing procedural changes (Option A) and subsequently proposing a general revision of the flow of data (Option B).

Two data systems are consigned high priority by BKKBN officials for processing and analysis: 1. The Contraceptive Services Report (CSR) which monitors monthly outputs for 6600 family planning clinics throughout Indonesia and, 2. The Field Control and Supervision Activities Report (FCSA) for 3600 Subdistricts in Indonesia. The CSR and FCSA differ in scope and content but they share a common element that is crucial to assessment of programme performance: they provide information used for estimating current use of contraception.

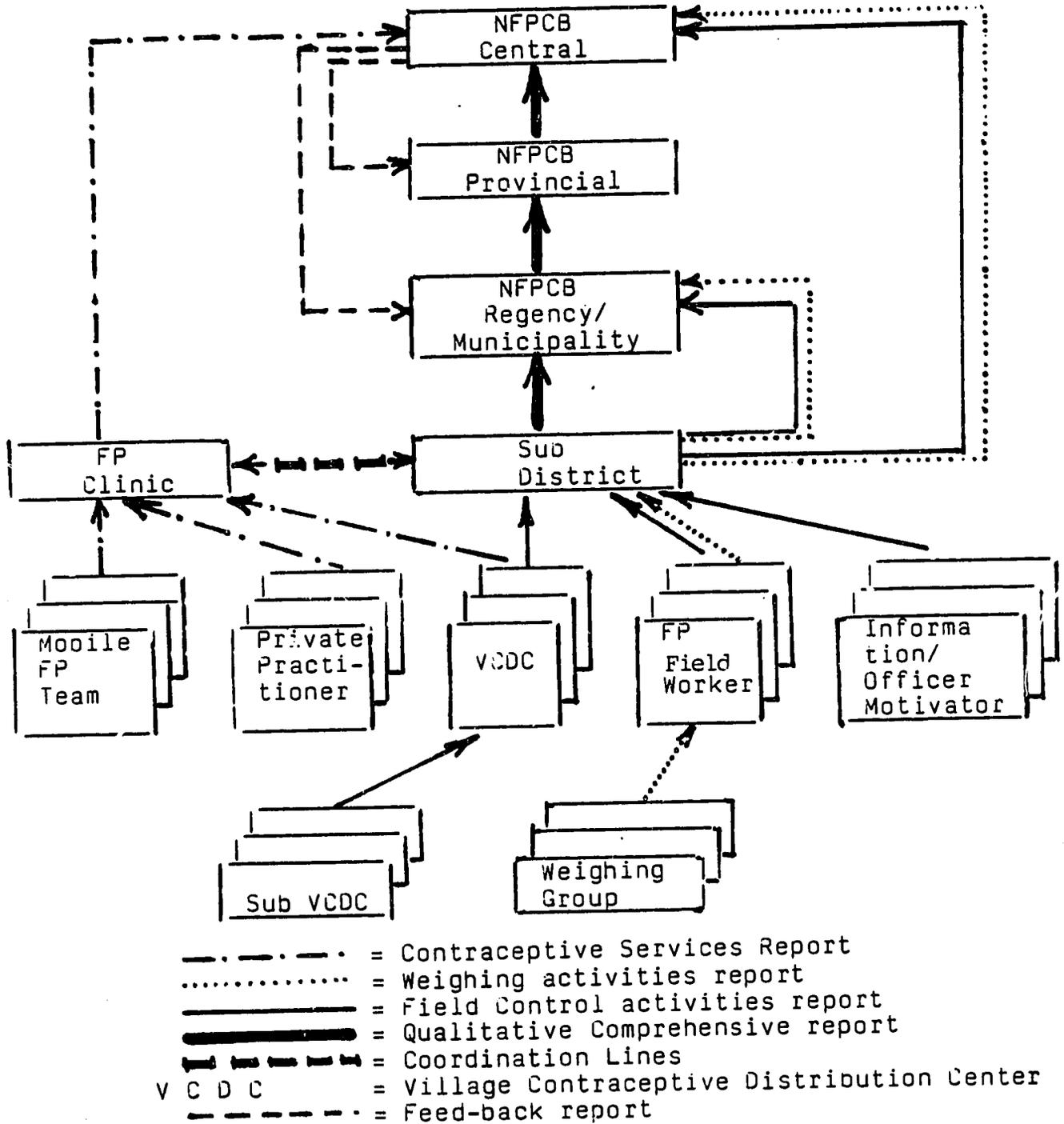
Although the units of analysis for these systems differ in that the CSR is a report of a service unit and the FCSA is a report from an area, there is considerable scope for reducing the volume of data by consolidating these reporting systems (Option B). We have therefore consigned priority to achieving an understanding of these two systems to motivate our discussion of the prospects for consolidation.

Each system has its strengths and limitations. At present they are implemented jointly in a fashion depicted in Figure 4.¹

There are seven primary points of data collection: Mobile family planning teams, private practitioners, village contraceptive distribution centers (VCDC), sub-VCDC, family planning field workers, weighing groups and mobile information teams. Each primary system generates data, although, at present, none of the 7 subdata sets are electronically processed. Summary weighing group data, however, is partially entered and a plan for further processing exists. The seven subdata systems each report to one of two data aggregation points: the clinic or the sub-district supervisor. From that point two systems operate, each largely independently, with only limited overlap in the content of the data, but much need for cross-referencing of data for management purposes.

1 Source : Bureau of Reporting and Evaluation, BKKBN

Figure 4
POPULATION AND FAMILY PLANNING PROGRAM
FLOW OF REPORTING



Source: Bureau of Reporting and Evaluation, БККБН

This dual structure has two limitations : The overall data system design does not consign clear responsibility for output data quality assessment in a particular locality to any one individual. Thus family planning field workers (FPFW) routinely canvass the population of a subdistrict, but eligible couple registers are maintained by the clinic staff for its clientele and by the VCDC for the village as a whole. As volunteers, the VCDC are not easily held accountable for data quality. But, more seriously, the bifurcation of reporting of the BKKBN subdistrict report and clinic report tends to bifurcate responsibility for monitoring activities in a locality. The BKKBN field staff in areas that we visited tended to view the clinic as the primary source of output data, and yet a data source that was not subject to their checking and supervision. These clinic data are nevertheless used by BKKBN to estimate current use prevalence through assumptions on the amount of use that accrues from adoption.

While the FCSA data collection is directly controlled by the subdistrict supervisor, attention to supervision of data quality appears to be somewhat lax, first because the CRS is viewed as the primary data source, and secondly because no feedback of the FCSA data on outputs has occurred.

When we discuss "Option A" we propose to leave the flow of data unchanged from the Figure 4 model. There is nevertheless compelling

evidence to suggest that a unified system of data evaluation is needed and that supervision of the FCSA should be improved. We shall discuss this further below.

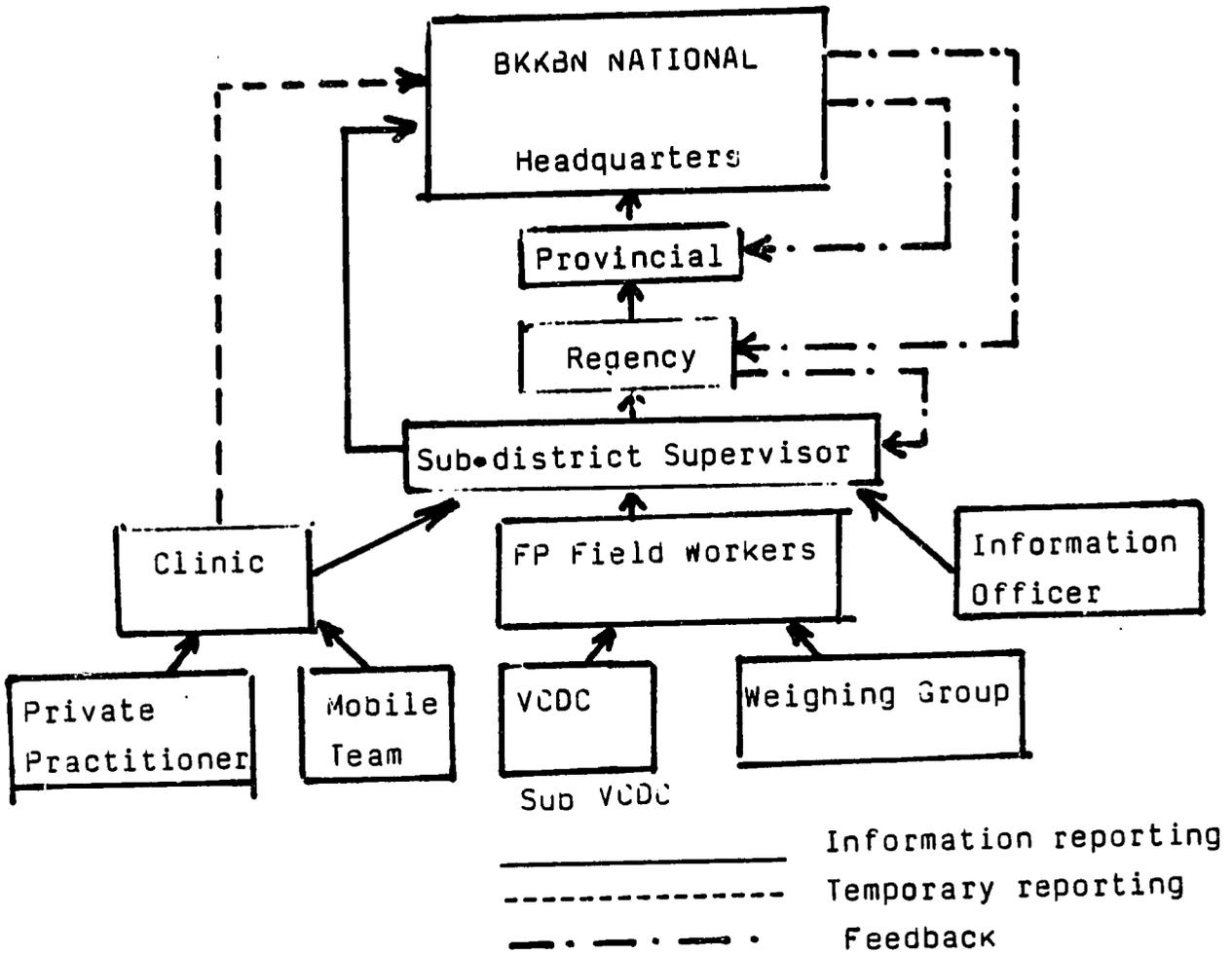
Figure 5 presents an "Option B" unified data flow design which has certain advantages over the existing system. Responsibility for data collection and quality can be clearly and unamigously consigned to individuals at the national, provincial, regency, and subdistrict levels. Our field experience suggest that clear lines of accountability already exist at all levels except at the subdistrict level, a potentially serious problem since it is at the subdistrict level that data are collected, and thus the level where coordination and control of data flow are most crucial.

A second advantage is the fact that compilation of a unified subdistrict report links relevant information in the field onto a single data collection module that would now be cumbersome to link on the computer. Aggregation of data onto these forms could eliminate the 6600 CSR reports each month, thereby greatly reducing data volume.¹

A third advantage of a unified approach is that it enhances the coordinating role of the supervisor, since the one person responsible for coordination would also be receiving, reporting, and interpreting

¹ That is, Option B, involves eliminating the dashed line data flow on Figures and incorporating clinic output data on a revised FCSA.

Figure 5: Proposed Modification of Data Flow



programme outputs.

Option B, nevertheless, has important disadvantages. First, accountability for reporting performance is vested in the same individual with administrative responsibility for maintaining performance. The lax but wily worker can thus spuriously report achievement. Any such system must therefore incorporate a data quality monitoring subsystem to ensure that high standards of data quality are maintained.

More serious, perhaps, is the potential for introducing a new "bottleneck", in the form of the supervisor, into the flow of clinic data to the national office. The supervisor, instead of supervising field service work, might divert attention to the recapitulation of CRS data.

Moreover, some BKKBN officials note that the quality of subdistrict supervisory data management is sub-standard. If the system is changed to the Figure 5 approach the direct flow of clinic data must therefore continue for a substantial period of time while the subdistrict system is developed and improved.

Finally, while differences between the design of the clinic and subdistrict report may produce discrepant output results, and some may

argue that eliminating dual systems is therefore desirable, dual systems are useful because one provides a check on the other.

A key issue in achieving data parsimony is evaluating whether Option B is feasible, or whether dual reporting is necessary. Despite the central importance of this question we arrive at no recommendation, because both options should be carefully tested before a decision is made.

B. THE UTILITY OF LINKAGE

A potential limitation of a management information system structured on the Figure 4 model is the absence of a link between variables of interest. Our Option A recommendations might reduce the volume of data, but fail to produce units of tabulation and analysis. Such linkage can be achieved by two means: placing requisite data on a common form, thereby linking data by hand; or alternatively, linking data on the computer so that various modules are accessible electronically (Option C). Under Option B the most crucial BKKBN variables are placed on a modified FCSA. Under Option C this linked record file is expanded and diversified with computer linkage software, to be presented in Section III. Whichever Option is pursued by BKKBN, careful attention to achieving cross linkage of data is desirable.

Consider, for example, the weighing group data and its relationship with family planning. A hypothesis often expressed by the BKKBN staff is that the group weighing lends cohesion to mother's groups and that this cohesion, in turn, stimulates family planning where use rates are low, or at least contributes to maintaining prevalence at a high level when interest in family planning might otherwise dissipate with time.

This is a plausible hypothesis, but testing it is somewhat complicated. Since not all villages have weighing groups one could correlate the time trend in the contraceptive prevalence rates in weighing groups areas with the weighing group participation rate in the same areas. But since weighing data is on one computer file and the corresponding prevalence data is on another, the analysis cannot be done because there is no link between the variables over units of analysis.

This problem of linkage occurs again and again when analysis plans are contemplated. It is difficult to anticipate in advance all of the relationships to be studied. Yet many linkages are obviously important to utilization of management information and can be facilitated by form design. To permit the requisite analyses we propose linkage of major subdistrict data onto a single form for later elaboration through computer cross linkages. That is, for the inherent complexities of the Figure 3 model to be brought into account, systematic consideration of

the requisite linkages is desirable. It is useful to begin with a redesign of forms (Option B), and to subsequently elaborate on this concept by computer cross linkage (Option C).

C. BKKBN DATA SYSTEMS

There are 14 data systems which merit review:

1. The Clinic Reporting System of which the CRS monthly clinic summary form is the major component,
2. The Subdistrict Control System of which the FCSA is the main instrument,
3. The Weighing Group System,
4. The Income Generating Activities which are mainly addressed to recording the amount of funds dispersed and the type of loans, but is not yet finalized as a computerized system,
5. Subdistrict Summary Reports which are special instruments used for annual reports of the Planning Bureau and the Reporting and Evaluation Bureau concerning fixed assets and personnel,¹

¹ This is not a computerized system, but represents a series of data collection instruments used by various bureaus for annual reports. Some redundant information collection is inherent in this annual reporting system.

6. The Hospital Report,
7. Logistics and Supply Reports, a series of monthly warehouse reports at the national, provincial, regency, and subdistrict levels,
8. The Finance and Accounting System,
9. The IEC Mobile Unit Report,
10. The Radio Programme Report,
11. The Personnel History File
12. The Report on Training Activities
13. The Urban Sector System, a new initiative yet to have a finalized monitoring system, and
14. The Modular Survey, an integrated system of special purpose sample surveys.

Pilot projects, of which the most important is the pilot vital registration system, are not computerized at BKKBN and were not viewed. Each of the 14 existing systems could consume the time available for this review. We are therefore assigning priority to the first 4 systems listed. The financial system is external to this consultancy and will

not be discussed. Special systems on IEC such as the "Radio Report" are likely to be eliminated. The Urban Sector System presents a complex set of technical issues which are relevant to this consultancy, but beyond our capacity to review in the time available. The Modular Survey is an important innovation which merits separate discussion in Section IV of this report on strategies for data quality control. Narrative reports which are not computerized are used extensively at all levels. This very useful and appropriate system should continue unchanged and has not been reviewed in this report.

1. The Clinical Data Subsystem

a. Introduction

The first data system to be implemented by the BKKBN is the "Family Planning Services Report". The reporting forms for this system are reproduced in Appendix B. In June 1971 the reporting was introduced in the six provinces of Java and Bali, was extended to 10 outer islands provinces in 1974, and to the remaining provinces in 1979. The principal objective of the reporting system was to provide timely information on the amount of type of services rendered: family planning acceptances and reacceptances by method with data divided by delivery site (whether in the clinic or by mobile team) and by type of provider (whether private midwife or practitioner).

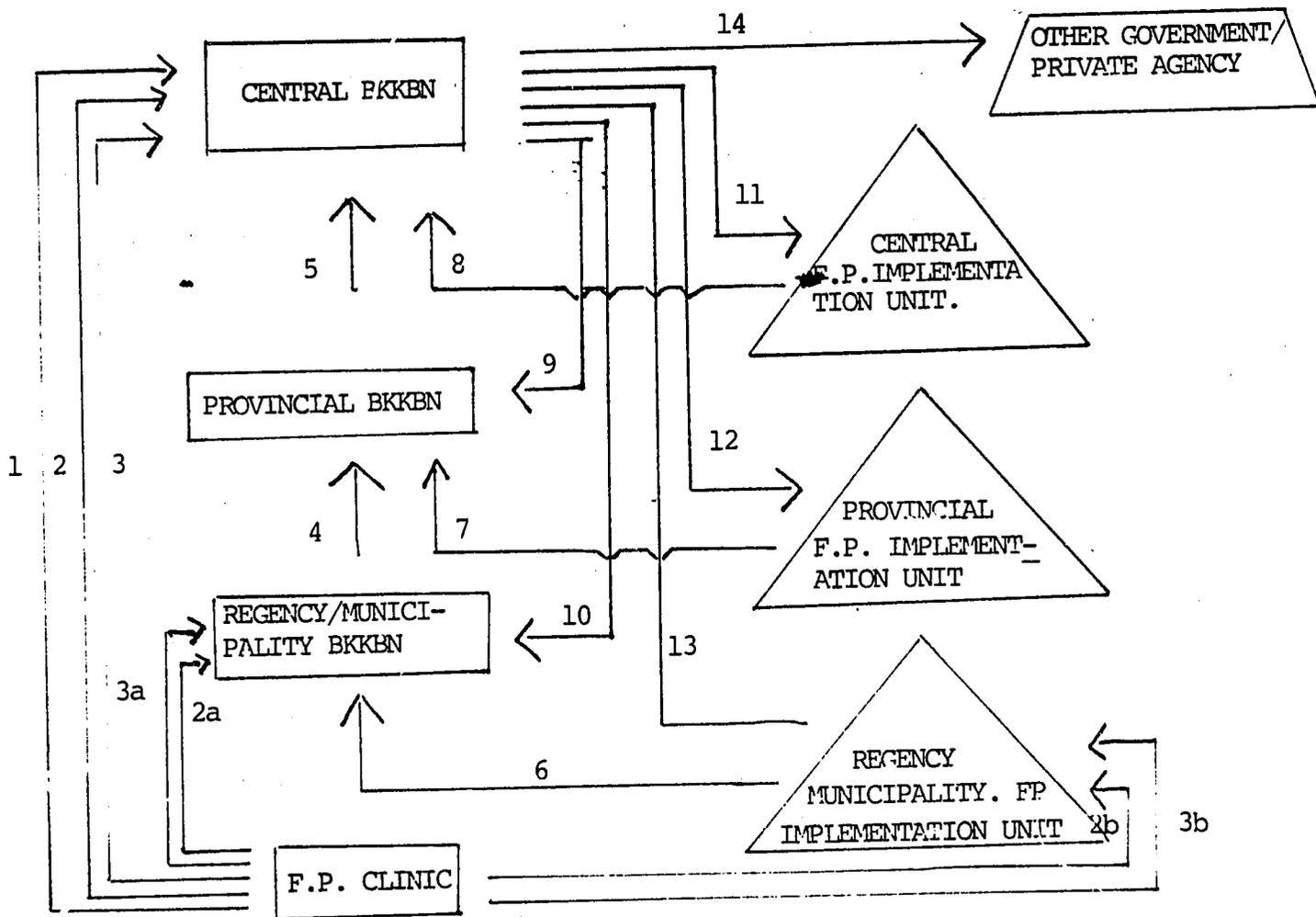
The form for reporting this information also compiles data on the volume of complaints and referrals and the actual supplies dispensed and remaining on hand. The monthly reporting form for this system is reproduced in Appendix B Figure 1 and data flow is diagrammed in Figure 6. Each form contains 768 bytes of data and approximately 6600 forms are expected in the BKKBN Jakarta office monthly. Data are merged with the records compiled for the previous months in a single annual linked record file. The monthly reports are used to generate 19 routine tabulations:

1. New Acceptors by Subdistrict,
2. Clinic Hours of Operation by Regency,
3. Revisits to the Clinic and Referrals by Province,
4. Total Revisits by Province Nationwide,
5. Ratio of Contraceptives Distributed to New Acceptors
Divided by Total Contraceptives Distributed,
6. Method Switches,¹
7. Revisits and Referrals by Regency.

¹ The method switching report appears in Appendix B.2. Note that it is added to the clinic report by software which adjusts aggregate data. It is merged with the clinic report data. The rationale for this separate procedure is not clear. In the average month about 2000 switches are reported, each with 20 bytes of information, or 40 kilobytes.

FIGURE 6

FLOW OF REPORTS FROM THE EXISTING FAMILY PLANNING CLINIC



- 1. : Client Record slip
- 2,2a,2b : F.P. Clinic Monthly Report
- 3,3a,3b : Methode Conversion Report
- 4 : Recapitulation of FP Clinic Monthly Report
- 5 : Quarterly Report (narrative)
- 6,7,8 : Monthly Report (narrative)
- 9,10,11 : Feedback report (monthly, quarterly and annually)
- 12,13,14

8. Contraceptives Dispensed to Acceptors,
9. Clinic Hours of Operation by Province,
10. Clinic Hours of Operation for All of Indonesia,
11. Current User Ranking by Each Regency for Each Province,
12. Current User Ranking by Subdistrict in the Regency,
13. The Monthly Clinic Statistics Summary by Province for All of Indonesia,
14. Listing of Clinics and Warehouses Failing to Report on Time,
15. Total New Acceptors by Clinic for Each Regency,
16. Regencies Ranked by Percentage of Reports Received,
17. The Logistics and Supply Report: Stocks Received and Dispensed.
18. The Contraceptive Stock Report: Balance of the Contraceptive Inventory, and
19. The Current User Ranking of Subdistricts by Province.

The reporting from this system has the highest priority for processing on the BKKBN computer. Entry typically begins on the eighth day of each month and all processing is completed by the 25th day. This represents about 5 megabytes of data to be managed each month which requires 32.5 man days of data entry time or 2.10 minutes per form, or about 1.62 terminals under continuous operation. These figures are instructive because they show that about three quarters of the terminal time available in regular work hours is required for CRS entry. No verification of data takes place, a policy that may sacrifice data quality to make room for other processing.¹

As Appendix B shows, the 5 megabyte estimate does not contain important subsystems. A register is compiled annually with 33 bytes of data per clinic, or 21.7 kilobytes data, on basic clinic characteristics (Figure 8.3). Similarly a personnel register is coded annually (Figure 8.4), each with 44 bytes (290 kilobytes).²

Finally, each clinic report records client characteristics (Figure 8.5) and a detachable "slip" is precoded for each new acceptor for sending to Jakarta. Of these slips a 10 percent systematic sample from the 6 provinces of Java and Bali, and 10 Outer Island provinces

1 An editing procedure is used in which computer tallied columns and rows are equated to hand tallied totals. Most of the errors detected are discrepancies between additions and hand tallies. Thus much effort is expended on tallying and correction, and compensating errors are possible. On line verification would be less laborous and less prone to error.

2 This annual workload represents $26.0 \text{ kilobytes/month } (21.7 + 290)/12 = 25.98$.

are computerized. In the remaining outer island provinces 100% of the slips are processed. Each form contains 45 bytes, and approximately 518,000 forms per month arrive from the areas of which 10 percent are processed (2.33 megabytes). About 26,000 forms arrive from 100 percent areas (1.17 megabytes). Data are tabulated by province but are unlinked to the clinic file so that information is not utilized apart from the periodic tabular summaries of current characteristics.

The monthly entry requirements, in summary, in bytes are:

	4,992,000 (Clinic Report)
	40,000 (Switchers)
	25,975 (Personnel, fixed assets)
	2,330,000 (Characteristics, 10 percent sample)
	<u>1,170,000</u> (Characteristics, 100 percent Provinces)
Total	8,557,975 bytes

or roughly 8.6 megabytes.

b. Output Measures:

The Indonesian clinic recording system is widely regarded as being among best of its the kind in the region. Rates of compliance with system procedures are excellent, staff comprehension of the operation is sound, and software development is much more developed

than is the case for other BKKBN data systems or systems elsewhere in Asia. We are nevertheless recommending changes in this system. Most of our comments focus on the conceptual limitations of placing undue reliance on a clinic based recording system for a community based programme, and the need to link the CRS with community based data collection systems. To motivate our recommendations for change we briefly review the output estimates derived from the CRS.

Since a clinic serves clients who come for services or are reached by mobile units, outputs must be estimated from service activities. The estimation of outputs requires assumptions for projections of the users of contraception that accrue from the new acceptance or reacceptance of contraception as well as projections of the couples who are eligible to use contraception. Thus both numerators and denominators of rates used for output assessment are subject to bias if estimation assumptions are faulty.

While the quality of CRS data may be excellent, the assumptions of estimation may be questionable. Our suggestions for changes in the computer and data management system derive from our concern about these assumptions and evidence that their validity for assessing programme outputs may be deteriorating with time. This is suggested by the data reported in Table 1. In Table 1 results from surveys conducted since 1973 are compared with corresponding contraceptive use prevalence

estimates from the CRS. Positive signs suggest higher estimates from the CRS. In the early years of the programme the correspondence of estimates was close, but with time the absolute value of discrepancies has grown. This is to be expected since the growing prevalence produces a growing margin in which discrepancies can arise. Nevertheless, if we accept the survey data as correct, the data suggest that the CRS may be overreporting IUD prevalence in the large provinces of Java and Bali while under reporting the use prevalence of other methods. The high discrepancy for the IUD estimates are somewhat surprising, since one assumes that clinic data more reliably report acceptance of IUD's than acceptance of non-clinical methods.

Some discussion of possible sources of error in Table 1 may explain our reservations about the CRS. Estimation errors in both numerators and demoninators may contribute to the Table 1 discrepancies, although we could not formally test this hypothesis on sources of error in the brief time available for this consultancy. Moreover a potentially serious problem not reflected in aggregate data of the Table 1 variety is that the numerators are derived from clinical data of service units with a catchment area that differs from the areal unit used for denominators. Since the population served by the clinics in a sub-district may be greater or smaller than subdistrict population, there is considerable risk that accurately estimated numerators and accurately

TABLE 1 : A COMPARISON OF BKKBN SERVICE STATISTICS PREVALENCE ESTIMATES
WITH ESTIMATES FROM SPECIAL STUDIES, 1973-1980

PROVINCE	Date	March 1973			May 1976			Oct. 1979			Oct. 1980		
		F.M. Sur-vey	BKKBN	Diff. fe-rence	W.F. Sur-vey	BKKBN	Diff.	SUSE NAS	BKKBN	Diff.	SENSUS Pend-duduk	BKKBN	Diff.
		CU/MCRS	CU/MCRA		CU/MCRA	CU/MCRA		CU/MCRA	CU/MCRA		CU/MCRA	CU/MCRA	
<u>D.I. JAKARTA</u>		-	-		14.3	14.9	+0.6	23.2	19.2	-4.0	28.1	22.0	-6.1
Pil		-	-		6.9	5.5	-1.4	12.2	7.9	-4.3	10.9	10.2	-0.7
IUD		-	-		4.0	8.0	+4.0	7.3	8.5	+1.2	7.6	7.8	+0.2
Other		-	-		3.3	1.4	-1.9	3.6	2.9	-0.7	9.6	2.8	6.8
<u>JAWA BARAT</u>		3.4	5.1	+1.7	12.1	16.0	+4.2	24.3	23.5	-0.8	24.1	26.8	+2.7
Pil		3.0	3.8	+0.8	9.7	13.7	+4.0	21.5	19.1	-2.4	15.1	5.3	-9.8
IUD		0.2	1.0	+0.8	1.2	1.7	+0.5	2.5	3.8	+1.3	3.5	20.6	+17.1
Other		0.2	0.3	+0.1	1.3	0.8	-0.5	0.4	0.7	+0.3	5.5	0.6	-4.9
<u>JAWA TENGAH</u>		7.6	6.4	-1.2	23.0	18.4	-4.6	33.9	34.4	+0.5	35.7	46.6	+10.9
Pil		3.3	2.6	-0.7	14.4	9.9	-4.5	22.8	22.1	-0.7	19.3	9.4	-9.9
IUD		3.4	3.3	-0.1	4.6	6.9	+2.3	8.2	8.2	0.0	9.0	30.6	+20.7
Other		0.8	0.5	-0.3	3.9	1.6	-2.3	2.9	4.1	+1.2	7.4	0.8	-6.6
<u>D.I. YOGYAKARTA</u>		10.0	9.9	-0.1	17.8	18.2	+0.4	28.5	35.4	+6.9	47.7	53.0	+5.3
Pil		2.3	2.1	-0.2	3.5	3.7	+0.2	12.6	12.0	-0.6	16.8	12.3	-4.5
IUD		5.6	5.7	+0.1	7.0	10.5	+3.5	9.2	11.1	+1.9	13.1	18.2	+5.1
Other		2.1	2.1	0.0	7.3	3.9	-3.4	6.7	12.3	+5.6	17.8	3.4	-14.4
<u>JAWA TIMUR</u>		12.0	11.3	-0.7	26.3	33.2	+6.9	48.7	49.9	+1.2	43.1	56.1	+13.0
Pil		7.2	5.7	-1.5	16.1	20.9	+4.8	30.9	30.3	-0.6	23.7	19.3	-4.4
IUD		4.6	5.2	+0.6	7.9	11.2	+3.3	16.2	17.9	+1.7	13.8	34.5	+20.7
Other		0.2	0.4	+0.2	2.3	1.1	-1.2	1.7	1.6	-0.1	5.5	0.8	-4.7
<u>B A L I</u>		20.0	18.0	-2.0	33.3	33.0	+0.3	52.0	47.2	-4.8	46.7	51.8	+5.1
Pil		2.1	3.3	+1.2	4.4	3.1	-1.3	9.8	4.0	-5.8		4.0	
IUD		16.8	13.8	-3.0	28.6	28.6	+3.9	37.7	39.2	+1.5		42.9	
Other		1.2	0.9	-0.3	1.9	1.9	-2.4	4.5	4.0	-0.5		3.1	
<u>JAWA - BALI</u>		7.5	7.4	0.1	20.5	22.6	+2.1	35.5	35.6	+0.1			
Pil		-	-	-	15.0	13.7	-1.3	23.5	22.1	-1.4			
IUD		-	-	-	3.8	7.6	+3.8	9.9	11.0	+1.1			
Other		-	-	-	2.7	1.3	-1.4	2.0	2.5	+0.5			

- Source : BKKBN Reporting and Evaluation Bureau
- Fertility Mortability Survey
- World Fertility Survey
- Socio-Economic Survey of Central Bureau of Statistics

estimated subdistrict populations would nevertheless produce spurious local area prevalence estimates. Thus local area estimates may be subject to errors that are not reflected by the Table 1 discrepancies.

Numerator problems In order to derive synthetic estimates of current users BKKBN clinic service activities data are converted into areal output information. Since new users, repeat users, and supplies are the statistics reported to clinics, an estimation procedure is used to derive current users. In theory, at least, no new user escapes clinic registration, since the first adoption is only through clinic or mobile medical teams. Similarly, repeat adoption and switching are clinic or mobile team based. Each event is registered. The estimation procedure applied in the Jakarta BKKBN office is as follows:¹

Pill users are $12/13$ of the number of cycles distributed to users. This is intended to allow for the mean duration of the menstrual cycle, noncompliance, and the monthly probability of termination among women in possession of supplies.² This adjustment factor should be evaluated to see if the adjustment rate should be age specific and if the changing age composition of users affects its accuracy. Pill

1 Source: BKKBN Reporting and Evaluation Bureau

2 Note that the BKKBN user definition is different from prevalence. Procedures define ever users within a month which will be slightly higher than the point prevalence of use (See Appendix B, Figure 6).

distribution by VCDC could be reported in the clinic system as actual pill use, thereby spuriously inflating the prevalence rate.¹ But since the signs in Table 1 are negative it seems more plausible that many new pill acceptors are supplied directly by VCDC or that a substantial amount of pills are obtained through non-programme commercial sources and thus missed completely by the system.

Current condom users are estimated by dividing the number of condoms dispensed by six, the assumed mean monthly coital frequency. As in the case of the pill definition, the research foundations for the adjustment are unclear and merit documentation in a scientific report. Many couples may accept condoms but not use them. Moreover condoms used as a proportion of condoms dispensed may vary by province, or by age of user. Or, since Table 1 signs are negative, sources of commercial condoms may be missed by the CRS. Sporadic consumption of either pills or occasional use of condoms that is reported in surveys as current use can also contribute to the Table 1 discrepancies.

Injectible users are defined as the number of inject: during the past three months. This underestimates prevalence since the pharmacokinetic decay of circulating DMPA among method terminators is gradual. Nearly everyone is protected four months by an injection, many women for five months, and a significant proportion for six months. Some multiplier is therefore needed to adjust for the fact that some DMPA

¹ BKKBN documents do not discuss noncompliance. If the 12/13 ratio does not allow for noncompliance and non-use, prevalence will be over-estimated.

users are protected from pregnancy in the post-3 month injection period even though research has shown that eventual return to fertility is universal. Thus, while we suspect that procedures may either over or under estimate pill and condom use, DMPA current protection is likely to be underestimated by estimation procedures.

The number of female and male sterilization acceptors are assumed to be current users for 7 years.¹ This general assumption is likely to lead to varying degrees of over-estimation of current use in localities depending upon areal variation in rates of marital dissolution, mortality, the mean age at sterilization, differences between the mean age for male and female sterilization, and areal differentials in the age of onset of menopause. A continuous discounting factor, specific for age and province could be computed from existing demographic survey data.

Table 1 reflects a growing popularity of the IUD. Thus the CRS overestimate of use is increasingly problematic. The number of IUD users is estimated by fitting an exponential decay parameter to the cumulative continuation rates and applying the constant decay rate to the IUD "survivors" from the previous month plus new adopters,

1 It is not clear how this 7 year duration assumption is used to discount the total sterilized. Since sterilization is relatively new to the program, we assume that all ever sterilized couples are counted as users.

switchers, and repeat users.¹ Thus any user starting a "first method segment" is a user for discounting under the constant decay assumption. The BKKBN circular on the estimation appears in Appendix B. The procedures used may over-estimate use for the following reasons:

- The mean age of IUD users is declining and it seems plausible to suspect that the first method use continuation will decline accordingly. The procedure makes no provision for the gradual change in the composition of adopters from women who are limiting fertility to an increasing proportion of younger women who adopt the IUD at a young age to space child bearing.

- Parameters, moreover, are derived from 1977 Java Bali data that may not apply elsewhere or under current conditions, particularly since the mix of IUD's is becoming complex with the introduction of a wider array of devices. But since the new devices are likely to increase continuity, the problem with estimates is more likely to lie with definitions of rates.

- The most serious definition error would arise from the reporting of a reinsertion as a reacceptor or new user. The exponential decay rate is based on an all segment first method criterion that would spuriously inflate use if each successive IUD segment were counted as a reacceptor.

1 Repeat adopters are defined somewhat arbitrarily as stoppers for three months who readopt a method.

- The more successful that a program becomes, the more successful it is in attracting marginally motivated clientele. Continuation rates may therefore decline in time in Indonesia even if programme performance is improving. Adjustment procedures must therefore be updated periodically to allow for the fact that the programme serves a changing population of users.¹

- The exponential assumption may not fit the data. At least one other consultant has noted this (see Elkins, 1982) although the model suggested in that report may be no more appropriate than the present model.² Since BKKBN has new regional data from its "Modular Survey," regional age specific parameters could be fitted to the data to reflect local conditions. If changed, the new adjustment procedures would be more complex than existing procedures since both the age composition of users and provincial discounting factors would be required. Moreover, multi-parameter models may be indicated. Table 1 provides evidence that such refinements are needed.

¹The recent Modular Survey will produce current data that can be used to update continuation rates. Informal discussions indicate that results of the Modular Survey are nearly complete and that new parameters will be incorporated in the projection of the near future.

²For curve fitting procedures which are highly flexible and adaptable to any method, see Potter and Phillips, 1981. The requisite data exist in the modular survey and curve fitting software can be provided on request.

Denominator problems. Denominator problems may arise from the fact that the catchment area of clinics is undefined and new acceptors and repeat acceptors reporting for services may reside outside of the subdistrict. One can assume that this problem is not so serious on a regional scale since the errors that occur are compensating. But if rates are intended to evaluate the performance of subdistricts then the absence of a denominator corresponding to eligible clientele represents a limitation of existing procedures. This is particularly troublesome in areas where the pool of unserved eligible couples has been depleted by successful programme efforts in the past. The new acceptance rate will be low if use prevalence is already high. Thus new and repeat acceptor tabulations, to a large measure, lose their value as the program matures. A useful adjunct to the prevalence rate is the ratio of new and repeat acceptors to the estimated non users. But since clinic staff do not canvass the population they will not have data on the pool of either users or non-users and CRS data are not appropriate for rates.

BKKBN has dealt with this problem in two ways: 1. Canvassing the subdistrict and reporting eligible couples (known as PUS) according to those using and not using contraception. This is reported in the sub-district control form (FCSA) to be discussed below. 2. BKKBN projects the subdistrict PUS population from the 1980 census. Prevalence rates based on these projections are used for the "Current User Ranking Reports" and other important output reports and are widely regarded as the most reliable denominators for all rates now prepared by BKKBN. The projection

of PUS employs the following steps:

- i. The female 1980 Census population is projected to 1985 for each region by applying life table survival ratios.¹
- ii. The provincial census proportion married in each age is multiplied by the projected female population to get the 1985 projected provincial PUS.
- iii. Linear interpolation is applied to estimate provincial PUS for single years of the 1981-84 period.
- iv. The 1980 Census total population enumerations of each regency population are used to proportionally allocate PUS to regencies for a given province. This procedure is insensitive to areal variation in the ratio of PUS to total population.

¹In the time available we were not able to ascertain whether Indonesian regional tables are used or how mortality estimates were made.

- v. The most recent available data in a regency (whether 1971 or 1980) are used to allocate PUS to subdistricts, once again by proportional allocation on the basis of total population.

In the regencies visited the BKKBN staff had not been instructed to apply a monthly growth rate to the fixed PUS estimate. Instead, it appeared that fixed number was given from the central office.

Four limitations are associated with this procedure:

- i. Prevalence is reported by month throughout a year. Since the true PUS population is growing the fixed denominator assumption progressively underestimates PUS as the year progresses, producing spurious rises in prevalence over time.¹
- ii. The apportioning and projection process may be highly inaccurate, particularly if there is areal variation in nuptiality patterns differ within a given province. Wide cultural diversity within a province will most certainly produce wide variation in nuptiality and the proportion of PUS.

¹Standard documented procedures specify that Kecamatan PUS be computed monthwise, but in none of the subdistricts visited was this set of numbers available.

- iii. The quality of denominators will be increasingly suspect as the elapsed time from the census increases since areal variation in the PUS growth rate will compound errors with time.

- iv. These problems comprise the integrity of data for local management purposes, since rankings and performance estimates within regencies depend upon accurate estimates of the subdistrict PUS. The two stage proportional allocation procedure could produce major errors.

At present the procedure may not represent a serious problem at the provincial and national level, since proportional allocation errors do not arise. Moreover, recent census statistics are available at present. Unfortunately, 1980 census local areal data on PUS and the annual subdistrict growth rate in PUS are not yet available to BKKBN. We did not have the opportunity to discuss with the census people the prospect for tabulating each census subdistrict PUS population¹ and computing area specific PUS growth rates. It seems reasonable to expect confidence in the projection procedure to diminish as the census data becomes dated. We therefore recommend careful attention to

¹One should note, parenthetically, that the subdistrict population of children under 5 is needed for the weighing groups programme. This is discussed below.

developing the FCSEA over the next two years since no assumptions are required. More direct access to local area census data would improve BKKBN's estimation procedure. The Reporting and Evaluation Bureau staff is aware of this, but the requisite census files are not yet ready for analysis and have not been released to BKKBN.

c. Recommendations on Procedures for CRS Based Output Assessment

Whatever limitations there are with the projection procedure itself, modifications are needed with the existing data to address the following issues:

i. The PUS estimate should be given to local BKKBN staff with a clearly written exposition that it is merely an estimate and that subdistrict staff are to use it as a basis for evaluating their own enumeration. We found several subdistrict staff who regarded the estimate as a "magic number," produced for them centrally, that was above suspicion and beyond their control to modify. In light of their local expertise on the population served, this mistaken impression should be the subject of systematic training and corrective action.

Some consideration should be given to withholding PUS estimates from subdistrict staff. Estimates of PUS will be more useful for evaluating FCSEA data if PUS enumerations are independent of central PUS estimates.

ii. If a PUS estimate is given, it should not be a fixed number.

A PUS estimation procedure should print for each subdistrict a monthly number that increases month by month with time. The increases may arise from dubious central assumptions, but at least a point would be made that the number of couples is likely to be growing and that new users must be recruited continuously for the programme to stand still.

iii. The PUS estimation procedure merits revision, documentation and wider dissemination. In a circular entitled "Estimation of Prevalence Used in Family Planning Service Statistics" no mention is made of the PUS procedure. It is a numerator document (see Appendix B, item 9). BKKBN, as an organization, is quite naturally strongly oriented toward recruiting and supporting contraceptive users. Since it is so successful in doing so, it is reasonable to hypothesize that field staff are more meticulous about recording the population served than they are about monitoring the non-users. In our brief field excursion it was not possible to test this hypothesis formally, but we recommend that BKKBN evaluate its data continuously.¹

iv. A small sample of subdistricts should be drawn and the PUS carefully enumerated. The magnitude and nature of the discrepancies between the enumeration, the VCDC register, and the census based

¹ A continuous data evaluation system is much needed and will be discussed below.

estimates should be carefully described. On the basis of such a study, field procedures could be redesigned.

v. The assumptions used to obtain current user estimates merit refinement. The discounting rates for pill cycles and condoms distributed make no allowance for regional variation, non-compliance, and age differentials. The model for IUD extrapolation may no longer fit the data and merit formal testing against new Modular Survey data. The discounting rate for sterilization is too inflexible in light of changing client characteristics. In summary, existing software for projecting use may be too insensitive to the temporal dynamics of contraceptive use and marked cultural differences in Indonesia.

vi. Finally, priority consigned to the CRS should not displace analysis of other systems. The CRS is an excellent system, but it has limitations for output assessment that do not necessarily apply to other systems under development at BKKBN. Much of the work on the CRS is routinized and could be done on an evening shift without sacrificing data quality or the timeliness of reporting. Limitations of the CRS need explicit recognition in light of the need for attention to developing the FCSA -- emphasis that may not require sacrificing CRS timeliness or quality.

d. Revision and Simplification of Data Management: Option A

The CRS as a total system represents 8.6 million bytes of data entry each month. Verification would double the workload. In this section we suggest means to reducing the volume of data management without sacrificing any of 19 reports currently released.

i. Eliminate the separate "switching report". Data on method switching must now be processed for each switch, a laborous procedure in the field and in the Jakarta Office. Summary data, already available from clinic registers, can be entered on the CRS form. No analysis of the switching data is conducted or planned.

ii. Report stock disposition quarterly. Clinics maintain a six month inventory which they restock quarterly. The stock report can correspond to the actual flow of stock without loss of information. Thus, in a quarterly report, only one third the volume of processing is required for logistics data without loss of information. This will be discussed further, below.

iii. Simplify the CRS. Figure 7 has logistics removed, switching included, and method coded only once (row-wise in matrix format). Computational procedures do not use the information now coded for switching since it is algebraically equivalent to a reacceptance. The Figure 7 form requires 231 bytes or 29.1 percent the volume of storage as the current form, not allowing for the fact that quarterly logistics

data will be needed. Even with logistics added, however, the Figure 7 form would reduce the volume of data management. Moreover, the row-wise format may expedite entry since personnel can follow the rows more easily than boxes arranged in the current format.¹

iv. Verify the CRS. The labor saved by introducing a Figure 7 format form should be invested in double entry to reduce errors. Edit software presently produces an extremely high rate of errors, much of which emanates from erroneous hand addition of columns.² Correcting errors that are flagged by batch computer software is laborous. We recommend letting computer do the addition, but having 100 percent double entry of the data with on-line verification. Simple on-line verification software can be developed from existing Data General utilities so that a discrepant second entry is immediately signalled to the entry technician for checking against the coding sheet. Note that current editing software will miss many errors since logically compensating misentries will go undetected.

¹ Note that we have not added clinic hours to the form, but that could be added.

² Of the forms entered, 25 percent have logical errors that require correction.

FIGURE 7
Revised Contraceptive Services Report (Option A)

Method :	New Acceptors :				Revisitors who are Continuing Users	Complaints/ Referrals by method last used		Reacceptors	
	Clinic or Hospital	Mobile Medical Team	Physician, Other private Services	Other		Clinic or Hospital	Mobile Medical Teams	Reacceptors by Method	Switchers to....
1 IUD									
2 Oral Pill									
3 Condom									
4 Vaginal Tablet									
5 Male Sterilization									
6 Female Sterilization									
7 Injectables									
Total	Total blacked out on computer sheet								

Handwritten annotations:

- Vertical arrows on the left and right sides of the grid indicate "Detachable Strip" areas.
- Vertical arrows pointing down from the top of the grid indicate "Total blacked out on computer sheet" for the New Acceptors, Revisitors, and Reacceptors sections.
- Vertical arrows pointing up from the bottom of the grid indicate "Total blacked out" for the Complaints/Referrals and Reacceptors sections.
- Vertical arrows pointing up from the bottom of the grid indicate "Total blacked out" for the Revisitors section.
- Vertical arrows pointing up from the bottom of the grid indicate "Total blacked out" for the Complaints/Referrals section.
- Vertical arrows pointing up from the bottom of the grid indicate "Total blacked out" for the Reacceptors section.
- Vertical arrows pointing up from the bottom of the grid indicate "Total blacked out" for the Revisitors section.
- Vertical arrows pointing up from the bottom of the grid indicate "Total blacked out" for the Complaints/Referrals section.
- Vertical arrows pointing up from the bottom of the grid indicate "Total blacked out" for the Reacceptors section.

53

v. Elimination of Implementing Agency Forms. The BKKBN has a formal understanding with the Ministry of Health which permits data sharing in relevant areas and obviates the need for separate Ministry of Health (MOH) forms for family planning activities. Nevertheless, exceedingly complex MOH forms are used in East Java.¹ Periodic reviews at the provincial level of MOH data collection instruments are needed to ensure data sharing and to eliminate redundant implementing agency forms.

vi. Stratified Sampling of Acceptor Slips. The Acceptor Characteristics Slips are well designed for processing but the number of acceptor slips processed is huge. The present sample design is inefficient: 10 percent in some areas, 100 percent in others. We did not examine acceptor data, but it seems likely that less than a 10 percent sample will suffice in some provinces and less than 100 percent will certainly suffice in areas where this practice is applied. A province specific sampling fraction would reduce the volume of data and improve its utility. Simple hand counting rules could replace the digit selection rule now used for systematic sampling. There is no theoretical or administrative reason for choosing a fraction of 10 percent or multiples thereof. With an analysis of the data already compiled it should be possible to greatly increase efficiency of sampling by stratification thereby reducing the volume of slip processing without loss of analytical power.

¹ An example appears in Appendix B, Figure 8.

e. Revision and Simplification of Data Management: Option B

In the 19 forms reported, much of the information collected is not actually used in tabulation. Reacceptors are treated the same as switches for the estimation of current use. Complaints and side effects are not tabulated and clinic acceptors (whether private or BKKBN) are not distinguished. In the CRS version, shown in Figure 8, the following routine reports could be tabulated:

- 1) New Acceptors by
 - a) Subdistrict,
 - b) Regencies,
 - c) Province,
- 2) Clinic Hours of Operation by Regency,
- 3) Reacceptance and Switching by Province (with
with two variables combined),
- 4) Total Stock on Hand by Type of Stock (optional),
- 5) Clinic Hours of Operation by Province,
- 6) Clinic Hours of Operation Nationwide,
- 7) Patients Treated for Family Planning Complaints by
 - a) Subdistrict within Regency,
 - b) Regency within Provinces,
 - c) Province,
- 8) Current User Rankings for
 - a) Subdistricts within Regency,
 - b) Regencies within Provinces, and

c) Provinces,

- 9) Monthly Clinic Statistics Summary by Province,
- 10) Failure to Report by Regency and Clinic, and
- 11) Regencies Ranked by Reports Received,

Three reports now prepared would not be available:

- 1) Switches (since it is merged with reacceptance),
- 2) Revisits and Referrals,
- 3) Ratio of Contraceptives Distributed to new
Acceptors to Total Contraceptives Distributed.

If the Figure 7 version is used, all reports, including the above three tabulations, could be routinely compiled. A report conceptually similar to this third report, however, could be tabulated since it is possible to compute the ratio of new users served to total users served.

An additional table could be prepared for weighing group cases treated. With linkage to the FCSA, the rate of treatment among cases referred could be tabulated.

Note that with minor modifications to Figure 8, such as coding switchers separately from reacceptors and stock dispensed, all present CRS tables would be available.

Figure 8 is the most parsimonious version that we recommend for testing. To process data 160 bytes are required. If the logistics report is eliminated and placed on a quarterly form, 133 bytes are required, or 17.3 percent of the existing volume of data. This "Skeleton version" is our suggested "Option B" form.

f. CRS Conclusions

The timely collection and feed-back of CRS data undoubtedly energizes the management system in ways that are to some degree independent of the actual information derived. As Figure 6 shows, workers at all levels are provided with information demonstrating that achievement is monitored, interpreted, and used in rational ways by superiors. Non-performance and laxity is thus costly to the BKKBN worker, since poor results will be noticed at all levels. Our discussion of numerators, denominators and estimation procedures, can all too easily ignore the fact that the process of data collection, compilation, and feed-back is perhaps more important than the accuracy of the information. Thus there is an appropriate reluctance of BKKBN to change the CRS simply because the mechanics of the system works; thereby contributing to programme functioning. Thus, if changes are introduced, the regular flow of data to and from field must not be interrupted.

While the CRS is an excellent system for reporting on clinic performance, we have nevertheless recommended consideration of changes:

- i. The system should be viewed as a means of monitoring clinic operations. The activities of clinics can be compared with other service components to assess their contribution to the programme. Estimation of contraceptive prevalence requires assumptions and extrapolation of service data. These assumptions will be questioned unless there is some independent check on the validity of results and refinement of the procedures.
- ii. The volume of data processing can be reduced by eliminating the input of totals and the switching form. The logistics information can be quarterly "stock requisition data" and need not be compiled monthly. This "Option A" strategy greatly reduces processing. Further parsimony is introduced if
- iii. The number of Weighing Group referrals should be added to forms. This will be discussed below.
- iv. It seems likely that the efficiency of sampling of acceptor characteristics slips can be improved by stratification. There is no theoretical reason for processing 100 percent of the forms in one area and 10 percent in another area. The convenience of decile counting rules is the primary rationale for the system, but alternative counting rules and office procedures could be tested.
- v. We recommend data verification. The current editing procedure is laborious and produces a high volume of editing errors.

vi. Decisions about the locus of authority for logistics are needed. If the clinic is the supply depot it is appropriate to experiment with "demand pull" logistics. We do not recommend changing to a demand pull system without careful experimentation, but perhaps demand information could be compiled. This will be discussed in the logistics section below.

vii. Redundant information is maintained in the clinic register, client card, and the MOH forms. Some alternatives have been suggested for BKKBN review. These changes would not alter the content of information collected but would require minor revisions to software and forms.

The CRS is highly regarded data system because reporting is timely and comprehensive. It is best used to report directly what clinics do to provide services. When the data are extrapolated and projected for output assessment (current use and prevalence) the system is subject to challenge. Output assessment, we argue, is to be achieved by examining the population served. Service statistics should be used to monitor what is done at the service point and the most proximate consequences of that activity (Figure 3). Deviating from this rule requires assumptions that are subject to error and challenge.

Less data can be compiled than is now being managed without substantial loss of information. Since the existing computer equipment is overextended, extraneous data entry is costly to BKKBN. Critical backlogs could be eliminated if the CRS were revised and streamlined to make room for other work.

2. The Subdistrict Reporting System

a. Introduction

In April of 1982 the BKKBN introduced the "Laporan Bulanan Pengendalian Lapangan" or Field Control and Supervision Activities (FCSA) Report. This report was addressed to correcting several of the problems that we have noted for the CRS. Since it focuses on activities in an area, the Kecamatan (Subdistrict) unit of reporting is the unit analysis. Thus if the system works, estimation of PUS unnecessary, since registers are maintained of the population served. Contraceptive prevalence is monitored directly by VCDC, and reported to the supervisor who aggregates the data for monthly reporting. An English language version of the form is reproduced in Appendix C, Figure 1.

Prior to the introduction of the FCSA several separate reports were required for supervision and communication activities. Thus the FCSA greatly simplified record keeping upon its introduction. Several separate instruments were consolidated onto a single form and thereby linked into a unified report well suited for analysis.

While the FCSA is conceptually sound there have been practical problems associated with its implementation. Next we will review these implementation problems and their implications for data systems development.

b. Implementation of the FCSA

Each worker that we visited had received a detailed written instructions of FCSA procedures and had attended an orientation seminar on its various components. Since this procedure was followed throughout Indonesia, implementation appears to have been carefully planned, documented, and systematic. But since feed-back to the field has not yet emanated from this report, and so many service activities have been introduced in the past year, field priorities has been appropriately directed to service activities rather than FCSA data collection. We therefore recommend that the initial report from the FCSA summarize regency level findings on activities rather than outputs, and that detailed plans be drafted for a series of provincial and regency work conferences on improving the quality of FCSA reports on outputs.

BKKBN officials in several instances have expressed their reservations about the quality of FCSA output data. We were nevertheless impressed by the capacity of the BKKBN workers that we visited in the field to discuss problems and to make suggestions on improving the system. Thus, while there may be reservations about the output measures from the FCSA system, there is potential for improving on data quality without major changes in

standing instructions. Some field observations illustrate this view.

Data for the FCSA emanate from the VCDC, the Field Worker, Mobile Information Teams, and clinics. We interviewed each type of worker about the FCSA and noted their recommendations.

The Sayemiati System. One field worker who we interviewed was particularly helpful in pointing out areas where her data collection activities could be streamlined and the FCSA improved. Mrs. Sayemiati, a BKKBN field worker in Mojokerto, has achieved an exceedingly high rate of coverage and has successfully organized field activities, income generating groups, and weighing groups. Prevalence in her area exceeds 60 percent. As a well organized and highly successful worker, her work routine is particularly instructive because it illustrates, in many ways, the model of work performance that BKKBN seeks to achieve throughout the country. She regularly visits the clinic in Mojokerto to identify cases in need of follow-up, but her work is mainly in the village. She had in her possession three registers: 1) A BKKBN register providing a sequential list of users, which is reproduced in Appendix C, Figure 2; 2) a similar but slightly differently formatted BKKBN register for visits to non-users (Appendix C, Figure 3); and 3) an exercise book, purchased in the local market, which listed all eligible couples.

By simply scanning the books, it was apparent that her tattered exercise book was used in the field and the other books were left at

home and updated there from information recorded in her exercise book. We enquired about this procedure and she explained her rationale for maintaining her own record book system:

i. The couples visited by Mrs.Sayemiati shift back and forth from user to non users status. In the field it is easier to keep just one list of couples with columns for months wherein codes were entered for contraceptive status and day entered for the visit date. She explained that it is easier to follow a particular woman over time than to try to keep track of users or non users in separate records. For her report to the supervisor each month (Appendix C, Figure 4) she simply counted women of each type and periodically updated her exercise book registration of PUS. Thus her PUS estimate was continuously changing. This is appropriate.

ii. The VCDCs in the areas served by Mrs.Sayemiati also maintain PUS registers, but she doubted their completeness and preferred to maintain her own notes. We inquired about the rationale for maintaining two registers, one by the VCDC and one by her, since she could presumably make her visit records in the VCDC register. She acknowledged that she could visit VCDC and take the VCDC register with her on rounds. She would thus be updating the VCDC register as needed and assisting the VCDC in the process. BKKBN has already distributed VCDC registers

throughout the country (see Appendix C, Figure 5) with a format that is similar to the Sayemiati register.

iii. Each BKKBN Family Planning Field Worker is instructed to visit each PUS every three months. Mrs. Sayemiati used her book to keep track of where she had been, at what time, and recorded information required to maintain her work schedule. In the current system, community activities are registered in yet another book which separates community from household visits, a distinction that is artificial from the point of view of a worker planning field work. The books provided to her by BKKBN were not very useful for practical problems of scheduling work (see for example, Appendix C, Figure 6). Interestingly, in the Sayemiati register PUS were listed in the order visited in order to facilitate the planning of household visitation work.

The Sayemiati system would place less demand on her time if she maintained no record of her own, but updated and used the VCDC register instead (Figure 5 in Appendix C). This would undoubtedly improve the VCDC report and thus the FCSA report. The VCDC do not use her PUS estimates for their report. If this system of maintaining a single village PUS register were introduced, it would remain with the VCDC when it is not being used by the Field worker, but would be used by the BKKBN Field Worker whenever her household rounds are taking place.

Such a system would provide a continuous check on VCDC data quality thereby improving reporting while reducing the volume of form filling in the field.

We have elaborated on this field encounter because it addresses many issues central to this consultancy:

- i. Data quality would be improved if VCDC registers were used and checked regularly by Family Planning Field workers.
- ii. The volume of data collection would be reduced if the VCDC register and FP worker registers were consolidated.
- iii. By focusing on canvassing the total population the requisite information on PUS is readily attainable and frequently updated.
- iv. If the Sayemiati system is used there is no need to change FCSA procedures since computerization of output data on the FCSA requires supervisor compilation of a VCDC register under the current system. Thus adoption of the Sayemiati system does not represent a major upheaval in the way in which work is done or the manner in which data flows.

The VCDC system. An impressive aspect of the BKKBN programme in the extent to which community institutions have been mobilized for service activities. At the heart of this strategy are "Volunteer Contraceptive Distribution Centers" (VCDC) which are typically female leaders and organizers who work in close cooperation with family planning field staff. The roles of the VCDC vary substantially from village to village, but a common element of their activities is contraceptive distribution and supply. As leaders in the village, they are involved in acceptor group organization, weighing groups, income generating activity and general facilitation of BKKBN work. Their contribution to programme impact is likely to be substantial.

Not surprisingly, VCDC are service and community oriented and are less conscientious about data than their BKKBN staff counterparts. This orientation should be acknowledged and administrative procedures should not place unrealistic faith in data collected and maintained by volunteers. Some observations are pertinent to this recommendation:

i. In the areas that we visited VCDC do not typically canvass their villages and set up registers. Our time available for field observation was admittedly limited, but this could represent a general problem with VCDC data. Therefore we recommend that general instructions be issued to Family Planning Field Workers to start the VCDC register by conducting the initial listing of all PUS to be covered by VCDC.

FIGURE 9

Proposed Revised VCDC
Monthly Report Form

Month: _____ Year: _____ Sub VCDC _____ Sub VCDC _____
 Village: _____
 Subdistrict: _____

Contraceptive method	Service Provided by VCDC		Elcos Enumerated by VCDC:	
	Resupply of Users	Reacceptance of Non Users	Current Users	Drop-c 'ts
1) IUD				
2) Pills	Users	Users		
3) Condoms	Users	Users		
4) Vaginal Tablets	Users	Users		
5) Male Sterilization				
6) Female Sterilization				
7) Injectables				
8) Other				

Total Number of ELCO :

Contraceptive Stock

	Stock Balance of the previous month	
	Received this month	
	Distributed this month	
	Stock balance of the reporting month	
=====	=====	=====
	Stock Balance of the previous month	
	Received this month	
	Distributed this month	
	Stock balance of the reporting month	

ii. Once registers are compiled, VCDC appear to be conscientious about maintaining them. That is, formal BKKBN help in setting the system up is needed and periodic checks are needed, but it is responsible to expect that most registers would be maintained. It is the register that provides the data for the VCDC report which, in turn, is used for the FCSA. If the FCSA is to be developed, efforts should begin with streamlining and improving VCDC registers.

iii. Several of the BKKBN Family Planning Field Workers that we visited indicated to us that the VCDC register was not of their concern. It was explained, in one instance, that the VCDC had been doing this work before the FP Field Workers had been hired, and that the VCDC should "not be told what to do because she is a volunteer". More important, was the sense conveyed by the field staff that registers, as they are presently designed, do not help them do their jobs. A good field register system helps workers conduct field activities. This, in turn, generates valid data. Valid data, in turn, are useful for the computer. We recommend design and testing of a field register that helps both VCDC and FP Field Workers do their work more efficiently.

iv. Presently VCDC report to supervisors the number of users (see Appendix C, Figure). This, in turn, emphasizes the counting of users but not PUS. To avoid this problem we suggest a modification of the VCDC report (Figure 9), so that users and dropouts are monitored. We conclude that the FCSA is a good system as it is conceptualized and planned centrally, with much to offer to BKKBN managers. But the critical relationships in the field are not well developed. Routine use of VCDC

data in the course of field work by BKKBN workers is much needed and regular checks on data and guidance in maintaining registers could be improved.

The field system should therefore be carefully reviewed along with a concomitant review of formal instructions to field staff. An excellent field manual exists for instructing field workers on canvassing and mapping villages. But responsibilities to field workers regarding VCDC data are not clearly specified. Moreover, it is our impression that a regular household visitation routine is not always worked out. Supervisors should assist FP field workers and VCDC in scheduling field activities so that everyone knows in advance when to expect field visits.

The Supervisor. Each supervisor that we had visited had received detailed written instructions on the FCSA. This represents an important resource in efforts to improve the FCSA, because it is possible to hold people responsible for doing their job. Critical gaps in supervisor's understanding of the FCSA repeatedly arose, yet each issue was covered somewhere in documentation. Supervisors were unclear, for example, about the definition of a home visit, since a single village visit can involve a group or individuals. Most were unclear about the definitions of PUS, work routines for updating registers, and their responsibilities for data quality.

c. Computerization of Existing Form:

Although the FCSA is used throughout Indonesia, it has been consigned a lower priority in computer processing than the CRS. As yet, no feed-back to the field has occurred, and it has been our impression that this low processing priority has generated a view in the field that the FCSA is not a high priority field activity. Several computer programmes have been written and data entry has begun, but from the standpoint of data collectors there is a substantial backlog. This problem will be remedied, but the delay in reporting has created a need for special summary reports for the past year designed as a special initial report to workers who have long been filling out a form without seeing the purpose of doing so. Workers at all levels must see results from this report, have it interpreted for them, and begin to have a dialogue with regency staff about results before routine monthly reports begin to flow. Utilization of data should proceed in this way before any changes in FCSA forms or procedures are introduced. To introduce change before the form is utilized could create unnecessary confusion about the data collection process and cynicism about the purpose of data collection.

Seven routine reports are planned and computer programmes are written:

- i. Summary of Field Worker and Supervisor Activities,
- ii. Report on IEC Activities,

- iii. Contraceptive Services,
- iv. Community Institution Activities,
- v. Field Worker Activities,
- vi. The Financial Report, and
- vii. Listing of Supervisors who Fail to Report.

These reports are presently planned for national data and, to our knowledge, no regency level report is planned at this time.

Recommendations.

Recommendation 1: In light of the backlog of reporting we recommend a series of special diagnostic reports to be tabulated at the earliest possible date to be followed by routine reports such as the seven scheduled reports above. Rather than report data month by month, initially we recommend that BKKBN produce an annual summary report for subdistricts on the achievements and issues that require improvement in the subdistrict. Since the entry of data and preparation of requisite software for this report is likely to introduce further delays¹, we suggest a series of individual reports, each addressing a particular data quality issue, to be sent out when they are ready, rather than providing a compendium of reports in a single printout. Some suggestions are:

¹ Data entry was started in April, 1983. An evening shift of entry personnel should be hired to expedite entry.

i. Trend in PUS. Each subdistrict should receive a list of the reported PUS by month and the rate of increase over the previous month. For each rate that is zero or negative, print an asterisk and a comment at the bottom of the page "Kecamatan Staff are expected to enumerate and update the number of PUS every 90 days. The reason for negative or zero growth in PUS should be discussed with regency supervisors". The printouts for the 300 regencies could be sent to each regency in a batch for distribution and discussion at the monthly staff meeting. In the areas visited we observed that reported PUS often decline or remain constant because they are fixed by the regency office. This may indicate that some field workers are not complying with written instructions to enumerate eligible couples regularly.

ii. Trend in CU. Print the current users estimated by the clinic system along with the FCSA system and an asterisk against discrepant tallies. A footnote might say "prepare a report for the regency explaining the difference between the two current use tallies". This print should be accompanied by special instructions to each regency on orienting the supervisors to the FCSA, the procedures for current user enumeration, PUS enumeration, and other issues.

Recommendation 2: We recommend streamlining field data collection and clarification of roles for responsibility for data integrity. This involves the following:

i. The Field Workers Report. We already noted above the need for a better linkage of the FP Field Worker activities with VCDC data collection.

ii. Elimination of Information that is not reliably collected. Aspects of the monthly report to supervisors appear to represent unrealistic expectations about what a worker can achieve. For example, counts of participants at media events are no more than guesses in areas that we visited.

iii. Some of the distinctions between types of community meetings are artificial, since the labels assigned to different groups and activities are different terms for the same individuals. Categories in the FCSA are often encompassed in a single meeting for several purposes at once. The distinction between individual and group encounters seems artificial, and it seems to matter little which type of groups meet at a particular encounter. We recommend recording information on the quality of field work with less emphasis on the type of work conducted. In recognition of the complexity of community groups and the role of BKKBN staff we recommend specification of much broader categories of activities on FCSA forms and thus less specificity in the type of communication work performed.

Recommendation 3: We recommend systematic review of the role of subdistrict supervisors and an in-service training programme. The supervisors have had their roles expanded incrementally, component by component. FCSA data quality and overall supervision have suffered because there has been little attention to the overall role of the supervision and minimal training in supervisory techniques.

Recommendation 4: We do not recommend changing the FCSA until feedback on the present form is instituted and the supervisory system is improved. However, planning for change should begin because existing forms should eventually be modified. Some suggestions are as follows:

i. It is useful to record the quantity of supervisory work performed:

- the number of field visits,
- the amount of checking on service points,
- the amount of checking on data collection points,
- the number of meetings with regency staff.

ii. We recommend simplification of the FCSA. As the type of field encounters are complex and overlapping, the output of supervisory activity is difficult to obtain (who met with whom, number in attendance, themes of meeting, etc.) A sample simplified form for BKKBN review appears in Figure 10. Under "Program Operations" there are seven recognized service

FIGURE 10

Proposed Field Control Report Form (Tentative: Version 1)

Subdistrict: _____
 Regency: _____
 Province: _____

code Date
 Month Year

PROGRAM OPERATIONS:

1. Field Activities

Program Service Points:	Number functioning by end of month	Number sub-reporting	BKKBN Visits to villages to start new units: Super-Field Worker	Number of visits to existing units by:			Number of individual villagers visited (with end service check) Super-Field Worker
				BKKBN...	Other Government	Other	
				Super-Field Worker	Super-Field Worker	Other	
1) Clinics							
2) Weighing group							
3) Reception center							
4) VCD							
5) Village Gen. Group							
6) Youth Groups							
7) Community health							

Routine supervisory activities in this month:

- a) Number of subdistrict meetings for coordination (meetings with other government officers, meeting of "Gembala", etc.):
- b) Number of regency level staff who visited this subdistrict:
- c) Number of BKKBN staff meetings:

2. Communication activities

Village based organized motivational activities for groups:	Number of media events by type of organizer:		
	Superior	Equal	Other
a) Traditional media (puppet shows, drama, etc.)			
b) Group presentations (speeches, exhibitions, etc.)			
c) Mass media (film shows, etc.)			

3. Contraceptive Services

Contraceptive Methods:	SERVICES PROVIDED:					VCD REPORT		Total end of month stock (Clinic Subdistrict + VCD)
	New Acceptors		Receptors:			Count of Propaganda	Count of Continuing Users	
	Clinic + Private	Mobile Medical Team	Clinic + Private	Mobile Medical Team	VCD			
1) IUD								
2) RUH								
3) Condom								
4) Vaginal diaphragm								
5) MMS/BKKBN								
6) Family Service								
7) Injunctable								
8) Other								
Total								

Total: PUS:

4. Weighing Group Activities

a) Total number of children under 5:	<input type="text"/>
b) Number of children weighed this month:	<input type="text"/>
c) Number of children weighed this month, but not last month:	<input type="text"/>
d) Number of children who gained weight:	<input type="text"/>
e) Number of children referred to clinics:	<input type="text"/>
f) Number of children received and examined by clinics:	<input type="text"/>

5. Income Generating activities

	Loans provided from BKKBN Sources		Bank loans facilitated by BKKBN staff	
	Number	Amount:	Number	Amount:
New loans granted	<input type="text"/>	Rp. _____,000	<input type="text"/>	Rp. _____,000
Loans previously granted	<input type="text"/>	Rp. _____,000	<input type="text"/>	Rp. _____,000
Repayment expected	<input type="text"/>	Rp. _____,000	<input type="text"/>	Rp. _____,000
Repayment received	<input type="text"/>	Rp. _____,000	<input type="text"/>	Rp. _____,000

6. FINANCIAL REPORT

	Funds On Hand from Previous Month	Funds received this month	Funds expended during the month	Balance on hand
Province:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Signature, Subdivisional Supervisor _____ Date of Submission _____

* Not computerized

Best Available Document

points, some of which report on activities. In version one there is no separate clinic report that is computerized. Thus this consolidates the CRS and the FCSA. Alternatively, clinics could continue to report (Figure 8) and new acceptors and reacceptors columns of Figure 10 would be unnecessary. In the "Program Operations" section we distinguish between type of supervisory activity (whether for starting groups or supporting groups) and the amount of on-going activity. We add to the form data checking activity. Note that this "Section A" tallies things that field staff that should do routinely.

For communication activities we distinguish between types of organizers. On the present form several BKKBN staff may participate in an event and the form should specify the worker most was actively involved in organizing it.

In the contraceptive services section we propose a tally of clinic and VCDC reports together. Logistics stocks can be eliminated and placed on a separate quarterly report. Weighing groups and income generating group data would replace forms now being centrally processed.

Certain potentially controversial aspects of this form, such as routing clinic data through the supervisor, need not be implemented immediately.

Processing the Figure 10 form would require 394 bytes per form. The Appendix D version requires 896 bytes, but does not include income generation or weighing group information. Thus, the Figure 10 form substantially reduces processing.

d. The FCSA Summary and Conclusions

BKKBN has two "low tech" options for utilizing of FCSA data for output assessment:

i) Option A: Continue both the CRS and the FCSA. This means adding to the 1,300,000 bytes (Figure 10) the Figure 7 version of the CRS (1,500,000 bytes) or 2.8 megabytes. This option requires 55 percent of the current processing load if client characteristics are still processed.¹

This option has the advantage of permitting cross checking since each system, if refined, could represent a cross check on the other. Although they are not independent systems in the statistical sense, the continuation of both systems for a time would be useful. Gross discrepancies at the kecamatan level would serve as a rationale for regency supervisors to instruct their subdistrict staff to investigate the situation and resolve the problems.

ii) Option B: Consolidate the CRS with the FCSA thereby placing all data coordination in the hands of the subdistrict supervisors. To do this, all summary reports would go to the supervisor for consolidation. Figure 10 is an example of a consolidated report. Under our "Option B" criteria of maximum parsimony, no data would go directly to the Jakarta BKKBN office.

The advantage of this consolidation is that it reduces the volume of processing since, instead of 6500 clinics reporting 8,557,975 bytes of data plus 3300 subdistricts reporting 2,957,194 bytes for a total of 11,515,169 bytes monthly, there will be about 1,300,000 bytes monthly plus client characteristics (3,553,800 bytes) or only 42 percent of the current volume of processing. Even if we acknowledge the need for more information to be recorded on the Figure 10 form, the potential for reducing the volume of data with only minimal reduction in to the quantity of information is impressive.

The 2.8 megabyte requirement of Option A is the ceiling against which planning of processing can begin. Adoption of Option A would be regarded as a step toward introduction of option B. Thus, the two options are not mutually exclusive.

Certain recommendations increase processing requirements: more detailed logistics data (to be discussed below) and 100 percent verification. Nevertheless, it seem clear that the volume of processing can be substantially reduced without impairing BKKBN's capacity to monitor its

programme outputs.

3. Nutrition Surveillance: The "Weighing Group"

a. Conceptual Issues in the Weighing Group Programme

An extensively implemented "beyond family planning" activity is the "weighing group" - a community based programme involving the monthly weighing of under five children and referral of vulnerable children to clinics. The programme was launched in 1978 following a conference on integration of nutrition and family planning. Initially the programme was confined to Java and Bali, where some 1300 "weighing groups" were functioning by the end of 1981.

Figure 11 illustrates the BKKBN nutrition and family planning system. Weighing groups, comprised mainly of Mother's Club members, are organized and trained by village workers (VCDC or BKKBN field workers) to weigh their children on a monthly basis and monitor weight trends for individual children.

The reporting requirements of this system are extensive. Reports of the weighing activities and the progress of children go to Subdistrict Heads, Clinics, and Supervisors. Data are aggregated and reported to Jakarta and the Regency. There is a plan that is not yet implemented, to have computerized reports go to relevant ministries and authorities at

all levels.¹

This ambitious reporting scheme is based on a subdistrict reporting form that provides considerable detail in nutrition monitoring but little information about services. There are two conceptual problems with this approach:

i. Impact assessment is exceedingly complex in this program because nutritional status is but one of many interacting and synergistic indicators of the status of a child's health (Figure 3). Mother's that we encountered who had children identified as being "malnourished" seemed aware of the themes and messages of the program, but stated quite simply that their baby would not eat. The message was clear: children who are ill lapse into a state of nutritional adversity and children who are malnourished are vulnerable to illness. Monitoring nutritional status in isolation of other problems therefore fails to produce meaningful information. Food and nutritional habits are components of an exceedingly complex set of interacting health issues. In summary, we propose a service statistics approach to monitoring: Record the children who participate, the children treated and referred, the ancillary health care provided etc. Emphasize impact assessment only if confounding variables can also be assessed; namely,

¹A use ful and comprehensive review of the Weighing Group Program appears in a report by Sahn (1983). The views expressed in the present report share several themes with the Sahn report, but were developed independent of it, differ slightly, and are therefore presented for BKKBN review. We recommend augmenting Sahn's referral form with clinic data on the number of children actually treated. By routinely linking Kecamatan (Subdistrict) and clinic data the successful referral rate can be computed.

indicators of current health status, patterns of past illness, and other factors. But to abide by our quest for parsimony, we recommend a service statistics approach for now, and perhaps a more elaborate sample health surveillance system for future consideration.

ii. The second limitation of impact assessment is that it does little to help people run the program. The supervisor needs to know if coverage is adequate, if sick children are being referred, and if referrals indeed result in care. If the referral process produces better nutritional status it is reassuring to the supervisor, but that in itself is insufficient for management purposes.

Owing to these limitations of impact assessment, we recommend a change in information collection. First, however, we briefly describe the present system.

b. The Weighing Group Information System

A register of the weights of each children in a weighing group is maintained on a chart shown in Appendix D, Figure 1. Each group lists in a register (Appendix D, Figure 2) the names of children under 5 age and dates of first weighing, weight at first weighing, monthly weight of children, and columns for weight at 36 and 60 months. Summary data are compiled for each "weighing group" within the register.

Although this summary data is not used to administer the programme in the village, it is copied to a summary form (Appendix D, Figure 3) and recapitulated to permit completing a report form (Appendix D, Figure 4) which in turn, permits further compilation onto form F/11/Gizi/81 (Figure 5, Appendix D). This is used for evaluation of the programme at the Regency and Provincial levels. Field Workers copy 15 items of information from the weighing group register onto these village summary forms along with a detailed stock report. This is then copied onto the subdistrict weighing group activities register (Figure 6, Appendix D) by the subdistrict supervisor and the village form (Figure 5, Appendix D) is sent to Jakarta for computerization.

An impression gained from our field trip, is that forms and procedures are too complex for ordinary villagers to understand and use. For example, the rationale for the 36 and 60 month columns is not clear since all children are, in theory, weighed irrespective of age. Thus the 36 and 60 columns are blank for a given child except when they reach that exact age, at which time the weight is entered in the relevant row as well. At present 1420 summary forms arrive in Jakarta monthly, each requiring 155 bytes of storage. At present only 62.7 percent of the existing groups are submitting reports. The complexity of field data management may contribute to poor reporting compliance.

Some field observations about the procedure are relevant to our recommendations:

i. The weight of children and weighing is emphasized more on the village register form than the process of nutritional screening, referral, and care. There is no provision recording information about the actual referral or treatment of children. Thus the information system is data extraction oriented rather than "health care oriented". This orientation may explain the rather poor reporting compliance rate.

ii. Despite this problem, elements of the system are well designed for nutritional surveillance. An excellent instruction manual exists for the weighing group programme (among other primary health care activities), entitled "Buku Pegangan Kader", which shows the criteria under which screening and referral are to occur (see UPGK, 1982). A well designed weighing chart is used in the village with color coded bands for percentiles on the "Harvard Weights for Age Scale" and a grid for plotting weight for each month that the child is weighed (see Appendix D, Figure 1). While this chart is seemingly complex, the interpretation of time series plots seemed to be understood by the villagers who we met. While it is, perhaps, inappropriate to generalize from the small number of groups visited, women understood the importance of seeing the curve for their child slope upward along with the standard.

iii. Despite the emphasis of measurement on impact assessment, in the areas visited, members of groups and BKKBN workers are less clear about the impact of the programme than they are about the impact of family planning. The information system may contribute to this problem,

since it is not obvious how aggregate data can afford the same insights about nutritional status trends in the population that an individual woman can derive about trends in the status of her child. Perhaps some simplification of the data and instruction in index preparation could remedy this problem.

iv. Much is monitored about weights and activities, but little about services. We discussed services with mothers of children who were clearly in need of referral and women either indicated that they did not go to the clinic or, if they went to a clinic, the staff on duty apparently lacked the requisite skills to examine the child. Perhaps this could be remedied by establishing regular preannounced weighing group referral times at clinics when mothers of referrals could be assured of finding a physician present. Alternatively, mobile medical team rounds could be coordinated with weighing groups.

Our data management recommendations fall into two categories:

1. simplification of the existing summary forms while maintaining the weighing chart and register unchanged and
2. addition of a simple referral card to the system that would tell a mother when to report for services and alert the health authorities to the existence of a nutritionally vulnerable child. We consider each recommendation, in turn.

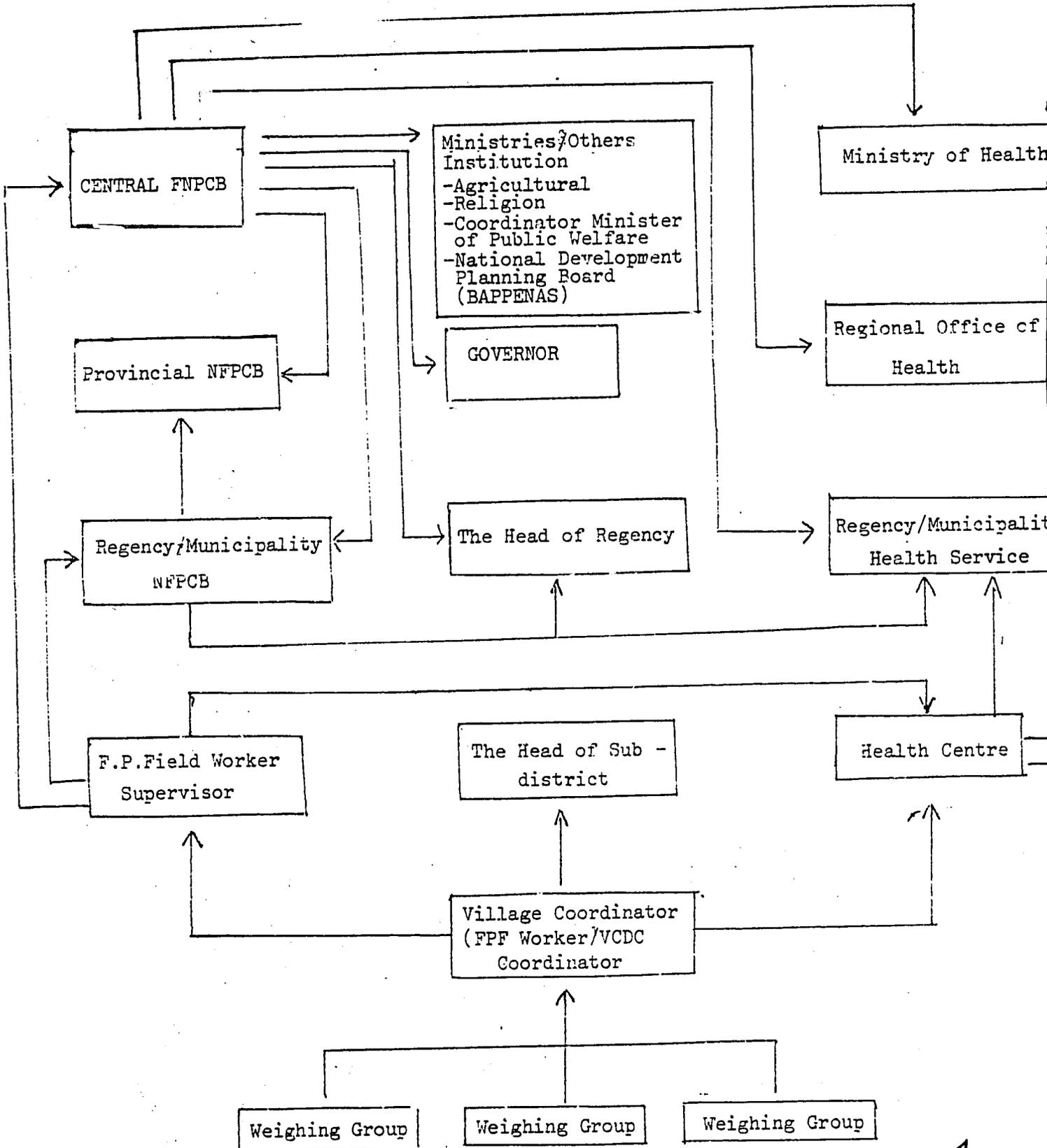
c. Proposed Weighing Group Form Revision

The Weighing Group Report is a monthly report submitted to the Subdistrict Supervisor through the BKKBN Family Planning Worker in the locality. The number of such reports is highly variable since there is areal variability in both the stage of development of the programme and the population density. Therefore the form must be exceedingly simple to permit quick tabulation of results since the number of groups may increase with time. We propose modifications to permit easier reporting, more accurate assessment of nutritional status, and more interpretation of data at the subdistrict level for management control. Given this simpler system, we propose elimination of all central computerization of weighing group forms and incorporation of only the most critical aggregate weighing group data on the subdistrict control form, the FCSA. The village weighing group report serves no obvious purpose and should be eliminated. The weighing group register can also be simplified. The subdistrict weighing group register should be redesigned to enhance management control.

The Weighing Group Report. As we have noted above, the design of the balitas weight chart is excellent in that it permits ready interpretation of a child's development. The information system should capture this fundamental strength of the card - to report the improvement in nutritional status over time for a group of children. This recommendation derives from our observation that graphs of are being prepared and

FIGURE 11

FLOW OF WEIGHING GROUP INFORMATION FOR CHILDREN UNDER FIVE YEARS OF AGE ¹



¹ Source : BKKBM Reporting and Program Evaluation Bureau

posted on the walls of subdistrict BKKBN offices. Weights would be expected to increase if groups are comprised of a cohort of aging children. Moreover, aggregate weight data will not be sensitive to problems if the proportion of non-gainers is small. Thus the information that supervisors monitor does assess impact very effectively.

Four simple calculations could be routinely computed which could assist in understanding the quantity and quality of the weighing group service:

- i. An index of compliance with the program, which is the ratio of the children (balitas) weighed (D) to the total member of children under (5). Unfortunately, not all children are regularly weighed so that interpretation of their progress is problematic. On the present form the number of children weighed this month but not last month is compiled and labeled O. Thus $D-S$ is the risk set for children who fail to gain weight ($D-N$), where N is defined as the number of weight gainers. Children who fail to gain weight for three weighings or who fall below the "red line" are at high risk of nutritional adversity and are to be referred. We term these children M "menunjuk pada".

To summarize, we aim to derive four indices from the data:

- i) The rate of programme compliance¹ = TK = D/S
- ii) The rate of nutritional risk² = R = (D-N) / (D-O)
- iii) The rate of adversity³ = T = M / (D-O)
- iv) The rate of successful referral⁴ = P = K/M

Our proposal is to collect no more data than is needed for preparation of these indices. Indices TK, R, and T, can be computed of weighing group data. We suggest a new index, P, which requires linkages of weighing group with clinic data. Indices should be centrally processed and referred back to regencies for distribution to subdistrict supervisors and entry into a log book.

Figure 12 shows an "Option A" modified weighing form, and stock report information that each group would compile monthly for the Subdivision Supervisor. It would replace forms in Figure 4 and 5 of Appendix D. The month, weighing group, and village are needed for filing and calculations. Items S, D, O, and N appear on the existing form and need not be redefined. Introduction of Index "M" would require special retraining and careful monitoring. A simple referral card could be

¹TK = Tingkat Kesertaan

²R = Risiko Gizi

³T = Risiko Tinggi

⁴P = Pelaksanaan (tingkat pelaksanaan rujukan)

K = Kedatangan (balita yang datang dirujuk)

designed for submission to clinics. Particular care should be taken to train clinic staff in what to do when a referral arrives.

The issue of service quality is beyond the scope of this report, except in the sense that referrals sent to the clinic and received by the clinic need to be monitored. A referral card with the weighing group identification, the child's name, and the date is all that is needed, since essential information on the status of the child is on the "kartu Menuju Sehat", and mothers would carry that with them.

The stock report may not be needed, as field workers travel to weighing groups and replenish stocks monthly. Instead, a stock report could be maintained by each field worker to report dispensation of stocks to groups, but their reporting of stocks from the groups to the subdistrict was unnecessary in the villages visited. We thus view items one and two as essential and item 3 as optional and preferably eliminated. We have nevertheless made provision on the form for recording stocks on hand, so that supervisors know if a group needs additional stocks of a particular item.

Our "Option B" recommendation is to monitor only S, D, and M since these are directly related to operations.¹

¹Additional options are presented in the Sahn (1973) report, page 39.

d. Items Proposed for Elimination from the Weighing Group Report

i. FP Field Worker. The worker collects and signs each report at the bottom. Supervisors, in any case, know who the worker is from the village name.

ii. Population and cadres. These data are recorded elsewhere and are not used in the field.

iii. Balitas with cards. Any weighed child gets a card. If a child has a card but is not getting weighed the child is a nonparticipant. Therefore this item has no practical use.

iv. Balitas who do not gain weight. Recording either the gainers or the non-gainers is sufficient since the two sum to the total children monitored.

v. First visitors. This is not useful unless the first weighing shows a child below the red line which requires referral. The first weighing is noted on the weight chart and an entry is made in the log book, but this information need not be passed onward.

FIGURE 12

PROPOSED WEIGHING GROUP REPORT

1. GENERAL

Month : _____
Weighing Group : _____
Village : _____

2. WEIGHING ACTIVITIES :

- a. Total balitas in weighing area :
- b. Total balitas weighed this month :
- c. Total balitas weighed this month
but not last month
- d. Total balitas weighed this month
who gained weight :
- e. Total balitas referred to clinic :
(balitas below red line +
balitas not gaining after
3 weighing)

S :
D :
O :
N :
M :

3. STOCK REPORT

Material	Stock on hand at end of month
1) Weighing cards	
2) Oralit	
3) Vitamin A capsules	
4) Iron tablets	

vi. Balitas at 36 months. This causes confusion in the field since weights are monitored at all months up to 60 and there is no need to single out a particular age for scrutiny since the weighing chart controls for age.

vii. Absent children. This is the difference between the number of children weighed and those known to be available. More important is the concept of the rate of risk among children weighed this month: T.

viii. Red line children. Children in a high state of risk are comprised of the non gainers and the red liners. There is no particular administrative need to distinguish between them. We recommend recording referrals instead, labeled M on the modified form.

e. Forms Proposed for Elimination and Other Modifications

i. Village form (Appendix D, Figure 4). If each weighing group reports to the Subdistrict, the number of forms will be small enough to permit aggregation at the subdistrict level. The village form has no particular management function and requires compilation of data.

Supervisors Work Sheet for Weighing Group Data

Subdistrict -----

Month ----- Year -----

Index
II

Index
B

Village : Weighing group :	Balitas in the Weighing area (S)	Balitas weighed this month (D)	Divide D/.S = Participation rate:	Balitas Weighed this month, but not last in % (O)	Subtract D-O = Balitas weighed two months consecutively	Balitas Who gained weigh (.H)	Divide H % (D-O) = rate of gain	Subtract from 1.0 = rate of risk.	II Balitas referred to clinics
							1.0.____	= 0.____	
							1.0.____	= 0.____	
							1.0.____	= 0.____	
							1.0.____	= 0.____	
							1.0.____	= 0.____	
							1.0.____	= 0.____	
							1.0.____	= 0.____	
							1.0.____	= 0.____	
							1.0.____	= 0.____	
							1.0.____	= 0.____	

Total for Monthly report.

Assign Priority to visiting groups with low II

Assign Priority to Referral Services to groups with high B

ii. Weighing register (Appendix D, Figure 2). The weighing register permits reconstruction of a weighing chart if it is lost. However, if the cards were filed in order at the weighing site, this register would not be needed. If the register is maintained, however, the summary data at the bottom should be simplified as in the proposed modified form. In the boxes a code should be added to each weight resulting in referral.

iii. Subdistrict register (Appendix D, Figure 6). This register entails much mechanical transfer of information and supervisors appear to make little use of it. Each supervisor, however, could compute two of the four indices (TK, R, T and P), record each on a work sheet, and graph them to observe trends and set priorities.

A sample work sheet is in Figure 13. We propose replacing the Appendix D Figure 6 register with a work sheet. Routine computer reports could print TK, R, T and P for the Subdistrict for graphing over time. By maintaining information on trends over time the supervisor would know the following:

TK : Is the participation rate low in a group or declining or improving?

R : Are some areas worse off than others?
Are some areas improving?

T : Is severe malnutrition a problem in this subdistrict?
If so, mobile health teams should be alerted and sent there. The work sheet T indices could be used for setting priorities.

P : Is referral working? Improving? Deteriorating? Are some areas in need of mobile medical back-up to weighing groups to improve referral and care?

A large number of referrals from an area would indicate priority areas for medical back-up.

Our recommendation for a worksheet system is motivated by our impression that the mechanical transcription and addition of data is not contributing to management of the programme. Figure 13 may be too complex or may require modification, but some consideration should be given to creating recapitulation forms that lead to inferences and action. The supervisor that we visited were capable and energetic and could be trained to calculate indices, plot output, and respond to various trends and circumstances with action. It is quite possible that the computer could assist in this process. It is therefore recommended that the computerized Subdistrict Feedback Report compute each index and print it for use at the regency and subdistrict levels.

These recommendations, however, are to a large measure contradicting

our reservations about impact assessment for this program. An aim should be to conduct a field inventory of actions that a supervisor can take to help people, construct an index for each activity in order to assist in guiding actions, and build the service statistics system around these indicators. Support units (clinic or mobile teams) must be organized to insure that patients receive care if they attend a clinic. Or, mobile teams should find referral patients waiting when they visit a village. The information system can facilitate this. The BKKBN field worker should be responsible for insuring that an entry is made in the weighing group register for each referral and that a referral slip is issued. The register entry could be an asterisk or circle around the weight entry that warrants referral. A copy of the referral slip should go to the clinic or mobile medical unit to insure that referral services are rendered. A suggested referral slip is in Figure 14.¹

f. Summary and Recommendations

We recommend the following changes in the weighing group system:

- i. The volume of data collection should be scaled down and forms should be simplified. The Sahn report presents some options for this and we also made suggestions for consideration.

¹Sahn has also suggested a slip similar to the Figure 14 card.

FIGURE 14 : PROPOSED REFERRAL CARD

	Weighing Group
	Referral Card
Name of Mother	_____
Name of Child	_____
Name of Weighing Group	_____
Date referred	_____
Date of clinic visit/MMT	_____
Time	_____
Notice to mothers : Bring weighing chart with you when you report to the clinic.	

(Copy to clinic by FPFW)

ii. The planned central computer processing of weighing group data should be terminated. Instead, a few key indicators can be recorded on the FCSA report for processing.

iii. The referral process should be monitored. Figure 11, a proposed revision to the Clinic Reporting System has a variable for weighing group referrals. In the data system proposed in Section III below clinic and FCSA data are linked so that the treatment to referral ratio can be monitored.

iv. The operational indicators of service outputs should receive greater emphasis than impact measures in the management information system. Sahn's report makes recommendations in this regard that need no further elaboration here.

4. Income Generating Activities

a. Introduction

In 1980 the BKKBN launched a "beyond family planning" project aimed at providing community incentives to high contraceptive villages; and more broadly, in altering reproductive motives through economic development and community organization. Initially this programme was perceived as an experimental community incentive programme serving a limited number of subdistricts. More recently the programme has been expanded to include

two types of loans, one through BKKBN sources, generally to relatively poor communities, a second through banks in a guaranteed loan arrangement whereby BKKBN field workers facilitate loans to projects, provide management assistance in their implementation, and assist with monitoring. The World Bank supports the latter type of loan. Most of the funds dispersed under the income generation scheme are bank loans of the World Bank financed programme.

Although criteria have been set for the award of a loan, actual decision making is highly decentralized. Field workers, supervisors, and regency staff have a major role in the operation of the programme. This has had positive effect on the speed at which loans are processed. In the projects visited loans were processed in as little as six weeks although 3-6 months were more common, depending upon technical problems. This rapid execution of loans is much appreciated by villagers in the locations that we visited, and contributes much to the credibility of the programme. In the areas where we visited nearly everyone had ever used family planning and the focus on group formation was more generally addressed to financing enterprises that provided income to groups of women than to family planning per se.

Computerization of this activity has not begun, although several forms exist and tentative monitoring instruments have been drafted. English language facimiles of forms appear in Appendix E and the flow of

information is diagrammed in Figure E-4.

Although the Income Generating Scheme is still experimental, BKKBN is committed to expanding programme and to processing programme data. Existing draft forms record family planning data:¹ the PUS, current users, activities of members and the disposition of cash. The purpose of the loan and type of loan is not monitored. The summary forms at each level recapitulate this basic information (see Figures E 1-3).

The form in Figure E3 is intended for computerization. This would generate 3300 forms at current rates of FCSA compliance or 3600 forms to be expected. One form per subdistrict is expected monthly, and only the totals row would be processed. Each form would require 48 bytes or 158,400 bytes assuming 80 percent of the subdistricts report and all subdistricts eventually have a programme.

b. Conceptual issues

The Income Generation Programme provides a unique opportunity to research the complex relationships between such factors as socio-economic policy, agricultural economics, women's status, income generation, individual aspirations, social cohesion, reproductive motives and

¹ All family planning data recorded is also recorded on other forms. Redundancy is justified because linkage is essential: family planning use is a criteris for awarding loans and is also regarded as an output variable of this programme.

demographic dynamics. Unfortunately, the casual nexus of these variables is so intricate and the implementation of the programme so complex, that service statistics should provide only the essential rudimentary information that is centrally required for planning: loans by type and locality, the funds loaned out, the amount of cash in the groups, and the funds flowing back for reallocation. The data should be linked to subdistrict data and therefore should go on the FCSA (Figure 10). This information would provide indicators for gross analyses of basic input information, and a sampling frame for a more rigorous sociodemographic analysis.

While we recommend that new routine data collection should be parsimonious the programme as a whole merits careful and comprehensive research from other research mechanisms. If a research programme is undertaken the appropriateness of the criteria for loans will be in question. Since prior existence of weighing groups, community organization and high acceptance rates are loan criteria, it will be difficult to test hypotheses on casual relationships since it will not be clear as to whether the loan is a cause or a consequence of conditions that loans are intended to influence. Therefore a useful research strategy might be to stratify subdistricts by area, randomly select communities, and experiment with the process of organizing for the loans and monitoring areal effects in sample subdistricts through the routine FCSA. Such an approach would permit designation of randomly selected

control subdistricts and inferences about loan strategies that maximize demographic impact.

c. Recommendations

- i. We recommend a parsimonious monitoring system that records no more than the type of loans (whether from BKKBN or bank sources), the number of such loans, and the turnover of funds. Figure 10 shows the loan information as we recommend that it be recorded on the field control report. A somewhat more elaborate form may be required at the regency and provincial levels, but on the basis of our discussions in the field we question the utility of routinely collecting more information than appears in Figure 10.
- ii. Summary reports from the province to Jakarta can be eliminated. The information should be reported on the FCSA.
- iii. A formal quasi-experimental design could contribute much to addressing hypotheses now expressed by BKKBN officials. Loan criteria now in effect prejudice the consequences of the programme and confound its evaluation.
- iv. The field forms and data management are too complex. In particular, we question the need for village level data recapitulation (Appendix E, Figure 2). Some information, such as family planning data,

are collected elsewhere. Somewhat surprisingly, no information, at any stage, collects data on what the loans are financing. We learned that some loans go to groups of women for their cottage industrial work (pottery, weaving, sewing etc.), others go to women's groups for trading (shops, marketing, wholesaling, etc.). Others are assisting the general community and through male dominated groups (fertilizer, seeds, pumps, trading, etc.). One hesitates to recommend new complexity, but some thought should be given to the issues of whether type of recipient and category of loan should be monitored. We are not prepared to formally recommend this, however, owing to our limited understanding of this complex programme, but this issue bears further investigation.

v. Default in loans. Accounting data is needed for a loan programme: funds received, dispersed, outstanding, and repaid. Default should also be monitored. Surprisingly, no group in the areas that we visited was in default. As the programme expands, however, failure to pay may become a problem. Perhaps Figure 10 and the form in Figure 3 of Appendix E should monitor outstanding funds unpaid as scheduled.

5. Subdistrict Summary Reports

a. Introduction

At present there is no single source of information on the fixed characteristics of a subdistrict. Yet, much information on subdistricts

is collected and stored, but not used for routine tabulations. We propose creating a computer file which could provide independent variables for the analysis of the FCSA. We are not recommending new data collection, however, but computer compilation of a register from existing data. The file would contain background characteristics of a subdistrict that could be correlated or regressed on output variables or be useful, in some way, for planning. Variables could be of the following types:

- Census Variables:

- i. Child/woman ratios,
- ii. Total population,
- iii. PUS,
- iv. Children under 5,
- v. Subdistrict intercensal rate of growth,
- vi. Census Prevalence Rate by Method,

- Census economic status indicators

- Fixed operational variables such as

- i. Number of clinics,
- ii. Starting date of services,
- iii. Staff by type (Appendix A, Figure 4), and
- iv. Number of villages, as well as
- v. Other areal variables.

1. Information that is repeatedly collected in several data instruments, but unchanging overtime.

Such "fixed characteristics data" on a kecamatan will be an increasingly important set of control variables for the analyses of outputs. Subdistrict weighing group data, for example, may be difficult to interpret unless multivariate controls can be introduced for population density, child/women ratios, and economic status of the locality. If one asks the question "Does the programme benefit children controlling for potentially confounding environmental factors?" then basic information on the areal unit of analysis is essential.

The most important single areal resource to the program is its personnel. A 32 megabyte computer file is compiled on the 28,000 employees of the BKKBN. Each employee has compiled a 10 page questionnaire. Much of the information, if extracted and aggregated for a subdistrict, would provide a useful set of background characteristics of the programme in a locality. This will be discussed further below.

b. Recommendations

i. We recommend conducting a computerized extraction of fixed kecamatan characteristics as presently recorded in existing data sets. Variables should be those fixed areal indicators that could covary with

FCSA or CRS outputs, thereby confounding analysis of service data.

ii. Careful review of the census as a BKKBN resource is needed.

Much of the areal census data would enrich the analysis of service statistics data.

At least some of the purposes served by such a file could also be served by a data base approach to be discussed in Section III below.

6. The Hospital Report

a. Introduction

Throughout Indonesia hospital administrators are required to complete a detailed report on hospital based family planning activities. The CRS is completed (Appendix B, Figure 1) but it is a matter of policy that family planning information and services should be offered in each department. Thus the Bureau of Reporting and Recording, the Bureau of Contraceptive and the Ministry of Health have jointly developed a series of registers for the 393 hospitals participating in the family planning programme. Approximately 50 percent of the expected forms arrive. There is an intention to computerize the information but no software development work has begun. Reporting is monthly, and at present a six-month backlog of forms exists.

The forms for this programme are exceedingly complex. A referral card is filled (Appendix F, Figure 1) whenever a family planning client is sent from one unit to another within a hospital. This is not computerized and does not link with the CRS acceptor information. In any case, linkage is not needed, since all CRS forms are filled. Secondly, a detailed register of referrals to the Ob/Gyn department is kept as shown in Figure F-2. This covers all service information involving Ob/Gyn or surgery and is maintained in by order of clients served. This log book serves limited management purposes, since individual entries are buried in the register where information cannot be retrieved if the patient returns. These cards are filled, in any case, for each ward referral as well as a register. Two additional referral cards are compiled for referrals received plus a computer reporting form. Thus the form and register management system within a hospital is complex.

The computer form is also exceedingly complex, specifying departments, services, methods, and much more. It is the most complex and the largest single form now received by BKKBN, each requiring 1680 bytes of memory.

b. Recommendations

i. Current forms are too complex for processing. Moreover aspects of the forms that are suited to processing are already encompassed in the CRS, which is received by the Central BKKBN in

addition to the hospital form. We recommend eliminating this form as it is presently designed since analysis of the contribution of hospitals to the program can be achieved by subsetting CRS data from hospitals. A new more streamlined hospital form can be designed in the future.

ii. Some modification to CRS forms may be required to monitor referral and treatment of serious complications (such as IUD perforations), but if modified, the forms should be simple. The elaborate unwieldy design of forms may explain why compliance with form filling is only 50 percent.

iii. The need for departmental performance data is internal to hospitals and does not represent a convincing rationale for centrally processing so much data. The principal justification for the complexity of the Figure F-6 form is the need to monitor specialized hospital achievements. There are 5 types of hospitals: 1) Research and development, 2) training and education, 3) referral, 4) contraceptive care requiring surgery, and 5) general care facilities. Thus the intention is to centrally examine the output from each type of unit and to see if emphasis is where it belongs given the type of hospital.

This objective gives rise to complex data collection instruments because it is not clear how the analysis will lead to desired inferences

and what actions can be taken in response to a particular finding. We recommend preparation of carefully articulated analysis plans with dependent variables specified and the alternative operational response to alternative fundings. Failure to do so leads to a proliferation of data and a preoccupation with managing data rather than using it.

7. The Logistics System

The supply of contraceptive to the province, regencies, subdistricts, clinics and VCDC is a critical operational activity of BKKBN. Warehouses are maintained at each level with the following inventories in all items:

- Central (3 months)
- Provincial (3 months)
- Regency (6 months)
- Subdistrict¹ (6 months)
- VCDC (3 months)²
- Acceptors (1 month)

Information flows at all levels on a monthly basis. The system is a "push" approach in which needs are assessed at one level and

¹Officially, the subdistrict is the depot for stocks. In practice, clinics typically maintain stocks and obtain them directly from the regency.

²In some documents, it is stated that a 4 month stock should be maintained in the village.

supplies are sent to the next lower level. A pull system, it is felt, would create shortages because supply units would not adequately assess future needs.

A detailed logistics manual has been prepared and two consultants have recently documented observations and recommendations. It is therefore inappropriate to review the system further except to comment on information requirements.

Two of the suggestions of the logistics consultants affect processing: 1) brands should be more closely monitored and 2) stocks at the village level should be monitored. In the Jakarta BKKBN office, these recommendations are sometimes taken to mean that computerization is required, although this does not appear as a formal recommendation in the report.¹ However, extensive revision of the village forms is recommended, mainly to record the brand of each item. In all, 4 village level forms are recommended in the Graves and Glatzer report:

1. A village register of stocks received and dispensed by date with a page in the register for each item (including brand),
2. A subvillage register with columns for items and rows for instances of dispensation,

¹See Graves and Glatzer, 1983.

3. A summary register in the format of the subvillage register for recapitulation of the subvillage data and,
4. A modified VCDC report which appears in Appendix F, Figure 1.

Our impression is that these recommendations, while providing much needed subvillage information on the flow of multiple brands of pills and numbers of condoms, will simply swamp the system with data and forms. We do not believe that the computerization of the Appendix F, Figure 1 form was intended, since forms would emanate from 60,000 VCDC and thus produce 4 million bytes of data monthly, or slightly more data than is now collected for the FCSA report on all subdistrict activities combined.

The information collected in the suggested Figure 10 stock summary section may be too sparse for all logistics purposes but we suggest that detailed monthly reports are probably unnecessary. We propose experimentation with a quarterly worksheet system that produces a subdistrict quarterly stock order (Figure 14). The requisition would flow from the supervisor to the regency for obtaining quarterly stocks. On column 13 of the Figure 11 worksheet, a detachable computer "slip" would be sent to Jakarta for processing. Each slip would record order information for the forthcoming quarter. The existing stock situation

reports of the 300 regencies and 27 provinces would be processed (250 bytes per form, Appendix F, Figure 2) to give current stock and the monthly "push information". Also the Figure 10 FCSA would give the current stock situation at the subdistrict level.

Similarly, other major depots also report stock flows. Thus the present volume of data at regency levels and above should continue (500 forms x 250 bytes = 125,000 bytes per month). In addition, the future demand for the coming 3 months should be reported on the subdistrict slips. This information would be used centrally to anticipate needs. If tested, and found to conform to "push data" at the subdistrict level (as reported by tabulation of the FCSA in Figure 10), the push data could be eliminated from all forms below the regency level. Such ideas, however, are motivated more by our search for parsimony in data collection than by an understanding of logistics. Therefore we do not recommend any change in the system itself. Rather, we recommend small scale experimentation with collecting supply pull information in limited areas. The aim would be to test the capacity of subdistrict supervisors to anticipate needs for their area and the capacity of the system to respond.

Suggested experimentation with pull information system is motivated by our view that the proliferation of brands and user options will greatly complicate the task of centrally anticipating local needs

FIGURE 15

QUARTERLY WORKSHEET FOR SUBDISTRICT STOCK CONTROL

REPORT TO REGENCY WAREHOUSE

	Amount of stock from previous quarter	Amount Received this quarter	Subdistrict Office stock this quarter (3) = (1)+(2)	Amount supplied to			End of Quarter Subdistrict Stock (7) = (3)-(6)	Quarterly Stock Distributed to users by VCDC & clinics	Estimated stock in Clinics & VCDC (9) = (6)-(8)	Subdistrict End of Quarter Stock Inventory (10) = (9)+(7)	Amount of stock Needed Immediately (11) = (8)-(10)	Additional Stock Requested for next Quarter	Total 13 = (11)+(12)
				VCDC or weighing Groups	Clinics	Total (6) = (4)+(5)							
Column	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
<u>Pills-Type :</u>													
1.KB Kimia Farma													
2.Schering													
3.Morday													
4.Ovostat													
5.Others													
<u>I U D</u>													
B													
C													
D													
Copper T 200													
Copper T(other)													
Multiload CuT													
<u>Injectables</u>													
DMPA (cc)													
Noristerat (cc)													
<u>Condoms (pieces)</u>													
<u>Vaginal Tablets</u>													

Detachable Computer Slip

at the regency level.

8. Financial Reports

The Financial Reporting System will not be reviewed in this report. The principal source of accounting information,¹ in any case, is the payroll system which is controlled by the Ministry of Finance and is not maintained or computerized by BKKBN.

Current accounts are maintained by a "cost center system". There are 143 "projects" of the BKKBN each with a monthly accounting statement. Of these, about 120 report in a typical month providing 80 bytes of information per account with about 10 accounts per report. Thus there are about 93 kilobytes of data received and about 114 kilobytes expected.

This system was not reviewed, but the format of forms now in use should be reviewed if the system is to be computerized. A Bahasa language copy of the existing forms is in Appendix G.

¹The personnel system will be discussed below.

9. The IEC Mobile Unit Report

a. Introduction

The Head of the Ministry of Information in each of the 300 regencies of Indonesia directs a mobile media team who conducts slide shows and film shows in villages. Themes vary across a wide spectrum of public service topics, but family planning is an important component of the programme. A monthly form (Appendix I) is to be filled in the 114 regencies with teams, each with 79 bytes of data. However, compliance has been less than optimal (70 percent) and most of the information, in any case is recorded by the supervisor on the FCSA.

b. Recommendation

The form is partially redundant and hand tabulated. We recommend eliminating it.

10. The Radio Report

a. Introduction

BKKBN has attempted to maintain a central register of radio programmes. The form used for this purpose is reproduced in Appendix J. Columns record days in the month and rows record information on the content, duration, and broadcasting times relevant to BKKBN. Each forms would require 1152 bytes if processed, but since only about 20 percent of

forms are received among the approximately 500 forms expected, the data are neither processed nor used.

b. Recommendation

We recommend terminating this procedure unless some understanding can be reached to improve compliance. For example, radio stations maintain a detailed register which is used for charging advertisers. Most stations are in provincial headquarters. A BKKBN worker could go to a station and code a questionnaire quarterly summarizing the quantity of radio broadcasting by theme. Unless this information is vitally needed however, we advise against a new radio form. Sample surveys indicate the lessons learned and degree of coverage of broadcasting. Survey and market research techniques are better suited to researching media campaigns than service statistics.

11. The Personnel History File

a. Introduction

Over the past year the BKKBN compiled a 10 page questionnaire on the background of its 28,000 personnel. The objective was to provide a central archive which could be used for setting objective criteria for promotion, selection for training, and the setting of pay scales. In all, 925 bytes of information are collected in the initial interview and the monthly workload updating of records is estimated to require

3.196 megabytes of data each month, not counting information on training. These updates concern changes in status, pay, training, etc.

We need not comment on the content of this file except to note that updating is a major commitment and no work has begun on software development. At this point uses of the data are mainly perceived in terms of batch processing of data to know about the staff through descriptive tabulation. BKKBN clearly desires to use these data for management purposes.

b. Recommendation

i. The use of data banks for finance, accounting, and personnel management is a well developed field of computer science. The BKKBN with its huge staff, budget, and personnel archive should contract with a computer consulting firm to develop this important application of its equipment. Packages for these purposes can be purchased, but expert guidance in systems development is needed. We have been addressing our entire attention to technical applications of the computer but routine management operations can be greatly facilitated with computer applications. We recommend that internal finance and personnel systems be formally reviewed in the forthcoming consultancy of Dr.Tan. Efficient use of the computer for all applications, including routine management, can be improved and developed.

ii. In the Section III discussion of data base system we will discuss ways in which personnel file can be used with service statistics to improve program functioning. We recommend linkage of personnel systems with service statistics so that the personnel records are viewed as a key component of the overall BKKBN management information data bank.

iii. A limitation of the personnel system is that many vital personnel are implementing agency staff who are not entered into the BKKBN register. This may be appropriate, but problems arise with record linkage. For example, clinic personnel records cannot be updated when training occurs because suitable identification codes are missing.

We recommend a simplification of identification numbers assigned to staff, if possible assigning a single permanent number of all BKKBN implementing staff (whether employed by BKKBN or not). The initial posting location and designation could provide the basis for assignment of the permanent number:

Province	<input type="text"/>	<input type="text"/>		
Regency	<input type="text"/>	<input type="text"/>		
Subdistrict	<input type="text"/>	<input type="text"/>		
Type	<input type="text"/>	<input type="text"/>	(Supervisor, Field Worker, VCDC, etc.)	
Individual	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

The "type code" would distinguish BKKBN staff from other personnel. Present designation in the event of promotion, etc., would be a different code sequence with the same classes. This is a seemingly trivial issue, but linkage numbers are important for data base applications.

12. The Training System

a. Introduction

Indonesia has an extensive training programme in which personnel throughout the country are periodically provided with a specialized training. Some 7,000 workers are trained in each quarter. A monitoring system is established for this programme which is intended to record much information about the scope and content of courses, who attends, who teaches, and what is actually learned.

The service statistics instruments for this operation arrive in quarterly batches from 35 centers. Forms are of three types:

There is a trainee record (7000 quarterly, 79 bytes) which is completed by an individual at each session in which he received training. Since many trainees are not BKKBN staff the training identification code cannot be linked to BKKBN personnel records or to CBS records.

Thus personnel information is repeated for BKKBN staff each time they attend a course and background characteristics are repeatedly compiled for non-BKKBN staff as well. None of the information can be linked to the areas of assignment or implementing unit. With no link to output data and there is a weak capacity to examine training programme effects.

In addition to the linkage problem is the problem of data overload. The form in Figure 1 of Appendix K contains 79 bytes and is processed for every trainee. Most workers attend more than one course over time so that some 28,000 forms are generated annually. This current form represents only a fraction of the processing required for a previous version of the form. Nevertheless, it represents 184,300 bytes of data monthly.

In addition, each of 35 centers submits a report, shown in Figure 2, Appendix K. One box at the top of the form has columns for budget and rows for trainee types and the middle box records information about trainers and the duration of the course. At the bottom rows are course categories and columns for "good versus not good" evaluations. This form produces about 28,000 bytes of data per month. The problem with the form is that the aggregation of data at this stage greatly complicates use of information for updating personnel records, or evaluating the impact of training. We therefore turn to a discussion of a proposed alternative system.

b. Comments and Recommendations

The information requirements for the training program are quite simple if record linkage can be applied. It seems that answers to three questions are desired: 1) Who is being trained? 2) What are they being taught? 3) What service unit benefits? Recording all of this 7000 times each quarter comprises a substantial data processing job. But, in fact, much of the information is "fixed" and need not be repeatedly coded if linkage can be routine:

i. Who is being taught? A personnel register exists for BKKBN staff. A permanent staff identification code exists. If training records were posted to the file, the personnel data would be updated accordingly, and background characteristics of trainees would not have to be coded. The problem is that non BKKBN staff have no number. Therefore, compute permanent training numbers according to some fixed rule based on areas of first assignment. Each training center could be given names and numbers of all staff within their area for entry. The numbering system would have to allow for non-BKKBN staff. Once a register of permanent numbers is prepared all information (personnel, training, etc.) can be maintained there.

ii. What is being taught? There are a finite number of regular courses. We propose preparing a register of courses, each with a fixed identification number (3 digits) that is used whenever the course is taught. It is this number that would go on the trainee's

personnel record. A filing cabinet in Jakarta and the Training Center would have the syllabus. If necessary, a simple computer register, documenting the content of the course would permit tabulation of the scope and content of training, since course content files would link with the trainee register.

iii. What unit benefits? Standard areal unit codes could be designated by the same rules that govern the numbering of personnel. This would permit linkage of training information to data on areas, clinics or hospitals, and permit queries about the impact of training on programme outputs.

Thus the purpose of a training register would be to provide a set of keys to other data. We estimate that 38 bytes of data per trainee would suffice. Figure 16 is an example of a trainee register.¹

Note that the numbering system is nested so that provincial headquarters staff code zeros for regency and below, but have a unique individual number. The same rule applies to lower levels.

¹ Figure 16 will be discussed further in pages 143 to 149 below.

Figure 16: Proposed form for trainee registration

Training centre/Unit
 Trainee name
 Identification number : *
 Current work assignment : **
 Permanent course code : ***
 Course date :
 Ever trained before ?
 1 = Ever 2 = never

unit code
 Prov. Reg. Subdis. Type Individual
 Service unit
 mo. Yr.

* Permanent BKKBN Worker Identification number. This should link to the Personnel file.

** This should link to the FCSA

*** This should link to a file on the syllabus. (see figures 17-19)

D. DATA OVERLOAD: IMPLICATIONS FOR FUTURE PLANNING

In Section C we reviewed several data systems. Two themes dominate our presentation: More data is collected than is needed to acquire the desired information and, secondly the overall volume of data collection is substantial. In this section we address the question of how much data are flowing in, how much is processed, and the immediate implications of the backlog in processing for procedural change and institutional development. In this section we address the question of what should be done now with existing equipment and capabilities and conclude with an agenda for action.

1. The Volume of BKKBN Processing

a. Processing needs versus achievement

In Figure 1 we diagrammed the shifting strategies of BKKBN, noting the growing commitment to beyond family planning strategies. Table 2 shows that the focus of data processing has not changed appreciably. Fully 13.8 million bytes of data are expected in Jakarta each month, of which 9.5 million are directly related to the clinical family planning programme, hospital services, or logistics. Compliance with reporting expectations is highest for the clinical system (column 2) and data entry priority is highly concentrated on the CRS (column 3). Of the 13.8 million bytes, 9.1 is actually processed. This is an impressive

achievement given the small staff, limited access to terminals, and the absence of extra work shifts now prevailing at the BKKBN.

In our review data system we proposed two consolidated data systems: Option A which would retain information and maintain the clinic as a reporting unit but permit eventual consolidation of data. That option results in a 50 percent reduction in processing with no loss in information. (Table 2 Option A)

Since processing is currently at 65 percent of the rate data flowing in, however, there is clearly a need for immediate remedial action:

- i. There should be an immediate creation of evening shift. All CRS work should go to that shift since processing is now routine and the CRS operation does not require high level supervision.

- ii. There should be evaluation of the need for a third shift added to absorb extra work required for 100 percent CRS and FCSA verification. Verification would double the CRS entry load but the unacceptably high rate of editing errors indicates that this step is needed. Thus it is possible that the computer should run 24 hours a day.

- iii. The day shift should then be free for FCSA development: Entry and software development for the FCSA should be highest priority for allocation time released by extra shift work on the CRS. Computer time now

Data Sub-system	Col	Monthly Computer Requirements In Kilobytes					Change In Processing Volume : = 1 - [(4)/(1)] x 100
		Existing System :		Proposed Modification :		Percent	
		(1) Data Received Planned	(2) Actual	(3) Entered	(4) Option A	(5) Option B	(6)
1. Clinic Reporting System							
Clinic report		5,068.8	4,992.0	4,992.0	1,524.6	-	) (-69.9)
Switchers		41.0	40.0	40.0	-	-	) ( 0.0)
Fixed assets		26.0	26.0	26.0	26.0	26.0	) ( 0.0)
Client Characteristics		3,553.8	3,500.0	3,500.0	3,553.8 ^a	3,553.8 ^a)
Clinic Subtotal		8,689.6	8,558.0	8,558.0	5,104.4^a	3,579.8^a	(- 41.2)
2. Field Control Supervisory Activities							
FCSA		2,957.2	2,365.4	365.6 ^b	1,300.0	1,300.0)
Weighing data		351.2	220.1	0.0	0.0	0.0)
Income generation		198.0	198.4	-	0.0	0.0	) (- 68.2)
Mobile teams		9.0	6.3	0.0	0.0	0.0)
Radio Reports		576.0	119.2	0.0	0.0	0.0)
FCSA Subtotal		4,091.4	2,909.4	365.6	1,300.0	1,300.0	
3. Hospital Report		648.9	324.0	0.0	-e	0.0^e	
4. Logistics							
Warehouse report		129.0	112.5	112.5	112.5	112.5)
Quarterly Subdistrict requisition		0.0	0.0	-	92.4 ^c	46.2 ^c	) (+ 163.9)
Logistic Subtotal		129.0	112.5	112.5	204.9	158.7	
5. Finance		114.0	95.7	95.7	95.7	114.0	
6. Personnel		(3,196.0)^d	-e	-e	-e	-e	
7. Training							
Training Form		184.3	-e	0.0	88.6	88.6	
Training Center Report		28.2	28.0	0.0	28.0 ^f	28.0 ^f	
Training Subtotal		212.3	28.0	0.0	116.6	116.6	
T o t a l		13,885.0	11,931.9	9,131.1	6,021.6	5,269.1	(- 50.9)

a. No allowance is made for changes in sampling. This could be substantially reduced.
b. Approximately 14 months of data are received (33 megabytes) of which 5.2 megabytes are entered (15.4 percent). This figure is the mean monthly entry rate.
c. Option A assumes that the clinic is the primary reporting unit, while Option B uses the Subdistrict as the primary reporting unit.
d. As yet, the monthly workload of updating personnel records is unknown. This estimate of the Reporting and Recording Bureau is not included in the table.
e. Unknown or not estimated. The Hospital Report can be greatly simplified, and should not be eliminated. For now the CRS should be used.
f. We have no way of estimating the size of data files on the content of courses. A 28 kilobyte file is likely to be an over-estimate.

devoted to CRS development should be consigned a lower priority during the day shift than FCSA development. The amount of work and time addressed to preparation of data for foreign institutions should be reviewed and, if found to represent a significant workload, it should be consigned a lower priority than work on undeveloped BKKBN data systems. Much editing of data and data management is needed for the CRS and there may be strong reasons for maintaining some operations on the day shift.

iv. Even with a 24 hour operation, funds requested from UNFPA for hardware and software are much needed. We will return to this below.

v. Data verification routines for each modules should be developed. Standard utilities may work, but specialized software may be needed.

b. The Organization of Data Management

The data managed by BKKBN is all processed in batch mode. This is in part a problem that is inflicted on BKKBN by its "RDOS" operating system, but planning must begin for a shift to a multiprocessing environment so that the many data sets of BKKBN are managed simultaneously without backlogs. Continuous flow data management is essential to relieving the BKKBN of critical backlogs and permitting flexibility to add new systems or change the existing ones. In a continuous processing environment the following conditions are met:

i. Each data management operation should have a detailed set of documents specifying all aspects of data flow. BKKBN has maintained the highest standards of excellence in documenting its training and field procedures. Similar standards should apply to building computer files: It should be clear from documents how a data set is checked and coded, entered and verified, machine edited, archived and accessed. Each step in the preparation of a data set should be thoroughly documented.

ii. As a data set is developed, it should flow in small lots through a series of operations so that no data set wells up in one state or another waiting for processing. A convenient management technique is to appoint a "data manager" to each data set with overall responsibility for coordinating documentation entry, editing, file correction, sorting merging and other operations --- in short, a resident expert on the flow of a given data set. The present organization of the computer and data staff fragment responsibilities according to task. That is, BKKBN is structured for batch mode data management; and, as its needs for multi-processing increase, its current staffing structure may become less suited to the task of managing several systems simultaneously than has been the case with the CRS.. The forthcoming consultancy of Dr.Tan should consider such organizational issues along with hardware needs.

iii. With the proliferation of data sets analysis needs, and competing demands, the computer will become increasingly difficult to manage. The equipment and software request to UNFPA will create new opportunities for management information, research, and monitoring only if a person is trained to manage the computer. Staff development in computer management, as well as orientation of Data General's Advance Operating System (AOS), and in the "INFOS" utility is much needed. Training needs should also be addressed by Dr. Tan's consultancy.

iv. The managers of data should have much influence on the design of data systems. Computer staff must deal with the consequences of the layout of forms, the size of a questionnaire, the crosslinkage of data, and many other issues. Overall processing requirements have to be anticipated to prevent backlogs. Our impression is that computer staff have not had sufficient influence in the critical period when forms and data procedures were being designed.

v. The present consultancy has reviewed the content of information being collected. The next consultancy on data systems should address the various organizational, technical, and equipment needs of BKKBN from the perspective of a computer manager.

c. Tentative Agenda

i. Immediate action: 1 - 3 months

- Discuss the mode of hiring and recruitment of a computer manager.

A proposed job description appears in Section V. Begin recruitment.

It is difficult to foresee how the computer development and data management planning can be finalized until a full time BKKBN computer manager is recruited. Consultants will have no institutional framework in which to operate. A succession of computer and data management consultancies would be dysfunctional unless directed by a BKKBN computer manager.

Develop a strategy for rapid entry of FCSA data. Draft a plan for extra hours work.

- Computer personnel who are capable of developing software should have that as a full-time responsibility. Computer programming staff are distracted from technical roles by data management tasks. Data managers can be trained to use software, but they need not be programmers.

- Forthcoming consultancies on computers and software will be weak unless each bureau documents data management needs in terms of analyses that are desired for decision making. Section III of this report addresses this issue: What are high priority, but unanswered, operational questions? What, exactly do people want from the computer

that they are not now getting. We have begun an assessment of needs, but a much more comprehensive review of information requirements is needed. Written computer and information needs assessments would assist in the evaluation of the data base concept.

- Test software for FCSA reports and develop a plan for work conferences of relevant provincial staff.

- Field work of Reporting and Recording staff should be addressed to simplifying village level data collection. A unified village register and a field worker's guide to supporting VCDC data collection merit review and testing.

- Tests of alternative simplified CRS forms could begin.

- ii. Four months - Six months

- Hold work conferences of relevant Provincial level staff addressed to 1) FCSA problems and 2) improving VCDC data registers. The aim of the conference would be to produce a new field manual and plans for regency level work conferences.

- Formal tests of demand pull logistics procedures could be fielded within six months.

- Redundant and dysfunctional reporting forms could be phased out.

- Send one person for advanced training in Data General Utilities.

iii. Six - Twelve months

- Finalize plan for long range computer hardware software and organizational changes. Synthesize the recommendations of the present consultancy with the recommendations of Dr. Tan. The computer manager should supervise this.

- Train general computing staff in utilities and begin reorganization of data management procedures, improvement of data and software documentation, and other issues.

- Refine FCSA and CRS data collection instruments and requisite software on the basis of field trial results.

- In areas where new data collection instruments are tested, simultaneously test the use of micro-computers for decentralized processing of routine data. The selection, purchase, and hardware planning of this test should not precede the appointment of the computer manager.

E. SUMMARY AND CONCLUSIONS REGARDING EXISTING DATA SYSTEMS

Data systems have proliferated at BKKBN and our report focuses only on the current volume. As the weighing group and income generation programmes expand, the volume of processing will explode unless aggregation of data onto the FCSA is instituted or data base systems are developed. The history of forms, data, and procedures reflect an orientation toward collection that should change now that needs are becoming so complex:

Central planning of forms typically proceeds in a series of meetings addressed to arriving at a consensus about what is needed. This should be changed in two ways:

i. Research planning should accompany the planning of forms so that written research and tabulation plans precede form design. What are the requisite dependent variables and independent variables? What is practical operational utility of collecting the information? How will unmeasured variables confound assessments and what can be done about it? How is data quality to be measured? Answering such questions as a first step in system design, will lead to data parsimony.

ii. Increasingly, central planning of data systems should be based on field assessment of what workers need to know to do their jobs. Data that are helpful to the data collectors lead to careful attention

to quality. Field trials should not merely test a centrally designed system. Rather, workers at the lowest levels often have the best ideas about the design of forms and procedures, and should be consulted at all stages in the development of a data system.

The suggestions for simplifying forms in this report violate this recommendation. Before action is taken on our proposed revision to forms and field procedures, a sample of clinic workers, supervisors, field workers, and VCDC should be consulted to gage their reaction and solicit their advice.

Next, we turn to a discussion of the interrelationships of data systems and the importance of anticipating interlinkages in data system design.

P A R T III

I N T R O D U C T I O N

A. INTRODUCTION

In Section II of this report we view data as a burden -- something to be wary of, to reduce and prune to the point of maximum parsimony. In this section we look at the other side of the coin: the data of BKKBN are an archive of unparalleled detail on the operation of a programme that has had major impact. The problem is one of tapping this resource, of using the data to continually improve operations, and to research the components of the Figure 3 framework. We address our discussion to the three needs:

i. The need for flexibility in BKKBN data management, so that new data collection instruments can be added without restructuring existing instruments. The implementation staff is huge, and once a system is working it is important to keep it going since procedural changes involve extremely costly retraining and form printing. Yet, data needs are changing so the new things must be added; the dilemma being that information is expensive to collect so that new systems must not be in any sense redundant. BKKBN thus has the seemingly incompatible goal of achieving expandability without adding complexity or redundancy.

ii. Secondly, the data system needs to be responsive to administrative needs. But these needs are so complex, that it is impossible to anticipate, in advance, all of the questions that might arise.

Responsiveness in this case may mean that data are used to do a simple analysis with several possible discrete outcomes. Each possible outcome would generate a component of a computer processed letter to regency staff. Or, results may lead to further queries requiring a subsidiary analysis. This requires a data system that is simple to access without complicated software requirements for every question that arises.

iii. Thirdly, questions arise in Jakarta that are difficult to answer because so many subprogrammes of BKKBN are simultaneously implemented in the field. The impact of one programme contaminates the other so that outputs are difficult to measure. While service statistics should rightly concentrate on monitoring inputs, administrators need to answer operational questions from time to time without fielding complicated studies. Once an operational question is asked it would be useful to have an answer within a short time based on existing data. But since so many activities are going on, the solution to such problems requires multivariate analysis and access to several data sets. This may seem intimidating and too complicated for BKKBN to pursue. But much of the data collection work for this type of research has already been done. The Data General Corporation asserts that software already installed at BKKBN can undertake the requisite data management.

This section of the report requires evaluation and elaboration by a computer expert. We assume that the Data General manuals are accurately presenting relevant material, and we discuss possible of applications of new concepts. Normally this would be done in partnership with a computer scientist, and we recognize the fact that the ideas presented here may be subject to extensive qualification. We are therefore presenting ideas to stimulate discussion about long range planning of data collection, data management strategies, and research.

B. DATA STRUCTURE: UNITS OF ANALYSIS AND BASIC CONCEPTS

1. Units of Analysis.

A continuing frustration of BKKBN data users is that units of analysis differ by Bureau, and that the data collected to suit the needs of one Bureau may not meet the needs of another. For example, training data are compiled by trainee so that it is possible to examine who gets trained, what they learn, and the service unit affected. What the manpower planners would like to know by service unit not only who is trained but also who is not yet trained, so that future manpower training activities can be developed and budgeted. Their unit of analysis is all personnel of a particular type, the dependent variable is trained versus not trained, and independent variables are personnel characteristics. The Bureau of Reporting and Evaluation may have yet another operational question involving the same data: Once a course is given to

field workers, how does it affect the quantity of field visitation? Here the unit of analysis is area over time with the visitation rate as the dependent variable and independent variables for the training of workers over time and other relevant control variables.

BKKBN does not use the data that it has collected to answer such questions, because each would require an exceedingly complex computer programme, and higher priority questions prevent assignment of such tasks to the already overworked computer staff.

With the appropriate "set of keys" for cross-referencing data, however, and a standard packaged program for converting keys into ready to use data sets, much can be done to facilitate analysis.

As an initial step for developing routine linkage there should be incorporation of four general principles in Option A or B data collection design:

- i. Designate one primary areal unit of analysis for most management information purposes. This will be the central "data base". The most appropriate unit is the subdistrict. Other units of analysis are acceptable, but linkage variables should permit cross-referencing of data. Since subdistrict codes are on every module, the concept of a subdistrict data base is very appealing. Very little work must be done to prepare indexes.

ii. Identify critical performance information that is fixed over time. Examples of relevant fixed data are:

- the 1980 Census Population,
- the 1980 Census married couples of reproductive age (MWRA),
- the 1980 Census Children under 5,
- Subdistrict programme characteristics such as fixed assets of the number of clinics or composition of staff,
- number of villages,
- indicators of economic status, and
- other variables.

iii. Store time series data in the corresponding areal unit as a set of "Subdistrict History Files" each of a particular type. Thus the FCSA history file and other history files can be with the "fixed" data base through the Data General INFOS facility on the BKKBN computer (an element of Option C). Each monthly report is placed in order following the previous month with all data being stored by Subdistrict units. Present filing does this for a year at a time, but the history file and fixed data are unlinked.

iv. Designate types of data that are not time series and not necessarily comprehensive for all subdistricts as update data. This is the concept of maintaining the data base as a register, but correcting that register for new additional information. Acceptor characteristics change over time, for example, but such

data need not be linked continuously. Periodically the new mean is computed for a subdistrict and the data base entry for mean age is updated for a new mean age through a procedure. Thus, while the data base is in a sense fixed, there are procedures for updating particular subdistrict records as the need arises.

New data would be of two types: 1. Modifications to the "fixed" records (such as changes in personnel or fixed assets etc.) which would be done on an ad hoc basis with a file updating form, and 2. New systems of services which would be added to the history file so that anything new recorded about the subdistrict is merged with what is already known. Anything new would represent a small data module for either updating fixed records or adding to the history file new operational data. New data would link with old data to ensure that very powerful analytical capabilities are retained and augmented with time.

Consider, for example, a hypothetical planning problem: To what extent does the provision of loans to Income Generating Groups to area affect the prevalence rate?¹ If the amount and type of loans are stored in the same history file, along with time trends in prevalence a time series regression analysis is possible. The dependent variable is the prevalence rate over areal units of time and independent variables

¹One should note, parenthetically, that we have argued that this type of issue that is not well suited to service statistical analysis since so many intermediate variables are unmeasured.

are time specific indicators of the type and cumulative amounts of loans together with potentially confounding predetermined variables such as census indicators of wealth in the subdistrict. Such an analysis might address the question of how much the prevalence rate would change if the composition or the amounts of loans were altered and might elucidate other factors that interact with loans to affect their impact.

Similarly, the capacity of BKKBN to collect large scale time series data represents a unique opportunity to examine the relative contribution of media campaigns, health service interventions, and income generating activities to programme outputs. Structuring files for such analyses is a small problem compared with impressive achievement of the BKKBN field staff who have already organized these activities throughout the country. Linked record files thus serve two purposes: Linkage eliminates the rationale for redundant data collection and linked files facilitate operations research. Continuous linkage and cross referencing of data on computers is known as "data base management".

Data base management is a technical subspeciality of computer science that is not well developed in Indonesia and is complex to implement rapidly. Moreover, the requisite compilers are not installed at BKKBN; compilers which, in any case require more disk space than is available and a more advanced operating system than is presently installed. However, already installed at BKKBN is an indexing

system called "INFOS" that is not in use, but could facilitate processing because it has features which permit cross referencing of data in ways that would eliminate redundancy and increase the power and flexibility of reporting systems. Our discussions of linkage needs will focus on software systems which have been sold to BKKBN by its computer vendor, installed on the computer, but left unused because the requisite training orientation was not provided at the time of installation. This issue will be explicitly addressed in the forthcoming consultancy of Dr. Tan Soei Tien, a computer scientist, who will work for BKKBN over the July to December period of 1983.

2. A Practical Example of Operations Research

BKKBN has been a pioneer in the use of service data for operations research. As early as 1973 multivariate analyses were published which measured the net effects and relative efficacy of service components on the prevalence rate. This type of research, while it is increasingly important to BKKBN, is becoming increasingly difficult to conduct in batch mode owing to the size of data sets and the diversity of operations research questions implied by the Figure 3 framework.

Consider the case of a training course offered to an individual (I), and the course includes among its topics weighing group activities (W). A practical operations research question is: Does offering topic W in the course improve performance of workers? Say we measure performance by collecting weighing group data and recording each month the participation rate (ratio of children weighed to those eligible). Data exist for answering this question: Weighing groups (W) are recording the dependent variables, but accessing this information is complicated at present.

¹See, for example, Hayono et al., 1973.

We should stress, however, that analysis is not complicated. Both the data and the statistical software already exist at BKKBN. In its simplest form this problem is a tabulation of the weighing group participation rate for the before and after training period. But the before and after criterion can only be met by linkage of data on trainees with the output time series data.

We can express this problem as a multivariate model in order to examine the net effect of training. It is necessary to control for other variables (prior performance, community characteristics, prior training, other factors) which might correlate with the dependent and independent variables and confound the analysis. Algebraically, this is

$$W_{km} = \alpha + \beta X_{km} + \sum_{l=1}^L \gamma_l Z_{klm} \quad (1)$$

where X_{km} = 1 if a training course has been offered as of month m to the staff in Subdistrict k ,

Z_{klm} = the l th contaminating variable for area k in month m ,

W_{km} = the weighing group performance rate in area k month m ,

γ
~ = an estimated set of nuisance coefficients which represent adjustments for control variables,

β = a parameter for the effect of training.

In model 1, assesses whether training is effective. This can be formally tested by testing the hypothesis that β is greater than zero.

Getting an estimate of β answers the question posed in this example. This problem is typically solved by a regression analysis that begins by arraying data as shown in Figure 17. Rows are units of analysis, in this case, kecamatan-months observed. The "Z" variables from equation 1 include relevant service unit variables. For example the A variable might be the number of workers in clinics, B the number of BKKBN field workers, G the number of income groups, W the number of weighing groups, M the quantity of family planning motivational work, etc. Other variables might be more relevant, but whatever variables are selected, Z is clearly complex, and involves many variables. This is in keeping with our comments about the implications of the Figure 3 framework.

Note that A and B in this example are fixed service unit characteristics, while others change with time. Note that training begins for all relevant staff in a given subdistrict at once in this example: month 4 in subdistrict 1 and month 2 in subdistrict k.

The two subdistricts coded in Figure 17 illustrate the problem that BKKBN faces with data analysis: While the trainee variable is the one of interest, other sources of variation affect the dependent variable.

The analysis of Figure 17 data involves using standard time series regression software to estimate β and γ . This software is commercially available and compatible with the Data General computer at BKKBN. The problem is that data are not easily placed in this format. Getting to

FIGURE 16: HYPOTHETICAL DATA MATRIX

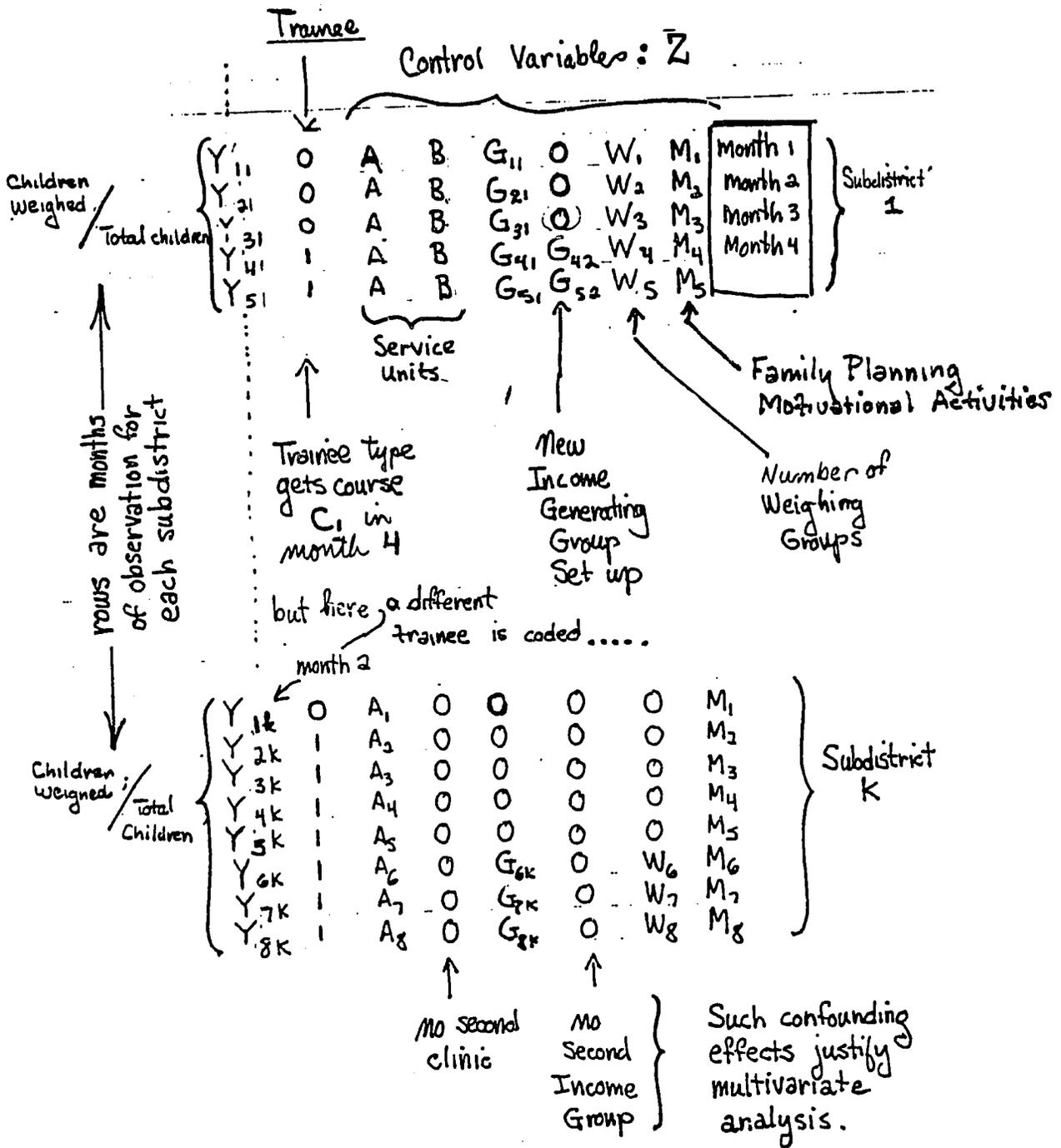
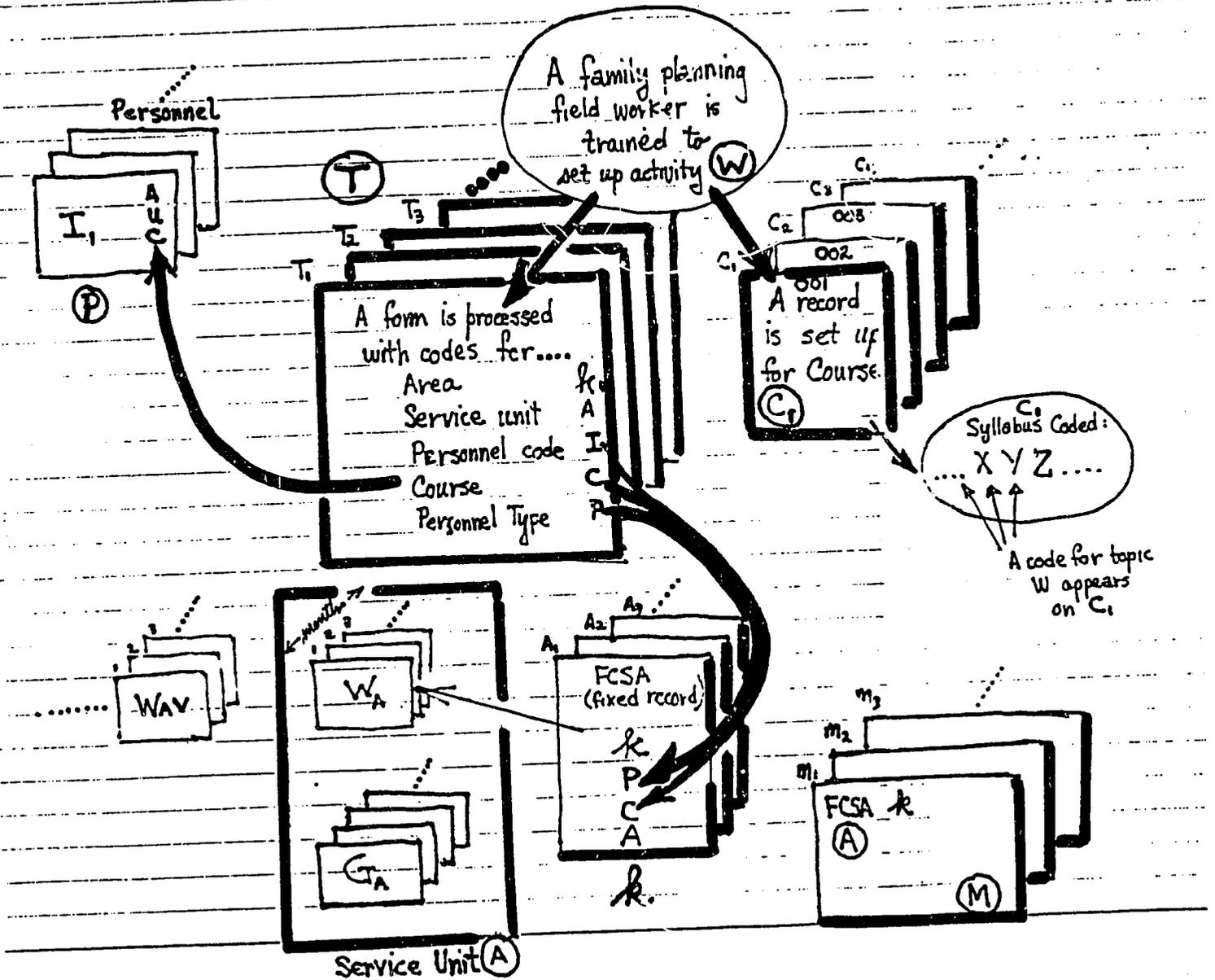


Figure 3 requires elaborate computer programmes to extract data from multiple sources. This is shown by Figure 18. The training record is the source of the independent variable, but units of analysis are trainees and thus do not conform to rows of the Figure 17 matrix. But we have shown in Figure 17 "keys" that permit relevant linkages. A course file C would record every course offered and the subjects taught. Subject X is shown in the Figure as being coded on file C. The trainee file has a key to C as well as keys to other relevant data sets. One is shown as "P," the personnel file. Each individual has a training history- and that, in itself could be a useful focus for operations research. Also areal units could have a training register. Only the keys need to be coded, since detailed information exists elsewhere. To get to Figure 17 from data that look like Figure 18 involves the following steps:

1. Begin with W and aggregate over units of k while doing the same for confounding variables G etc.
2. Using the keys on the FCSA for k, do the same for other confounding variables.
3. As this proceeds record the training codes stored on the FCSA. If it is not recorded, use the C and I keys to get X by linking back to the T file.

FIGURE 18: EXAMPLE OF THE USE OF SEVERAL DATA SETS FOR SOLVING AN OPERATIONS RESEARCH QUESTION.



All of this sounds complex, but software for deriving a Figure 17 data matrix from a Figure 18 like data already exist. Programmers need not work out all the logic if the appropriate keys exist. Therefore we recommend training in this software so that BKKBN has the capacity to design cross-linkage and implement analysis easily without long delays and technical difficulties. Training in the Data General INFOS facility should include both technical training and general orientation to users of BKKBN data.

Note that the data linkage problem is a general one not confined to training: creation of new sequential files from multiple sources should be a central objective of processing. This was implicit in the conceptual framework of Figure 3.

3. A Second Practical Example: Management Information

Any system of routine data feedback runs the risk of being too concerned with routine data that provide little insight into actions needed. In the early years of the programme the output data was exciting because performance increased in unanticipated ways. No one knew whether the program would work and data showing effects undoubtedly contributed much to the psychology of work performance.

By 1983, however, the program is established and successful which, by definition, means that most workers will reach performance plateaus and output data will be uninspiring if not demoralizing.

While one hesitates to generalize from so little field experience, we derived a sense of pervasive boredom with data, despite the fact that results reported are indicative of a highly successful programme.

We propose "energizing reporting" by changing the content and themes of feedback each month and personalizing the letters that convey messages. Data base software and word processors can be used for that purpose. The objective would be to convey to the field a sense that data are used, interpreted, and appreciated and that much is to be examined other than the prevalence rate.

To do this data sets would be specified in a meeting of Bureau Chiefs. For example, one such data set might be a time series in PUS with the group agreeing on a set of paragraphs to be placed in a set of letters to be written to regency staff. Composition of letters would be conditional results of an analysis of data. For example, if the computer tabulates a declining PUS rate the letter would question this trend. Alternatively a sudden jump in the number of PUS would generate a letter with a query regarding the causes, etc. Each month the data base would be used to generate the Figure 17 "matrix of the month" each providing information required for generating specialized letters. Codes in the matrix would flag a paragraph which the word processor would type for the regency being studied. Analyses and paragraphs would be changed each month so that a specific theme or series of themes would be addressed in a covering letter that accompanies the usual output data tables. Thus, as Figure 17 is suited to statistical analysis, its data can be used to communicate

themes of central importance to the field. We therefore recommend testing this idea with a small data base and a word processor, limiting the exercise to one province or part of a province.

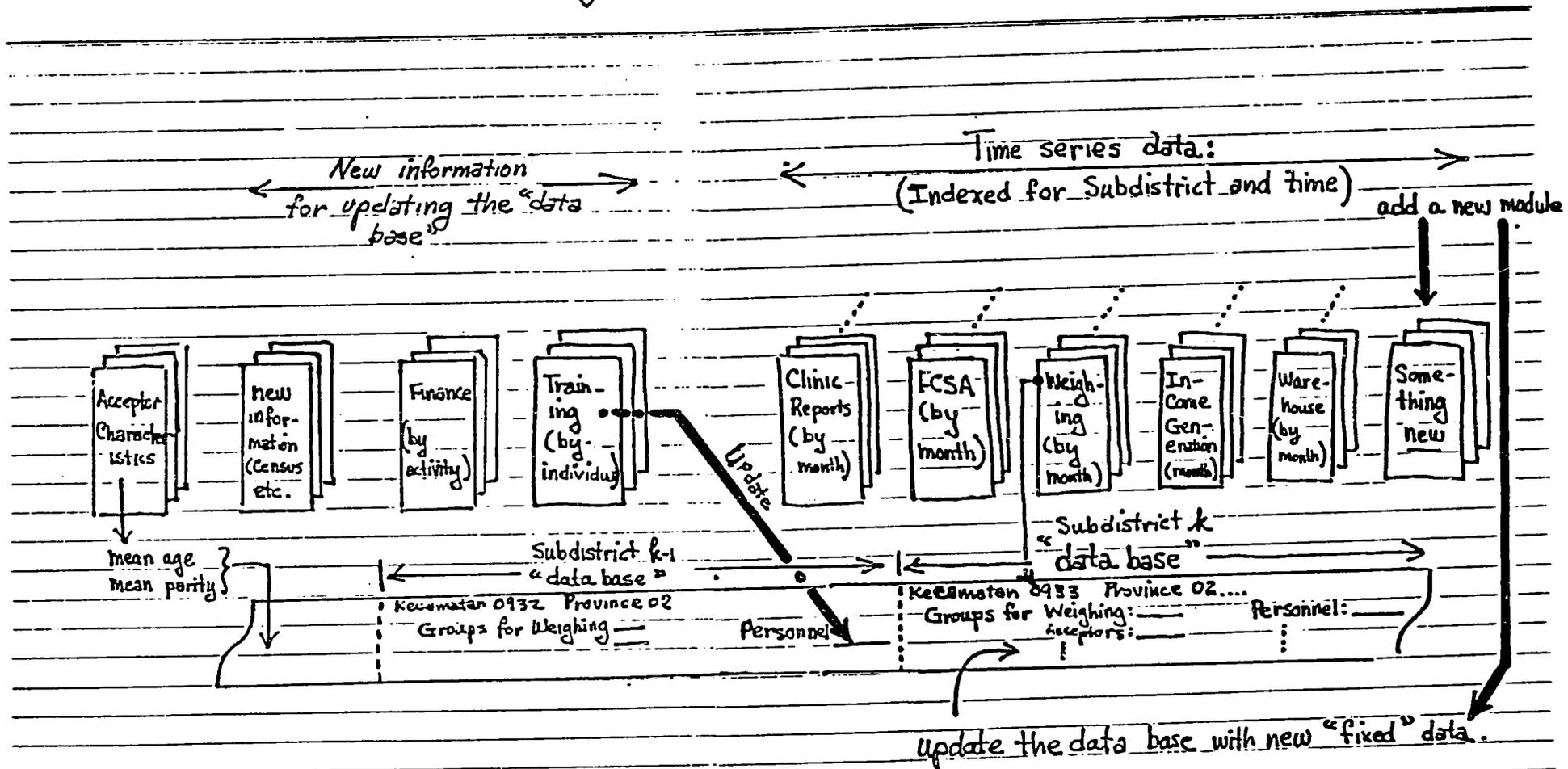
We also recommend caution in the targeting of such letters. Letters going from the central office to the regency would by-pass the Province and possibly weaken management control by creating a spurious sense of central authority. Processed letters should always be targeted at a higher level than the work unit affected, so that supervisors have material to strengthen their role and not a sense that their authority is coopted. Such letters should also invite narrative responses and meetings in order to breakdown mechanistic uses of data. Finally, the introduction of such a scheme should augment, not replace, the routine tabular reports.

4. Option C: What is it?

Figure 19 depicts the Option C data base system. INFOS as a utility can work back and forth between indexed time series files (shown on the right). New modules can be added so long as the key to the data base or other requisite data sets exist. This is illustrated in Figure 19 by a new time series. The advantage to the system is that data now collected repeatedly can be placed once and only once on a single module with the keys to the data base to be accessed as needed. Information that alters the subdistrict data base on an ad hoc basis are shown on the left. Thus training is indexed by

Figure 19: Single Level Indexed File : Option C

-151-



subdistrict so that personnel histories are updated whenever training occurs. Anything new embodied in an update is added to data for only relevant subdistricts. For example, areas with no change in the number of weighing groups are ignored by updating procedures.

A useful product of the data base could be a nicely formatted register that is printed annually for each kacamatan to provide basic information on the locality. Thus 3300 summary "registers" would go to the field for reference purposes each with one or two pages of summary information. Similarly, a regency register could be designed. With each print of the register there could be a copy provided for field staff to enter corrections and updates. Moreover, annual planning data could be collected at the time of register printing, since blanks and queries required for planning would be filled and completed for updating the data base.

Thus, for Option C to work three types of data are needed:

1) The data base or subdistrict register, 2) time series data for linkage to the data base, and 3) updating forms and procedures for changing the data base as the need arises.

Nearly all of the requisite data exist, but a system of storage is needed. Option C, in summary, is simply a different mode of storage of data that would be collected under options A or B. We therefore recommend consideration of "low tech" options A or B now and careful

preparation for eventual implementation of Option C.

5. Recommendations

Section III is intended to present ideas for discussion and review. Great flexibility and analytical power is embodied in data already collected. Since the subdistrict code appears on nearly every data set, the major problems of moving to a data base are already solved. The central register or "data base" does not exist, but much of the requisite data are already collected. We therefore recommend the following:

a. There should be a formal review of the option shifting routine processing to the provinces and using the central facility for data base applications. Option C is a mainframe system, but decentralized entry and feedback (Options A or B) could be Provincial operations. Thus, instead of having paper flow into Jakarta, the forms would flow to Provincial Headquarters. Entered data would go to diskette in the Province for routine processing and copied for sending to Jakarta where data are linked to the data base. Data base update forms would come directly to Jakarta, but time series data processing would be decentralized. Much could be learned by experimenting with this procedure in one province.

b. Computer staff should be trained in data base management.

The INFOS utility should be adequate.

c. Experimentation with a system of "special letters" should be developed. The data base capabilities and word processors can be combined to elicit letters for regencies in response to findings from kecamatan level data analyses.

d. Each Bureau of BKKBN should be assessing their particular high priority operations research questions. These questions, in turn, can lead to analysis plans. Analysis plans, in turn, are essential to effectively designing a data base system.

e. The Data General Corporation claims that indexed data (as shown in Figure 19) can be assessed readily by working through keys to the data base as illustrated above. We have not rigorously reviewed INFOS itself, but documentation suggests that by specifying the content of a workfile (Figure 17) it is a simple matter to work through the data base and requisite linked files to build the requisite matrix. Documents reviewed were sales and users guides, not technical manuals. Sales documents are obviously an inappropriate source of information about software system limitations. The INFOS facility therefore bears careful review by a data base expert. In general, we should aim to simplify data management, not opt for high technology that takes years to implement.

f. There should be a systematic review of available "fixed data"
on subdistricts and the problems of accessing and merging them into a
data base. This would result in a preliminary register that can be
enriched over time as new kecamatan data emerge from the census or
BKKBN sources.

PART IV

ALTERNATIVE DATA SYSTEMS

A. INTRODUCTION

The data systems discussed in this report are routinely collected centrally processed data which are intended to monitor inputs operations and outputs for all service units in the population. Comprehensive coverage has the advantage of providing operational data for the total system. Central service statistics systems have certain limitations and dysfunctions.

- They can overly centralize decision making unless strategies are developed to insure that data support middle level managers.

- The data collection can distract workers from service work, preoccupy supervisors with clerical work.

- The content of routinely collected information must be simple. However, greater sophistication is often needed than is possible when data are routinely compiled.

- The BKKBN data systems are very large and thus unwieldy to improve and modify.

- Service statistics systems are expensive to maintain.

- Using data collected by service providers to gage their efficacy is problematic. Since bias is inherent in the approach, there is a continuing need to know the extent of bias in order to interpret the data.

- The measurement of the amount of service usually misses the need to know about exchanges between people. A worker makes a motivational visit but the client may not view it as such, and impact depends upon client behavior. A given supervisory visit reported in the recording system may not represent supervision at all. Monitoring supervisory exchanges within the system, however, requires careful data collection, participant observation, and other techniques that are not suited to large scale continuous monitoring systems.

To avoid the limitations of service statistics systems we recommend a system of special studies for specific operational needs. Our recommendations are as follows:

a. Survey data are used to check on service statistics. But, since the surveys typically take several years to process feedback contributes little to enhancing data quality. What is needed is rapid feedback on data quality to supervisors who can act on specific problems. Moreover, data are needed on issues not conveniently addressed by service statistics.

b. Much BKKBN staff time is now addressed to adding and recapitulation of tables. Regency staff, in particular, add and compile data from subdistricts which they subsequently check against Provincial data. This labor is typically occupying at least one person full time at the Regency level, labor that is, in our opinion better invested in field assessment for data quality control.

c. Very little operations research is taking place to answer questions about why the system is functioning or not functioning. Thus many studies are published on villagers and demographics, but none to our knowledge on the characteristics and ability of VCDC, Field Workers, etc. Small studies on operations might contribute indirectly to data quality by guiding strategies for improving the information collection process.

d. Regency level data on the quality of data is much needed. We did not observe that rigorous routine data assessment activities were in place.

In short, rapid feedback on data quality is needed, manpower now used for recapitulation could be diverted for this work, special studies are also needed, and data feedback to workers should address quality as well as routine outputs.

B. MULTIROUND SURVEY

In the past several years important innovations in survey research have been developed in Indonesia. If data linkage capabilities are developed as suggested in Section III, a limited amount of linkage can be extended to routine assessment of data. Some 350 workers now on the regency

staff could be reassigned to provincial positions and posted to the regency to collect sample data for merging with routine data. Samples would be small, but over three months a tabulation would provide matched data for discussion at regency meetings. Over a year samples might be sufficient for analysis. Discussions would violate statistical independence and weaken analysis, but the purpose would be administrative -- to generate mechanisms leading to regular discussions of data quality.

We propose fielding a short survey on current use or a sample validation of VCDC registers for hand tabulating at first, and perhaps computerized. Once instituted the system could examine exchanges -- that is interview clients about activities BKKBN personnel report as taking place (meetings, door to door visits, etc.). It should focus on the FCSEA data at first and occupy the time of no more than one worker per regency. The sampling system would be predesigned and based on existing census data. Thus, if there are 4-5 interviews a day or 90 a month, in a quarter there would be some basis for discussion and at the Provincial level to permit much basis for analysis. If only one worker is used, the regency as a whole is the unit of evaluation, although, over time the subdistrict data would eventually provide a basis for analysis. It is this type of operation that is best decentralized to Provincial microprocessors.

With time a simple system would be elaborated to include one time only modules on particular issues of national interest. The 350 regencies would naturally be dispersed, affording a high potential for a representative national sample.

This type of research has already been tried in a different context and difficulties were encountered:

1. Workers now desk bound in the regency may not be enthusiastic about posting to the field. This, in turn, may create field administrative problems.

2. By so thoroughly dispersing the staff, Provincial supervision will be diluted. Thus there may be more reason to question the quality of the quality assessment data than the data being evaluated.

3. Regency staff are generally well educated and trained for administrative work. The proposed work routine is boring and somewhat outside of their orientation.

Some administrative mechanism may be needed to rotate this work, but even that creates supervisory problems. Some options for fielding a multi-round survey are:

1. Develop computing with a provincial university. Universities now conduct the modular survey. Installation of a RKKRN microprocessor in one province could be done in partnership with a university. This would insure local technical assistance and lead to a fuller understanding of the technical problems of Provincial level processing.

2. Collaborate on survey field work at first. Universities could collaborate on the first round of the multiround survey, again with all work confined to a single province.

3. Transfer the system to BKKBN and expand it. After routine processing of all data and the multiround survey are functioning on the microprocessor, more processors could be installed elsewhere, once again with the university providing technical assistance in the transfer of the system.

It is obviously too early to recommend decentralization because the development of such a system would differ markedly from the current approach, and we have not had the opportunity to assess capabilities for doing this work at the Provincial level. If processing is decentralized, however, there should be a simultaneous development of a multiround survey addressed to maintaining data quality.

C. CONCLUSIONS

Despite the difficulties of fielding a routine multiround survey, the rationale for data assessment is strong, and further experimentation is warranted. The data in Table 1 indicate that rapid feedback assessment of data are much needed. Otherwise the impressive service achievements of BKKBN will be spuriously reported. The discrepancies between the estimates emanating from the CRS and FCSA are likely to be troublesome, since both systems have problems, and it will not be clear how errors arise. We recommend the following:

1. Diverting staff from unproductive work to data assessment may be an option for BKKBN. This would require reorganization of Provincial staff wherein office workers in the Regency would work on a team of interviewers. Changing the work location, mode of work, and content of work may be impossible. But we estimate that in East Java alone 27 workers are working full time on tasks that a microprocessor could do in seconds. Thus installation of equipment for recapitulation of data could create manpower for redeployment staff to the vitally important task of monitoring and improving data quality.

2. Emphasis should be on data management and quality assessment at first, not on more general research issues. That can be added later.

3. The turnaround should be short and samples small. Questionnaires should focus on particular issues or sections of the FCSA and perhaps change quarterly.

4. Feedback of results should be at the regency level with the data quality team assuming responsibility for explaining results and guiding subdistrict supervisors in the improvement of data quality. This would break the monotony of data collection and enhance utilization of results.

As prevalence stabilizes at a high level and pressures mount to further improve performance, data quality will become an increasingly important issue. Since prevalence is high, the absolute margin for error increases. Moreover, expectations of workers may exceed their capacity to deliver. We therefore recommend permanent continuous data flow mechanisms for testing and maintaining data quality.

PART V

STAFF DEVELOPMENT: RECOMMENDATIONS FOR NEW MANPOWER

In this section we propose a general job description for technical staff not yet hired by BKKBN, but nevertheless necessary to implement our recommendations. Priorities are as follows:

1. The BKKBN most urgently needs a computer manager. We recommend that local contracts be awarded, if possible, to cover this need while BKKBN staff are being trained.

A recommended scope of work, terms of reference, and level of qualifications are as follows:

- a. Scope of Work
 - i. General Administrative Control

The computer manager should have direct administrative authority over personnel whose job are totally oriented toward computer applications:

- Data base management specialists,
- senior analyst programmers,
- systems analyst programmers,
- programmers,
- data input specialists, and
- computer operators

The computer manager can have direct authority over data managers, but these personnel are best administered by bureaus. That is each bureau has a specialist who is in charge of maintaining bureau data. Those data managers who are full time on a bureau's activities should be administered by the relevant bureau and coordinated by the data manager. Data managers who maintain several small data sets should report to the computer manager and liaise with bureaus.

ii. Technical Coordination

The computer manager should be the principal authority for policies on issues such as:

- File security procedures and standards,
- internal BKKBN access billing procedures,
- rules of access:
 - priorities on access to equipment,
 - allocation of disk space,
 - rules for timing of access,
- documentation standards for,
 - software development,
 - data set development,
 - data set structure,
 - maintaining a complete set of computer manuals for equipment and commercial software.
- Establishing maintenance agreements and insuring that vendors comply with contractual obligations, and

- Vender liaison on software purchase and installation, contractual software development.

The operation of a computer usually involves several users and coordinating conflicting demands on disk space, running time, terminal access, and access to analysts for software development. A users committee can be formed to inform users of policies and resolve conflicting demands. This should be chaired by the computer manager.

iii. Technical Supervision

- The computer manager insures that the highest standards of software development are maintained: programmers must test programs and insure that software is error free, routines must be efficient, the appropriate languages should be used etc. Setting technical job standards is the computer manager's responsibility.

- The computer manager should establish job allocation procedures and insure that work is being done in an orderly way in support of the general needs of bureaus.

iv. Staff development

- The computer manager should plan the manpower requirements of the facility and have continuous training activities for insuring.....
 - orientation to existing facilities,
 - continuous technical progress of staff at all levels, and

- documented policies on promotion, and maintenance of technical competence.

This may include setting priorities for....

- overseas training,
- special in country courses,
- special courses, and
- recruiting consultants for computer training.

v. Facilities development

The computer manager should advise BKKBN on equipment purchases, decentralization, interfacing equipment, and related issues in close liaison with the users committee and his higher authorities.

He/She should specify UPS standards to protect equipment from power outages and surges.

The Computer Manager should oversee the physical plant and set

- rules of access to areas,
- seating arrangements,
- equipment arrangement, and
- security standards.

vi. External liaison

- Computer manager should coordinate the flow of data to and from other facilities, insure that documentation standards are met, and that institutional agreements on data sharing are abided by.

- Computer manager liaises with other facilities and institutions for provision and installation of software, purchased, supplied free, or obtained at minimal cost.

- The computer manager should assist in solving data transfer problems as they arise.

b. Terms of Reference

The computer manager should be a full time staff member of BKKBN with a senior administrative rank. Interim secondment or contractual arrangements for this purpose must insure full authority. Consultancies, temporary advisors, and the like are not suitable as computer managers, because this position requires full line authority. Consultancies can nevertheless be extremely useful to a computer manager and should encouraged upon his/her recruitment.

c. Educational Qualification/Experience

The computer manager should be a trained computer scientist with a minimum of five years or more of experience in software development, and a general knowledge of hardware and multiple software applications. He/she should have a manifest expertise in documentation and supervision.

A master of science in computer science, computer engineering, or computer management is mandatory. Specialized training in computer management is desirable. Formal training in data base applications is desirable.

2. The BKKBN needs a data base management specialist.

Whether or not this capability can be developed through short term training on the INFOS utility requires formal evaluation by Dr. Tan. Long term training may be needed. A formal job description should be written by Dr. Tan.

3. If accessibility to the computer is improved, BKKBN analytical demands will increase. At least one analyst programmer will be needed to direct technical software development. The BKKBN already has an excellent programming staff. A detailed plan for their training and specialization should be addressed by Dr. Tan's consultancy.

4. The BKKBN computer staff are fully occupied with the current workload. Since they are so essential, they cannot be spared for long term training unless someone covers for them. Some formal evaluation of the workload is therefore needed. The staff development plan must insure that current needs are covered while staff are being trained.

Some consideration should be given to developing a technical assistance agreement with an institution capable of training. AIT in Bangkok, for example, might have an interest in providing backup support for BKKBN while staff are being trained.

PART VI
CONCLUSIONS

In the 1970s the BKKBN established an excellent clinic based programme and a record system that has documented that success over time. The computerized BKKBN record keeping system has since become perhaps the best information system in the region.

Recent changes in the programme, however, require a fundamental change in the concept of data collection and management: systems must be inter-linked to provide multiple applications of data and eliminate redundancy. Batch mode processing of forms on a particular strategy will no longer serve BKKBN's needs. We have made many recommendations but two should be emphasized in closing:

a. Current systems can be scaled down and simplified without loss of information. In the process simple high priority subsystems can be linked to existing data by incorporating information on the revised form. Thus Option B (Figure 10) has a "low tech" strategy for record linkage: place vital information on a common form and process it regularly. To plan the streamlining of the system at all levels the designers of data systems need to ask data users what questions will be answered by collecting the data. Unless data serves a well articulated management or operations research, it should not be collected.

b. The common form strategy (Option B) can be implemented with existing manpower and equipment, but much needed versatility can be achieved with a data base approach (Option C). Changing forms and procedures is exceedingly difficult -- often involving 20,000 or more workers. Thus use of a data base system -- while it is "high tech" and thus suspect -- merits consideration. The data base can be readily modified without changing all the component forms in the system. Moreover, base approach permits very powerful analytical operations and highly versatile management information applications. The BKKBN data sets are thus a potentially powerful resource for research, planning, and management.

We conclude, that the recent service innovations represent data management challenges and prospects. A dynamic service programme requires a correspondingly dynamic and flexible information system.

REFERENCES

- badan Koorđinasi Keluarga Berencana Nasional (BKKBN)
1982 Basic Information on Population and Family Planning Program,
Jakarta: National Family Planning Coordinating Board.
- Elkins, H.
1982 "Recommendations for Evaluation: Indonesia National Family
Planning Coordinating Board (BKKBN)," Report on a
consultation April 12 - May 4, 1982, New York: Center for
Population and Family Health, Columbia University.
- Freedman, R.; Siew-Eam Khoo, and B. Supraptilah
1981 "Contraceptive use in Indonesia: A challenge to conventional
wisdom," International Family Planning Perspectives,
7(1): 3-15.
- Graves, J.L. and M. Glatzer
1983 Personal communications (typewritten and untitled
preliminary manuscript on a May 24 - June consultancy on
logistics).
- Haryono, Suyono; T.H.Reese and R.Repello
"Indonesia's Family Planning Delivery System: A Preliminary
Multivariate Statistical Inquiry," Jakarta: BKKBN
Technical Report Series, Report Number 7.
- Korten, D.C.
1975 "Population Programs 1985: A growing management challenge"
Studies in Family Planning 6, (7): 178-181
- McNicoll, G.; M. Singarimbun
1983 "Fertility Decline in Indonesia: Analysis and Interpretation
Washington, D.C.: National Academy Press Committee on
Population and Demography, Report Number 20.
- Potter, R.G. and J.F.Phillips
1982 "Fitting and extrapolating contraceptive continuative curves
by logit regression," in A.I.Hermalin and B.Entwistle (eds.)
The Role of Surveys in the Analysis of Family Planning
Programs, Liege, Belgium: Ordina Editions.
- Sahn, D.
1983 "Consultancy Report on the Integrated Family Planning and
Nutrition Program," Cambridge, Massachusetts: Management
Sciences for Health (mimeographed).
- Sullivan, J.M.; S.E. Wilson
1982 The 1980 Baseline Round of the East Java Survey: A Final
Report, Chapel Hill, N.C.: International Program of
Laboratories for Population Statistics (POPLAB).
- Usaha Perbaikan Gazi Keluarga
1982 Buku Pegangan Kader, Jakarta: Usaha Perbaikan Gazi Keluarga.

APPENDICES
PERSONS CONTACTED AND EXISTING BKKBN DATA
FORMS AND SYSTEMS

APPENDICES

In the course of the consultancy we reviewed the data forms routinely flowing into the Jakarta BKKBN Office. There is no single manual compiling forms and a description of each data system. This report has not documented data sets, but we have attempted to assemble, in a single document, forms computerized or scheduled for computerization in 1983 as the first step in the preparation of a BKKBN data management manual.

LIST OF APPENDICES

APPENDIX

- A. Persons Contacted by Date of First Contact
- B. Forms of the Clinic Reporting System
- C. Forms for the Field Control and Supervisory Activities System
- D. Forms for the Weighing Groups System
- E. Forms for the Income Generation System,
- F. The Hospital Reporting Forms
- G. Forms for the Logistics and Warehousing Reporting System
- H. The Finance and Accounting System Project Reporting Form
- I. The IEC Mobile Unit Reporting form
- J. The Radio Report Form
- K. The Report on Training
- L. The Personnel Register for BKKBN staff

APPENDIX A

PERSONS CONTACTED
BY
DATE OF FIRST CONTACT

PERSONS CONTACTED

May 30, 1983

Dr. Barnett F. Baron Reg. Representative The Population Council

June 1, 1983

Dr. Richard Sturgis Representative Population Council

Dr. Haryono Suyono Chairman BKKBN

Dr. Peter P. Sumbung Vice Chairman BKKBN

Mr. Sudarmadi Chief, Reporting
& Evaluation Bureau BKKBN

Dr. Soegeng Soepari Deputy for Supervision
& Control Prog. BKKBN

Mr. Mazwar Noerdin Div. Chief Research
& Program Evaluation
Bureau

Mr. Tohir Diman Processing & Collection
Division BKKBN
Chief, Research &
Program Evaluation
Bureau

Mr. Sami Aqjis Staff (REB) BKKBN

Mr. Soetedjo
Mulhodihardjo Chief, Planning
Bureau BKKBN

June 2, 1983

Mr. David Piet Population Officer USAID

Mr. Charles Johnson Population Officer USAID

Mr. Morrie Blumberg Population Officer USAID

June 3, 1983

Dr. Sunarti Sudomo Chief, Bureau of
Contraceptive BKKBN

Mr. Bambang
Suryopranoto Chief, Bureau Information
and Motivation BKKBN

Dr. Soeyatnie Chief, Bureau of Field
Program Control BKKBN

178

June 4, 1983

Mr. Sardin Pabbadja	Chief, Bureau of Population Data (Librarian)	BKKBN
Dr. Pudjo Rahardjo	Chief, Bureau of Research Program Development	BKKBN
Mr. Sumarsono	Chief, Division of Development of IEC	BKKBN
Mr. Harry Victor Darmokusumo	Chief, Bureau of Program Coordination	BKKBN
Mr. Hartono	Sub Division Collecting and Processing	BKKBN
Mr. William Fuller	Mission Director.	USAID
Dr. Thomas D'Agnes	Consultant	USAID/BKKBN
Mr. Bar Suharto	Bureau Reporting & Evaluation Division for Administration and Documentation	BKKBN
Dr. E.G.P. Haran	Associate	The Population Council

June 3 - 5, 1983

Mrs. Nancy Piet Mr. Joyce Lyons	Consultant Consultant	BKKBN Management Sciences for Health University of Hawaii
Dr. Emmanuel Voulugarapoles	Professor, School of Public Health	
Dr. Jeremiah M. Sullivan	Deputy Project Director, Demographic Data Development	Westinghouse Health Systems
Mr. Benjamin D. De Leon	Executive	ASEAN Population Coordination Unit
Dr. Peter Fajans	Consultant	UNICEF

June 6, 1983

Dr. M. Pangestuhadi	Chief	BKKBN, E. Java
Mr. Amiril	Chief of Section for Reporting & Evaluation	BKKBN, E. Java
Mr. Suharjito	Chief, Division of Administration	BKKBN, E. Java

Mr. Kuslan	Chief, Planning, Reporting and Evaluation Division .	BKKBN, E. Java
Mr. Abimanyu	Chief, Section of Planning and Supervision	BKKBN, E. Java
<u>June 8, 1983</u>		
Mrs. Sayemiati	Family Planning Field Worker	BKKBN, Mojokerto Regency
Mrs. Amri	Volunteer	BKKBN, Jetis Sub- district, Mojokerto
Mr. Yan Suatma	Subdistrict Supervisor	Jetis Subdistrict Mojokerto
Mrs. Leny Wuisan	PKK Organizer/Volunteer	Jetis Village
Mr. Maksum	Village Chief	Karang Kuten Village, Mojokerto
Miss Sri Setiati	Subdistrict Supervisor	BKKBN, Karang Kuten
Mr. Joko	Field Control, Chief Sub Section	Mojokerto Regency BKKBN
Mrs. Siti Maryam	Chairman, Weighing Group	Karang Kuten Village
Mrs. Suhartati	Chief, Section for Population	BKKBN, Surabaya
Miss. Punky	Staff, Section for Population	BKKBN, Surabaya
Mr. Payaku	Chief, Field Control Section Division for Family Planning	BKKBN, Surabaya
Mr. Syamsul Aerif	Chief of Division for Family Planning	BKKBN, Surabaya

June 9, 1983

Mr. Abdul Hakim	Chief, Provincial BKKBN	BKKBN, S. Sulawesi
Mr. Yusuf Ibrahim	Chief, Section Reporting and Evaluation	BKKBN, S. Sulawesi
Mr. Arsyad Pudji	Chief of Training	BKKBN, S. Sulawesi

Dr. Rudi Henrawidjaya	Chief of Supervision Div.	BKKBN, S. Sulawesi
Mrs. Sumiati Karate	Chief of Administrative Division	BKKBN, S. Sulawesi

June 10, 1983

Dra. Esther Amiruddin	Chief	BKKBN, Takalar
Mr. Muhajir	Chief, Section for Field Operational Control	BKKBN, Takalar
Mr. Jacob	Subsection for Planning and Evaluation	BKKBN, Takalar

June 14, 1983

Dr. W. Henry Mosley	Program Officer	Ford Foundation
---------------------	-----------------	-----------------

June 15, 1983

Mr. Jack L. Graves	Logistic Consultant	Center for Disease Control, Atlanta USA
Mr. Maurice Glatzer	Logistic Consultant	Center for Disease Control

June 17, 1983

Dr. Ann Evans	Associate Health Specialist	Westinghouse Health Systems
Ir. Hosea S. Tanutama	Systems Engineering Manager	PT Infodata Indonesia (Data General)
Dr. Tan Soei Tien	Computer Consultant	BKKBN, Jakarta

June 20, 1983

Ms. Kazuko Kano	Coordinator	UNFPA
-----------------	-------------	-------

June 21, 1983

Mrs. Haryono	Bureau of Logistics	BKKBN, Jakarta
Drs. Sudibyo Alimoso	Bureau of Research and Program Development	BKKBN, Jakarta

181

June 23, 1983

Dra. Ety Yunus	Advisor to the Chairman	BKKBN, Jakarta
Drs. Sunyoto	Chief, Bureau of Logistics	BKKBN, Jakarta
Mr. Anton Kurnia	Program Officer	UNFPA

APPENDIX B

FORMS OF THE CLINIC REPORTING SYSTEM

**NATIONAL FAMILY PLANNING PROGRAM
MONTHLY REPORT**

481

F/II/KB/78

Name of FP Clinic :
 Address :
 Name of Sub District :
 Clinic Status : 1.Ministry Health. 2.Arm Forces 3.Others Govern Inst 4.Private

Clinic Code Number :
 Sub District Code number :
 Month :

A. CONTRACEPTIVE SERVICES

1. Service Frequency --- times
 1. Clinic open this month --- times
 2. MMT frequency this month --- times

II. New Acceptor.

Contraceptive Method	FP Clinic/Hospital	Mobile Medical Team	Physician/Midwife Private Practice	Other	Total
1.IUD					
2.Oral Pill					
3.Condoom					
4.Vaginal Tablet					
5.Male Sterilization					
6.Female Sterilization					
7.Injectable					
Total					

III. Revisit (times)

Contraceptive Method	FP.Clinic/Hospital	Mobile Medical Team	Total
1.IUD			
2.Oral Pill			
3.Condoom			
4.Vaginal Tablet			
5.Male Sterilization			
6.Female Sterilization			
7.Injectable			
Total			

IV. Complaint and Referral (Cases)

Contraceptive Method	Complaint	Referral
1.IUD		
2.Oral Pill		
3.Male Sterilization		
4.Female Sterilization		
5.Injectable		
Total		

V. Contraceptive Dispensed (New and Resupply)

Contraceptive Method	FP Clinic/Hospital	Mobile Medical Team	Village Channels	Physician/Midwife Private Practice	Other	Total
1.IUD, each						
2.Oral Pill, strip						
3.Condoom, dozen						
4.Vaginal Tablet, tube						
5.Injectable, flacon 3cc						

B. Contraceptive stock:

Contraceptive Method	Stock balance of the previous month	Received this month	Distributed this month	Stock balance of the reporting month
1.IUD size B (No.4) each				
2. size C (No.3) each				
size D (No.2) each				
2.Oral Pill, strip				
3.Condoom, dozen				
4.Vaginal tablet, tube				
5.Injectable, flacon 3 cc				

C. Reactive Acceptor

Contraceptive Method	Total
1.IUD	
2.Pill	
3.Condoom	
4.Vaginal Tablet	
5.Injectable	
Total	

D. Note

Note : This report should be sent no later than the fifth day after the reporting month.

..... 19

Clinic leader

(.....)

APPENDIX B

FIGURE 1

APPENDIX B - FIGURE 2

F/IIA/KB/78

NFPCS

CONTRACEPTIVE METHOD SWITCH REPORT

CLINIC CODE NUMBER

CARD SERIAL NUMBER

DATE

CONTRACEPTIVE METHOD SWITCH

from

to

1. I.U.D.
2. Oral Pill
3. Condom
4. Vaginal Tablet
5. Male Sterilization
6. Female Sterilization
7. Injectable

185

APPENDIX B FIGURE 3

K/O/KB/73

NATIONAL FAMILY PLANNING PROGRAM

Registration Card
Family Planning Clinic

Sub District Code No. Clinic code No.

Province Regency/Municipality.....

I. Clinic Status : 1. Ministry of Health 3. Other Govt Agency
2. Armed Forces 4. Private

II. Implementor : Name of Sponsoring Agency
Address :

III. Name and Address of Clinic :

IV. Date Registered : Day Month Year

V. Date Officially Established : Day Month Year

VI. Type of Clinic : 1. Simple 2. Complete

VII. Combined With : 1. MCH Clinic 4. Hospital
2. Public Health Center 5. None
3. Maternity Clinic 6. Other

Service Sessions :

VIII. Name of Clinic Officer in Charge :
Specialty : Doctor/Midwife/Other *

IX. Total Personnel and Family Planning Training Status : 1. Doctor persons: trained persons
2. Midwife persons: trained persons
3. Asst. Midwife persons: trained persons
4. Admin. Staff persons: trained persons
5. Field worker persons: trained persons

X. Clinic Physical Status : 1. Rehabilitated : yes/no *
2. Has family planning sign board : yes/no *
3. Has toilet facilities : yes/no *

XI. Available Equipment : 1. Examining Table ea
2. medical Kit ea
3. Drug Cabinet ea
4. Instrument Stand ea
5. Waiting Benches ea
6. Writing Table ea
7. Posters and Model types

* circle as appropriate

..... 19...
Clinic Officer in Charge

(.....)

APPENDIX B - FIGURE 4

NATIONAL FAMILY PLANNING COORDINATING BOARD
PERSONNEL DATA CARD

K/Co/KB/78

PROVINCE :
REGENCY :

PERSONNEL NO. :

1. Name	:	
2. Sex	:	1 <input type="checkbox"/> Male 2 <input type="checkbox"/> Female
3. Date of Birth	:	
4. Marital Status	:	1 <input type="checkbox"/> Married 2 <input type="checkbox"/> Unmarried 3 <input type="checkbox"/> Widow 4 <input type="checkbox"/> Widower
5. Personnel Qualification	:	1 <input type="checkbox"/> Doctor 4 <input type="checkbox"/> Staff 2 <input type="checkbox"/> Midwife 5 <input type="checkbox"/> 3 <input type="checkbox"/> Asst. Midwife
6. Personnel Status	:	1 <input type="checkbox"/> Govern. Official 2 <input type="checkbox"/> Honorarir 3 <input type="checkbox"/> Official
7. Name and address of FP Clinic	:	
		Clinic Code Number <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
8. Work at this Clinic	:	1 <input type="checkbox"/> Less than 1 year 2 <input type="checkbox"/> 1 year - 2 year 3 <input type="checkbox"/> 2 year - 3 year 4 <input type="checkbox"/> 3 year - 4 year 5 <input type="checkbox"/> more than 4 year
9. Highest education level	:	1 <input type="checkbox"/> Elementary school 2 <input type="checkbox"/> Primary High school 3 <input type="checkbox"/> Secondary High school 4 <input type="checkbox"/> Academy/University
10. Frequency attending the FP Program Training	:	1 <input type="checkbox"/> Never 2 <input type="checkbox"/> Once 3 <input type="checkbox"/> Two Times 4 <input type="checkbox"/> Three times 5 <input type="checkbox"/> More than three times
11. Training Categories Attended	:	1 2 3 4 5

..... 18
FP Clinic Manager ,

(.....)

187

Best Available Document

APPENDIX B FIGURE 5a

ENGLISH LANGUAGE VERSION, CLINIC ACCEPTOR CARD

Figure 4

Serial Acceptor Number

K/IV/KB/73

Acceptor Card

NATIONAL FAMILY PLANNING PROGRAM
Acceptor Card

- I. Clinic Code Number 1..
- II. Serial Acceptor Number
- III. Age of Acceptor
- IV. Religion of Acceptor
1.Moslem 2.Catholic 3.Christian 4.Hindu
5.Buddhist 6.Other
- V. Education of Acceptor :
1.Illiterate 2.Read Roman Script 3.Finished
Elementary School 4.Finished Junior High School
5.Finished Senior High School 6.Finished University
- VI. Occupation of Acceptor's Husband
1.Government employe 2.private employe 3.Army
4.Navy 5.Air Force 6.Police 7.Retired 8.Tradesman
9.Fisherman 10.Farmer 11.Day Laborer 12.Not Working
13.Don't know.
- VII. Education of Acceptor's Husband :
1.Illiterate 2.Read Roman Script 3.Finished Elementary
School 4.Finished Junior High School 5.Finished Senior
High School 6.Finished University
- VIII. Case with referral card (K/III/KB) :
1.Yes 2.No
- IX. Referral Source.
1.Relatives/friends 2.Other Acceptor 3.Health Worker
4.FP Fieldworker 5.Indigenous midwife 6.Self referred
7.Other
- X. 1.Total sons living
2.Total daughter living
3.Total children born, who subsequently died
- XI. How many additional children desired :
0.None 1.One 2.Two 3.Three 4.Four 5 Five 6.More than five
7."No determined by me" 8.Don't know.
- XII. Total months between last delivery/abortion and accepting
family planning method (if never pregnant, use code 00)
- XIII. If ever practiced family planning indicate what method used :
1.Pill 2.IUD 3.Condom 4.Vaginal cream/tablet 5.Other 6.Never
- XIV. Type of acceptor :
1.Nev 2.Postpartum/spontaneous abortion and previously has prac
ticed family planning 3.Changed clinic and changed method
4.Changed clinic, same method
- XV. Method given this visit
1.Pill 2.IUD 3.Condom 4.Vaginal cream/tablet 5.Vasectomy
6.Tubal ligation 7.Injection
- XVI. Method provided on (date)
- XVII. Only for postpartum in hospital
New acceptor group : 1.Immediate 2.Direct 3.Indirect

- I. Date of visit
- Name of Acceptor
- Name of husband
- Address
- (For Armed Forces)rank..... Unit
- II. General Condition
- Last Menstrual Period
- Blood pressure
- Weight

- III. To be filled before giving pill, ask and notice the following :
- | | Yes | No |
|------------------------------------|-----|----|
| 1.Blood pressure more than 150/100 | | |
| 2.Skin or eyes appear yellowish | | |
| 3.Lump in breast | | |
| 4.Swollen or throbbing varices | | |
| 5.Heavy or frequent menses | | |
| 6.Difficulty breathing | | |
| 7.Frequent headache | | |

Explanation :

- a.Put X mark in proper column
- b.For question 1-4 also conduct examination
- c.If all answers are "No" patient can be given pill by midwife
- d.If there is a "Yes" answer patient should be examined by a physician before providing pill

- IV. Internal Examination
 - Position of Uterus Retro/anteflexi
 - 1.Sign of frequency
 - 2.Sign of inflammation
 - 3.Tumor
- | | Yes | No |
|----|-----|----|
| 1. | | |
| 2. | | |
| 3. | | |

Explanation

- a.Put X mark in proper column
- b.If all answers are "NO" IUD may be inserted

- V. Contraceptive given :
- 1.Pill Totalstrips
- 2.IUD Type Difficulty in insertion
- 3.Condom 4.Vaginal tablet/cream
- 5.Vasectomy 6.Tubal ligation
- 7.Injection

- VI. Return visit
- VII. Additional remarks

Signature
(.....)

18

181

K/IV/KB/78

- I. Nomor Kode Klinik : (Stays in Clinic)
- II. Nomor seri kartu :
- III. Umur akseptor (tahun) :
- IV. Agama akseptor :
1. Islam, 2. Katholik, 3. Kristen, 4. Hindu, 5. Budha, 6. Lain-lain.
- V. Pendidikan akseptor :
1. Buta huruf, 2. Baca latin, 3. Tamat SD, 4. Tamat SLP, 5. Tamat SLA, 6. Tamat Perguruan Tinggi.
- VI. Pekerjaan suami akseptor :
01. Peg. Neg., 02. Peg. Swasta, 03. AD, 04. AL, 05. AU, 06. POL, 07. Pensiun, 08. Pedagang, 09. Nelayan, 10. Petani, 11. Pekerja lepas, 12. Tidak bekerja, 13. Tidak tahu.
- VII. Pendidikan suami akseptor :
1. Buta huruf, 2. Baca latin, 3. Tamat SD, 4. Tamat SLP, 5. Tamat SLA, 6. Tamat Perguruan Tinggi.
- VIII. Datang membawa kartu pengantar (K/III/KB) :
1. Ya, 2. Tidak.
- IX. Datang atas petunjuk :
1. Keluarga/teman, 2. Akseptor lain, 3. Tenaga Kesehatan, 4. PLKB, 5. Dukun, 6. Sendiri, 7. Lain-lain.
- X. 1. Jumlah anak laki-laki hidup.
2. Jumlah anak perempuan hidup.
3. Jumlah anak yang lahir hidup kemudian meninggal.
- XI. Berapa jumlah anak yang diinginkan lagi :
0. Tidak, 1. Satu, 2. Dua, 3. Tiga, 4. Empat, 5. Lima, 6. Lebih dari lima, 7. Terserah, 8. Tidak tahu.
- XII. Berapa bulan antara persalinan/keguguran terakhir dan pemberian cara KB (Kalau belum pernah hamil beri kode OO).
- XIII. Jika pernah memakai cara Keluarga Berencana sebutkan cara yang terakhir :
1. Pil, 2. I.U.D., 3. Kondom, 4. Obat-obat vaginal, 5. Lain-lain, 6. Belum pernah.
- XIV. Macam akseptor :
1. Baru, 2. Sesudah bersalin/keguguran dan sebelumnya sudah pernah pakai cara KB, 3. Ganti klinik ganti cara, 4. Ganti klinik cara sama.
- XV. Cara yang dilayani pada kunjungan ini :
1. Pil, 2. I.U.D., 3. Kondom, 4. Obat-obat vaginal, 5. Medis operatif pria, 6. Medis operatif wanita, 7. Suntikan.
- XVI. Cara tersebut dilayani tanggal :
- XVII. Hanya untuk post partum di rumah sakit.
Gol. akseptor baru : 1. Dini, 2. Langsung, 3. Tidak langsung.

(Sent to Computer)

I.

II.

III.

IV.

V.

VI.

VII.

VIII.

IX.

X.

XI.

XII.

XIII.

XIV.

XV.

XVI.

XVII.

Lembar ini dikirim ke BKKBN Pusat

PROGRAM KELUARGA BERENCANA NASIONAL
Kartu Akseptor.

--	--	--	--	--	--	--	--

Nomor Seri Kartu

- I. Tanggal datang pertama kali :
- Nama akseptor :
- Nama suami :
- Alamat rumah :

(Untuk ABRI) pangkat : Kesatuan:

- II. Keadaan umum : Haid terakhir tgl.:
- Tekanan darah : Berat badan :

III. Diisi sebelum memberikan pil

Tanyakan dan perhatikan hal-hal berikut :

	Ya	Tidak
1. Tekanan darah lebih dari 150/100		
2. Kulit atau mata kelihatan kuning		
3. Terasa benjolan dalam buah dada		
4. Terasa bengkak, nyeri dan varices pada kaki		
5. Haid keluar lebih banyak atau sering dari biasa		
6. Lemas sesak nafas		
7. Sering sakit kepala		

- Penjelasan :
a. Beri tanda X dalam kolom yang sesuai.
b. Dalam hal 1 - 4 juga dilakukan pemeriksaan.
c. Bila semua jawaban "Tidak", ibu boleh diberi pil oleh bidan.
d. Bila salah satu hal tersebut di atas "Ya", ibu harus diperiksa oleh dokter dahulu sebelum diberikan pil.

IV. Pemeriksaan dalam :

Posisi rahim : Retro/anteфлекси

	Ya	Tidak
1. Tanda-tanda kehamilan		
2. Tanda-tanda radang		
3. Tumor		

- Penjelasan :
a. Beri tanda X dalam kolom yang sesuai.
b. Jika semuanya "Tidak", baru boleh dipasang I.U.D.

- V. Kontrasepsi yang diberikan :
1. Pil Jumlah Strip.
2. I.U.D. Type Kesulitan inseri ada
tidak ada
3. Kondom 4. Tablet vaginal 5. Medis operatif pria
6. Medis operatif wanita 7. Suntikan

VI. Dipesan kembali tanggal :

VII. Keterangan tambahan :

Tanda tangan

(.....)

APPENDIX B - FIGURE 8

DATA KB DILUAR LAPORAN FII/KB

BAGIAN BULAN: 19

K.K.B.: Kegiatan: TMK : buah
 Freq: kali

I. Akseptor Baru & Kunjungan Ulangan di Pos Klinik

Macam Akseptor	Akseptor Baru	Kunjungan Ulangan
I U D
Pill
Kondom/Vag.Tab.
Suntikan

II. Jumlah Konversi

Dari	Ke	IUD	Pill	KDM/VT	MO	Suntikan	Jumlah
I U D							
Pill							
Kondom							
Vag.Tab.							
Suntikan							

192

III. Jumlah Akseptor yang berhenti

Macam Akseptor	Hamil	Ingin anak	Alasan medis	Meno pause	Mati	Pindah	Lain2	Jumlah
IUD								
Pill								
KDM/VT								
Suntikan								
Jumlah								

IV. Pelayanan terpadu KIA / KB

Di KKB : orang ibu
 Di Pos/TMA : orang ibu
 Di Kunjungan rumah : orang ibu

V. Pelayanan oleh PKPD

Macam akseptor	Jumlah orang	Pemberian kontrasepsi
Pill	. . . . . orang	. . . . . cycle
Kondom	. . . . . orang	. . . . . dosin

VI. Jumlah kasus keluhan/komplikasi/efek sampingan

Macam Kasus	Macam akseptor		Rujukan	
	IUD	Pil/Suntikan	IUD	Pill
1. Perdarahan				
2. Expulsion				
3. Erosis				
4. Fluor albus				
5. Amenorrhoe				
6. Nyeri perut				
7. Perforasi				
8. Spotting				
9. Perubahan B.B.				
10. Perubahan Tensie				
11. Mual/muntah				
12. Lain-lain				
J U M L A H				

VII. Biaya komplikasi :

SPJ yang diajukan :
 Keuangan yang diterima : Rp untuk SPJ

VIII. Peralatan yang dipunyai

Macam peralatan	Jumlah	Keadaan		Keterangan
		Baik	Rusak	
Medical kit
Timbangan
Tensimeter
Meja periksa
Sepeda motor
Sepeda
.

IX. Permasalahan/Usul pemecahan/saran :

.

X. Kegiatan lain yang perlu dilaksanakan :

.

. tgl
 Pemimpin Klinik

APPENDIX B

FIGURE 9

Estimation of Prevalence Used
in Family Planning Service Statistics ¹

Prevalence refers to number of current users of contraception. For this purpose we estimate the sum of the following methods:

1. Number of pill users = $12/13$ times the number of pill cycles dispensed (to allow for the fact that the menstrual cycle is less than a month)
2. Number of condom users = two times the number of condom units distributed (one unit = dozen) (this assumes an average need of six/month).
3. Number of injectable users = total number of injections during the last three months

1 Source: BKKBN, Reporting and Evaluation Bureau

4. Number of female sterilization users = total number of female sterilization acceptors ever reported during the last 7 years. In this number are included acceptors who reported switching from other methods to sterilization (the 7 years assumption allows for the fact that the median age of acceptors is 38 years).

5. Number of male sterilization users = total number of male sterilization acceptors ever reported during the 7 years. In this number are included acceptors who reported switching from other methods to sterilization.

6. Number of IUD users = number of IUD users estimated in the last month times the one month continuation (derived from equation $CCR_m = a (CR)^m$ where CCR denotes the cumulative continuation rate, months after acceptance, a is a constant representing the proportion not immediately representing the proportion not immediately dropping out, and CR is the average monthly continuation rate. This formula is mathematically equivalent to $R = a e^{-rt}$), plus the number of new IUD acceptors (including of women shifting from other methods to the IUD) in that month times the half month continuation rate.

196

APPENDIX C

FORMS FOR THE FIELD CONTROL
AND SUPERVISORY ACTIVITIES
SYSTEM

APPENDIX C

FIGURE 1

FIELD CONTROL AND SUPERVISION ACTIVITIES

EPJEN

Month 19

Code Number :

Form F/1, Talap/83

Sub District :
 Agency/Municipality :
 Province :

I. Number of Institution Registered and Reporting

No.	Institutions	Target	Completed
1.	Motivational Groups	.....	.....
2.	Field Workers	.....	.....
3.	Clinics	.....	.....
4.	WCU	.....	.....

II. Supervisory Activity

No.	Activity	Frequency
1.	Subdistrict meetings	..... times
2.	Field visits for supervision	..... times
3.	Field visits for the following purposes:	
	A. Approaching village chiefs	..... times
	B. Approaching chief of well-prop.	..... times
	C. Visitation to clinics	..... times
	D. Approaching key leaders	..... times
	E. Approaching other elites	..... times

III. Organization Activities

A. General

No.	Type	Frequency	Number attended	Number of villages visited
1.	Mass - Subdistrict level Individual (one by one)	..... times	.....	.....
2.	Group - Information Ministry - Ministry of religion - Women's group - Subdistrict town - Key leaders - Cadre (village trained leaders)	..... times	.....	.....
3.	Individual visits - Puppet shows, drama, etc - Individual contacts	..... times	.....	.....
4.	Mobile Medical Teams	..... times	.....	.....

B. Field Worker Activities (not WCU)

No.	Type of Activity	Frequency
1.	Home visits to eligible couples (non users)	..... times
2.	Home visits to eligible couples (users)	..... times
3.	Supervisory visits to acceptor groups	..... times
4.	Supervisory visits to WCU/SH WCU	..... times
5.	Supervisory visits to working group	..... times
6.	Supervisory visits to Cadre (health or PG)	..... times
7.	Contribution meetings in the village (specific for service)	..... times
8.	Visits of supervisors to income generating groups	..... times
9.	Supervisory visits to key leaders	..... times
	Total	..... times

IV. Medical Services

A. Clinical Services

No.	Type	Frequency	Achievement
1.	Mobile Medical Team	..... times	.....
2.	Number of clinic days opened	..... times	.....

B. Achievement of Medical Teams and Mobile Medical Units

Performance	Total	ILD	Pill	Condom	Form	Condom	MCP	IMU
- New Acceptors
- Reacceptors
- Current Users

C. Number of Married Women/Couples

1.	Eligible couples	.....
2.	Pregnant women	.....
3.	Not pregnant never users	.....

V. Subdistrict Stock of Contraceptives of the supervisor

A. Stock report

No.	Contraceptive Type	Stock from previous month	Stock distributed this month	Stock received this month	Balance at end of month
1.	IRD Size B Size C Size LD Other type	.....	.....	.....	.....
2.	Pill (cycles)	.....	.....	.....	.....
3.	Condom (dozens)	.....	.....	.....	.....
4.	Vertical tablets, form	.....	.....	.....	.....
5.	Injectable (3 cc)	.....	.....	.....	.....

B. Contraceptive Stock at UN Village Level

No.	Contraceptive Type	Stock from previous month	Stock distributed this month	Stock received this month	Balance at end of month
1.	Pill (cycles)	.....	.....	.....	.....
2.	Condom (dozens)	.....	.....	.....	.....

VI. Financial report

#	Situation	Equation
1.	Stock received from previous month	.....
2.	New funds during month	.....
3.	Stock distributed during month	.....
4.	Balance on hand, end of month	.....

.....
 Supervisor of the P.D. Field Worker

Signature

198

Jawa Tengah
Kab. Pati
Desa Purwodadi

DAFTAR KUNJUNGAN PEMBINAAN PESERTA KB

No. Urut	Nama Suami/Isteri	Alamat	Pertama kali memakai alat kontrasepsi setelah keguguran/persalinan terakhir		Nomor seri kartu akseptor	Hari/tanggal kunjungan	Keadaan pada saat kunjungan								Alasan-alasan/Keterangan ganti cara atau berhenti jadi peserta KB	
			Tanggal	Metode			Masih memakai alat kontrasepsi							tidak memakai alat kontrasepsi		
							P	I	K	OV	MW	MP	S			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1	Pantjo	Dk. Sukasni	1-7-1978	P	0009/78	Kamis, 3-4-80		X								tidak praktis
2	Kahaman	Dk. Suronatan	1-4-1977	I	0017/77	Senin, 7-4-80		X								
3	Heriyanto	Dk. Kranggan	11-5-1977	I	0204/77	Selasa, 22-4-80		X								

- 25 -

APPENDIX C

FIGURE 2

Keterangan:

Alasan ganti cara/berhenti

1. Pendarahan
2. Sering sakit kepala
3. Sering sakit perut
4. Haid keluar lebih banyak
5. Tidak menyenangkan
6. Ingin punya anak lagi
7. Tidak praktis
8. Perasaan enek/muntah-muntah
9. Melahirkan
10. Lain-lain.

APPENDIX C

FIGURE 4

F/1/PLKB/80

LAPORAN BULANAN PLKB / MOTIVATOR KB

Bulan : 19.....

Nama PLKB/Motivator KB :

No.	Kegiatan	T a n g g a l																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
1.	Kunjungan ke rumah calon peserta KB.																																
2.	Kunjungan pembinaan ke rumah peserta KB.																																
3.	Kunjungan / bimbingan kepada Kelompok Akseptor																																
4.	Kunjungan / bimbingan kepada PPKBD / Sub PPKBD																																
5.	Kunjungan kepada kelompok penimbangan balita.																																
6.	Kunjungan / bimbingan kepada kader - kader masyarakat																																
7.	Koordinasi / penyiapan lapangan.																																
8.	Kunjungan / bimbingan kepada kelompok usaha bersama																																
9.	Kunjungan kepada tokoh : tokoh masyarakat																																

..... 19

PLKB/Motivator KB.

201

FIGURE 6

Field Worker's Register of Activities
in Supervising Community Institutions

R/IC/PLK3/80

BUKU KUNJUNGAN PEMBINAAN INSTITUSI

Tanggal Kegiatan	Macam Kegiatan	Catatan-catatan	Tanda tangan	Nama Terang

APPENDIX C

FIGURE 8

Form for the BKKPN Subdistrict Supervisor to
Register Monthly Activities for Recapitulation on the FCSA

REGISTER PENGENDALIAN LAPANGAN

Bulan : 19.....

R/I/DALAP/80.

Kecamatan :

No.	KEGIATAN	TANGGAL																															Jumlah	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
1.	Rapat/Pertemuan																																	
2.	Bimbingan dan Pengawasan																																	
3.	Pendekatan khusus kepada :																																	
	a. Pamong desa																																	
	b. Pengurus PKK/PKW																																	
	c. Petugas Klinik KB																																	
	d. Tokoh-tokoh Masyarakat																																	
	e. Kader-kader masyarakat																																	

205

APPENDIX D
WEIGHING GROUP FORMS

206

FIGURE 1

Charts Used by Mothers to Monitor Growth in the Weighing Programme

DIISI OLEH PETUGAS

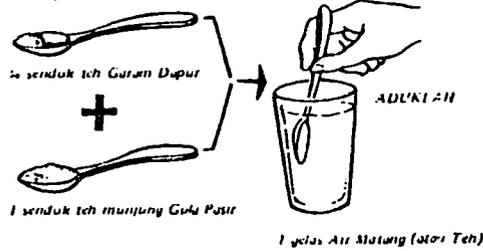
Klinik/Pos Penimbangan		
Tanggal Pendaftaran	No. Pendaftaran	
Nama Anak		
Laki-laki	Anak yang ke	Tanggal Lahir
Perempuan		
Berat Badan Waktu Lahir		gram
Nama Ayah		
Pekerjaan		
Nama Ibu		
Pekerjaan		
Alamat		

DAFTAR ANAK DALAM KELUARGA

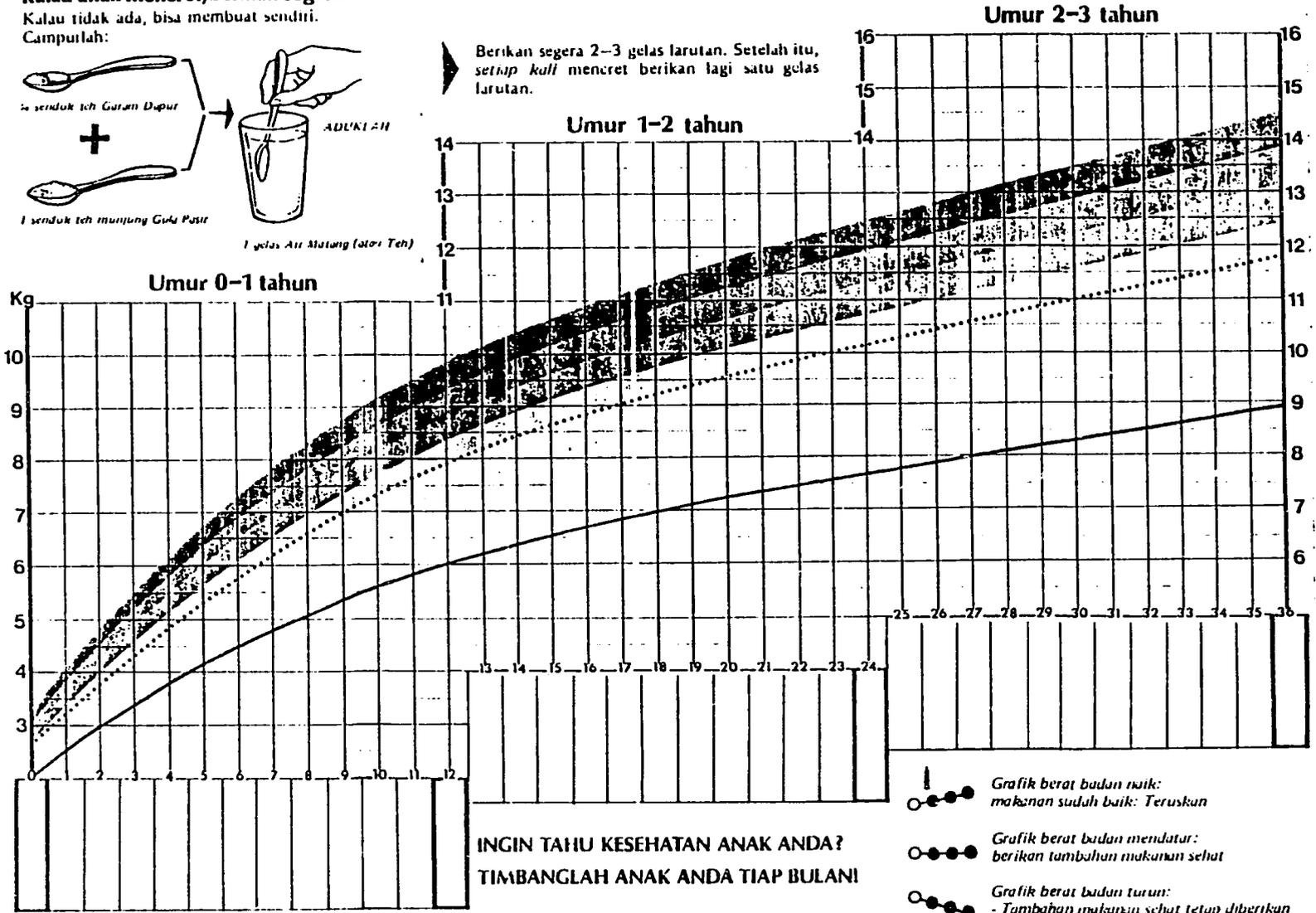
No	Nama	IAK/PI	Umur	Keterangan

Kalau anak mencret, berikan segera ORALIT

Kalau tidak ada, bisa membuat sendiri.
Campurlah:



▶ Berikan segera 2-3 gelas larutan. Setelah itu, setiap kali mencret berikan lagi satu gelas larutan.



INGIN TAHU KESEHATAN ANAK ANDA?
TIMBANGLAH ANAK ANDA TIAP BULANI

Isilah kolom ini dengan berat dan umur anak dalam keluarga. Isilah kolom-kolom berikutnya dengan data bulan dan minggu.

207

APPENDIX C

FIGURE

WEIGHING GROUP MONTHLY REPORT

Month :
 Date of weighing activities this month :

I. GENERAL

- a. Name of weighing group :
- b. Village :
- c. F.P. Field worker/ supervisor of the group :
- d. Total number of population :
- e. Total number of cadres active this month :

II. WEIGHING ACTIVITIES.

- 01. Total number of balitas* in the area this month (S):
- 02. Total number of balitas*) covered by program (K):
- 03. Total number of balitas*) who gain their weight (N):
- 04. Total number of balitas *) who don't gain their weight this month (T):
- 05. Total number of balitas *) weighted this month but were not weighted last month (O):
- 06. Total number of balitas *) who come for first visit (B):
- 07. Total number of balitas *) weighted this month (D):
- 08. Total number of balitas *) who reach the age of 36 months (□);
- 09. Total number of balitas *) at the age of 36 month who weight 11,5 kg or more (L):
- 10. Total number of balitas *) absence this month(02-07)(-):
- 11. Total number of balitas *) under red line this month(△):
- 12. Total number of balitas *) received Vitamin A this month :

III. MATERIAL STOCK

No.	Material	Stock at the end of last month	received this month	dispensed this month	Stock at the end of this month
1.	Weighing card				
2.	Oralit				
3.	Vit.A				
4.	Iron Tablet				

The chairman of weighing group :
 Signature :
 Date of report :

Note :

* balita = children under five years

209

APPENDIX D

THE VILLAGE REPORT ON WEIGHING GROUP ACTIVITIES

MONTH. :

Village :
 Sub District :

I. General

- a. # of total weighing group :
- b. # of weighing group report this month :
- c. # of village population :

II. Weighing Activities

(base on the reports received)

- Total number of population :
- Total number of cadres active this month :
- 01. Total number of balitas *) in the areathis (S) :
 month
- 02. Total number of balitas *) covered by program (K) :
 (balitas *) who have weighing card)
- 03. Total number of balitas *) who gain their weight (M) :
 this month
- 04. Total number of balitas *) who don't gain their (T) :
 weight this month
- 05. Total number of balitas *) weighted this month (O) :
 but were not weight last month
- 06. Total number of balitas *) who come for first (B) :
 visit
- 07. Total number of balitas *) weighted this month (D) :
 this month
- 08. Total number of balitas *) who reach the age of (□) :
 36 months
- 09. Total number of balitas *) at the age of 36 (L) :
 month who weight 11,5 kg or more
- 10. Total number of balitas *) absence this month (-) :
 (02-07)
- 11. Total number of balitas *) under red line this (Δ) :
 month
- 12. Total number of balitas *) received Vitamin A :
 this month

III. MATERIAL STOCK

No.	Material	Stock at the end of last month	received this month	dispensed this month	Stock at the end of this month
1.	Weighing card				
2.	Oralit				
3.	Vit. A				
4.	Iron Tablet				

Note : balita = children under five years
 Village Head,

Village Weighing Activities Coordinator
 Signature,

210

APPENDIX E

FORMS FOR THE INCOME
GENERATION ACTIVITIES

APPENDIX E

FIGURE 1 : ENGLISH LANGUAGE VERSION OF
INCOME GENERATION FORM AS CURRENTLY PROPOSED BY BKKBN

Month Year

Subvillage

Income Group Name :

Village Name :

<p>A. <u>FAMILY PLANNING DATA</u></p> <p>Total current users :</p> <p>IUD Pill Condom Sterilization ... Other</p>	
<p>B. <u>ORGANIZATIONAL</u></p> <p>1. Total members</p> <p>2. Meeting this month? Yes/No Number attending :</p> <p>3. Chairman & Board meeting ? Yes/No</p> <p>4. Number of times visited by BKKBN Staff :</p>	
<p>C. <u>VILLAGE FUNDS</u></p> <p>1. Total cash held by individuals : Rp</p> <p>2. Total cash held by the group : Rp</p> <p>3. Cash received from the group : Rp</p> <p>4. Total group members owing money : Rp</p>	
<p>D. <u>PRODUCTIVE ACTIVITIES</u></p> <p>1. Number using money for productive activities :</p> <p>2. Group existing ? Yes/No.</p>	
<p>E. <u>REMARKS</u></p>	

Date 19

Chairman :

213

APPENDIX E - FIGURE 2

SUBDISTRICT RECAPITULATION OF VILLAGE LEVEL INCOME GENERATING ACTIVITIES

Village :

P U S :

Num-ber	Name of Group	Total Mem-bers	Current Users					Organization			Cash Situation				Productive Activities			
			P I L L	I U D	C O N D O M	S T R R	O T H E R	T O T A L	Mem ber	Meet ing	Board meet-ings	Total Cash with Indi-viduals	Total Cash held by the Group	Cash Rec'd from Group	Total Members owing money	Number Using for Pro-ductive Activi-ties	Collect Product ive Act-ivities	Comment
	Total																	

APPENDIX E
FIGURE 2

214

APPENDIX E - FIGURE 3

RECAPITULATION OF VILLAGE INCOME GENERATING ACTIVITY
FOR SUBDISTRICT REPORTS TO THE REGENCY AND JAKARTA BKKBN OFFICES (COMPUTERIZED)

Total Ru5 _____
 Subdistrict _____
 Regency _____
 Province _____

Subdistrict Code

Month: _____ Year: _____

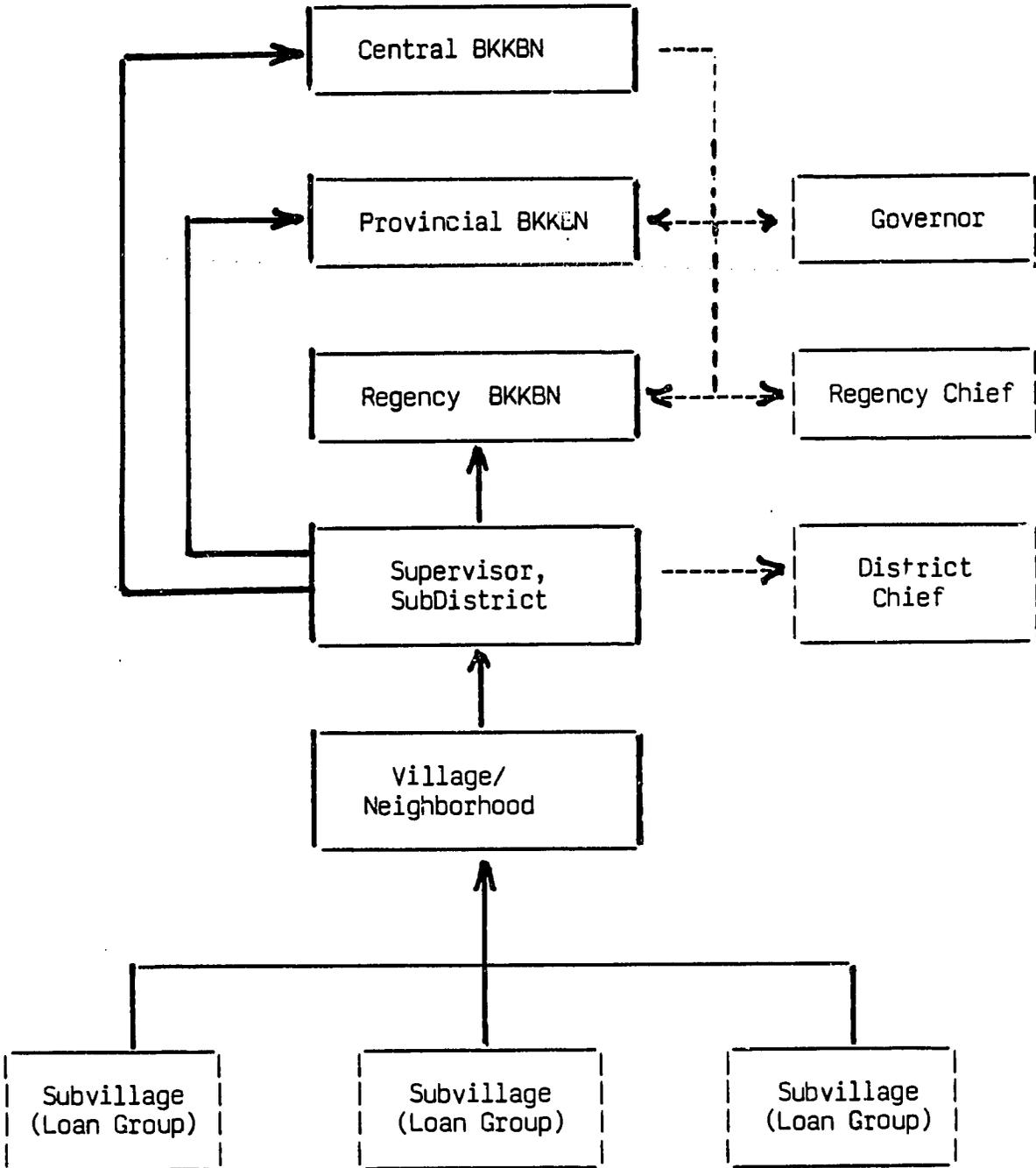
Number	No. of Groups	No. Reporting	Total Members	Current Users	Organizational:			Cash Situation			Productive Activities			Comment
					Members	Board Meetings	Visits from BKKBN	Cash with Individuals	With the Group	Cash Received	Members Owing	Number Individuals	Collective Productive	
Total:														

218

APPENDIX E

FIGURE 4

Proposed Information Flow, Income Generating Scheme



216

APPENDIX F

BAHASA LANGUAGE VERSIONS
OF THE HOSPITAL REPORTING FORMS

APPENDIX F

FIGURE 1

Referral form for Sending for one Unit to Another Unit in the Hospital

(Both IEC and Service)

K/II/PKBRS/82

Rumah Sakit :

SURAT PENGANTAR RUJUKAN

Kepada Yth : di :

Bersama ini kami rujukkan :

Nama : Umur : Th.

Nomor Seri Kartu Akseptor : [][][][][]

Tanggal Rujukan : 198

Dari Ruang Perawatan/Poli *)

Tujuan/Macam Rujukan **)

- A. KIE/Motivasi
- B. Pelayanan Kontrasepti (P.K)
- C. Penanggulangan efek samping/komplikasi :
- (sebutkan macam kasus dengan singkat)
- D. Konsultasi

Keterangan Lain :

Tanda tangan :
Nama terang :
Jabatan :

(Diisi oleh petugas di bagian yang menerima rujukan)

Hasil Rujukan :

- A. Menjadi peserta KB dengan metode kontrasepsi :
- B. Tetap masih belum mau ber KB, alasan :
- C. Penanggulangan efek samping/komplikasi :

JAWABAN RUJUKAN.

Kepada Yth : di :

Bersama ini kami beritahukan bahwa terhadap yang tersebut di bawah ini,

Nama : Umur : Th.

Nomor Seri Kartu Akseptor : [][][][][]

Tanggal Rujukan : 198

Telah diberikan pelayanan rujukan dengan hasil **):

- A. Menjadi peserta KB dengan metode kontrasepsi :
- B. Tetap masih belum mau ber KB, alasan :
- C. Penanggulangan efek samping/komplikasi :

Untuk selanjutnya yang bersangkutan **):

- A. Dikirimkan kembali kepada Saudara, dengan saran :
- B. Memerlukan perawatan
- C. Dirujuk ke Bagian/ke Rumah Sakit

Alasan

Keterangan Lain :

Tanda tangan :

Nama terang :

Jabatan :

Keterangan :

- *) Coret yang tidak perlu
- **) Lingkari huruf didepan pilihan yang sesuai.

218

APPENDIX F

FIGURE 2b

Reporting Form for Referrals
Received by Ob/Gyn and Surgery

F/IC/PKBSRS/82

Ruman Sakit :

LAPORAN BULANAN RUJUKAN PKBRS.

BAGIAN :

BULAN :

1. Jumlah Rujukan efek samping/komplikasi
menurut metode :

a. M.O.W.	- Ringan	:	kasus.
	- Berat	:	kasus.
	Jumlah	:	kasus.
b. M.O.P	- Ringan	:	kasus.
	- Berat	:	kasus.
	Jumlah	:	kasus.
c. IUD	- Ringan	:	kasus.
	- Berat	:	kasus.
	Jumlah	:	kasus.
d. Suntikan	- Ringan	:	kasus.

Best Available Document

Best Available Document

220

APPENDIX F

FIGURE 4

FP and IEC Services Report Form
from Different Wards

F/IA/PKBR8/82

Rumah Sakit :

LAPORAN BULANAN RUANG PERAWATAN

BAGIAN :

BULAN :

KEGIATAN : Pelayanan KB melalui ruang perawatan.

1. Jumlah penderita yang pulang/keluar hidup (atau istri/suami/
orang tuanya). waktu masuk :

- | | |
|-----------------------------------|--------------|
| a. Sudah ber KB. | orang. |
| b. Tidak/atau belum perlu ber KB. | orang. |
| c. Perlu KB, tetapi belum ber KB. | orang. |
| <hr/> | |
| JUMLAH | orang. |

2. Jumlah penderita yang dikirim untuk rujukan :

- | | |
|---------|--------------|
| a. KIE. | orang. |
| b. P.K. | orang. |

3. Hasil pelayanan kontrasepsi terhadap penderita yang
pulang/keluar hidup (atau istri/suami/orangtuanya) yang
waktu masuk perlu KB, tetapi belum ber KB :

a. Berhasil menjadi peserta KB dengan metode sebagai berikut :

- | | |
|--------------------------|--------------|
| - Medis Operatif Wanita. | orang. |
| - Medis Operatif Pria. | orang. |
| - I U D. | orang. |
| - Suntikan. | orang. |
| - Pil. | orang. |
| - Kondom. | orang. |
| - Obat Vaginal. | orang. |
| <hr/> | |
| JUMLAH | orang. |

b. Tetap masih belum ber KB. orang.

....., 198.....

Kepala Ruang Perawatan,

27-2

APPENDIX F

FIGURE 5

Polyclinic (Outpatient)
IEC and Family Planning Report Form

Rumah Sakit

F/IB/PKBRS/82

LAPORAN BULANAN POLIKLINIK.

BAGIAN :

BULAN :

KEGIATAN : Pelayanan KB rawat jalan.

1. Jumlah penderita rawat jalan (atau istri/
suami/orangtuanya) yang dikirim untuk
rujukan :

- a. KIE. orang.
- b. P.K. orang.

2. Hasil pelayanan kontrasepsi terhadap
penderita rawat jalan (atau istri/suami/
orangtuanya) :

a. Berhasil menjadi peserta KB dengan
metode sebagai berikut :

- Medis Operatif Wanita. orang.
- Medis Operatif Pria. orang.
- I U D. orang.
- Suntikan. orang.
- Pil. orang.
- Kondom. orang.
- Obat Vaginal. orang.

JUMLAH orang.

b. Tetap masih belum ber KB. orang.

..... 198

Kepala Poliklinik,

223

APPENDIX F

FIGURE 6

Monthly Hospital Family Planning Services Reporting Form

UNIT PELAYANAN BERENCANA KELUARGA

SKRIPSI
NAMA PKRS
ALAMAT
STATUS PKRS

PROGRAM KELUARGA BERENCANA (UMAH SAKIT) (PKRS)
LAPORAN BULANAN

NOMOR KODE PKRS
Tipe PKRS
LAPORAN BULAN

070001

198

1 Dep Kes 2 AEM 3 Ins Pam Lam 4 Sema

PELAYANAN/BUKTIAN DI PKRS
PELAYANAN KB MELALUI RUANG PERAWATAN

NO	BAGIAN	PENGIRTA YANG PULANG/ SELAMA HOLIDAY LAINNYA (SUDAH HONORARIAS TUNYAI)				DILAYAN LAINNYA (SUDAH HONORARIAS TUNYAI)		HASIL PELAYANAN KONTRASEPSI BERHASIL MENJADI PESERTA KB DENGAN METODE								TETAP MASIH BELUM BER KB	
		WAKTU MASUK BER KB	WAKTU MASUK THORAS/ BELUM PERLU BER KB	WAKTU MASUK PERLU KB TANPA BELUM BER KB	Jumlah	KUS	D.K.	MOM	MOP	KUD	SUN TIC AN	FIL	KUN DOM	BAT VAGI NAL	JUM LAH		
																	(11)
1	Pelayanan																
2	Amn																
3	Obstetri & Gynae																
4	Bahan																
5	Bahan Serap																
6	Serap																
7	Amn																
8	THT																
9	Mata																
10	Kulit & Jernam																
11	Gigi & Mulut																
12	Kardiologi																
13	Parasitologi																
14	Urologi																
Jumlah																	

B. PELAYANAN KB RAWAT JALAN

NO	KOLIKLINIK	PENGIRTA RAMBAT JALAN ATAU ISTRI SUDAH/ DILAYAN LAINNYA (SUDAH HONORARIAS TUNYAI)		DILAYAN LAINNYA (SUDAH HONORARIAS TUNYAI)		HASIL PELAYANAN KONTRASEPSI MENJADI PESERTA KB DILAYAN MENURUT METODE YANG DIPERAKAI								TETAP MASIH BELUM BER KB			
		KUS	D.K.	MOM	MOP	KUD	SUN TIC AN	FIL	KUN DOM	BAT VAGI NAL	JUM LAH						
												(11)	(12)		(13)	(14)	(15)	(16)	(17)
1	Pelayanan																
2	Amn																
3	Obstetri & Gynae																
4	Bahan																
5	Bahan Serap																
6	Serap																
7	Amn																
8	THT																
9	Mata																
10	Kulit & Jernam																
11	Gigi & Mulut																
12	Kardiologi																
13	Parasitologi																
14	Urologi																
Jumlah																	

C. RUJUKAN PKRS
C.1. JMLAH RUJUKAN EFEK SAMPING/KOMPLIKASI MENURUT METODE

EFEK SAMPING/KOMPLIKASI MENURUT METODE	MACAM KASUS		
	RINGAN	SERAT	JUMLAH
(1)	(2)	(3)	(4)
1. Mula Mula (MOR)			
2. Mula Mula (MOP)			
3. IUD			
4. Suntikan			
5. Pili			
Jumlah			

C.2. AMBLAN EFEK SAMPING/KOMPLIKASI YANG DILAYAN

NO	AMBLAN	JMLAH
(1)	(2)	(3)
1. Gigitan		
2. Penyakit Kulit		
3. PKRS lain		
4. Dokter/Dokter Perawat		
5. Jarak		
Jumlah		

D. PENDIDIKAN DAN LATIHAN PKRS YANG BERAKHIR DALAM BULAN INI

NO	KATEGORI PENDIDIKAN DAN LATIHAN PKRS	JMLAH ANGEKATAN (No)	JMLAH PESERTA				JMLAH TOTAL PESERTA
			DARI PESERTA	DARI LUAR PKRS			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
1	Mula Mula (MOR)						
2	Mula Mula (MOP)						
3	Jasa Konvensional Baru						
4	Latihan Praktek Klinik dan atau Praktek Lapangan						
5	Emasifikasi						
6	Lain-lain						
7	Peningkatan Kemampuan BerakHIR (Khususnya, para guru pembimbing di B)						
8	Keuntungan (dari atau tidak)						
9	Uraian						
10	Uraian ILO						
11	Uraian						
12	Uraian (dari atau tidak)						
13	Jumlah						

III. LAIN-LAIN

1. Jumlah peserta yang telah selesai mengikuti pendidikan dan latihan...
2. Jumlah peserta yang telah selesai mengikuti pendidikan dan latihan...

IV. KETERANGAN LAIN

Best Available Document

224

APPENDIX G

FORMS FOR THE LOGISTICS AND WAREHOUSING
REPORTING SYSTEM

WS

APPENDIX G

FIGURE 1

Proposed VCDC Monthly Report,
Graves and Glatzer Report

Month :
 Village :
 Sub District :
 Sub VCDC Registered :
 Sub VCDC Reporting :

Eligible Couple (elco)		
Number of the Current User	IUD	
	Pill	
	Condoms	
	Vaginal Tablet	
	Male Sterilization	
	Female Sterilization	
	Injectable	
	Total	
Pregnant elco this month		
Elcos who are neither pregnant nor user this month		

Contraceptive Stock

Pill (strip)	Type/Brand				All
	Stock Balance of the previous month				
	Received this month				
	Dispensed this month				
	Stock balance of the reporting month				
Condoms	Stock balance of the previous month				
	Received this month				
	Dispensed this month				
	Stock balance of the reporting month				

.....,79.....

VCDC

(.....)

226

APPENDIX G

FIGURE 2

Standard Sample Stock Report Used at
Regency Levels and Above

PROGRAM KELUARGA BERENCANA NASIONAL

LAPORAN BULANAN ALAT-ALAT KONTRASEPSI

(LAPORAN GUDANG)

No. Kode Gudang :
Laporan bulan :19 ...

Nama Gudang / Instansi Penyimpan :
Alamat Gudang / Instansi Penyimpan :

Macam Alat-alat / obat-obat Kontrasepsi	Sisa akhir bulan lalu	Diterima bulan ini	Dikeluarkan bulan ini	Sisa akhir bulan ini
Pil, satuannya, strip	-----	-----	-----	-----
I.U.D. ukuran D (No.2).satuannya, biji	-----	-----	-----	-----
" C (No.3) "	-----	-----	-----	-----
" B (No.4) "	-----	-----	-----	-----
" P.P.D. "	-----	-----	-----	-----
B. Kondom, satuannya, lusin.	-----	-----	-----	-----
Tablet Vaginal, satuannya, tube.	-----	-----	-----	-----
<i>Stambikan</i> Kardus klinik (kode K/IV/KB), lembar	-----	-----	-----	-----

Dibuat di :19.

PETUNJUK :

Laporan ini sudah dikirim selambat-lambatnya
5 bulan berikutnya.

Kepala Gudang / Penyimpan barang,

227

APPENDIX H

FORMS FOR THE FINANCE SYSTEMS

APPENDIX H

FIGURE 1

Bahasa Language Version of the Finance and Accounting
System Project Reporting Forms

| P/1111/KB/79
 | No. Kode Proyek :
 | Nama Proyek :
 | Lokasi/Tempat Proyek :
 | Tahun Anggaran :

No. Urut	Bagian Proyek	Tolok Ukur	Kode Jenis Pengeluaran	Target Dalam D.I.P			S.P.M.	Realisasi						
				Fisik		R u p i a h		Fisik	Beban Tetap	S.P.J.	Uang Muka	Disetor ke Kas Negara	Total	
				Jumlah	Satuan Unit									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	

Laporan ini Dikirim paling lambat
Tanggal 10 bulan berikutnya

..... 19
 Pimpinan Proyek
 (.....)

230

APPENDIX I
BAHASA LANGUAGE VERSION
OF THE IEC MOBILE UNIT REPORT

LAPORAN BULANAN

KEGIATAN MOBIL UNIT PENERANGAN K B.

B.K.K.B.N. Pusat

Laporan bulan : _____

1. No. Kode Kabupaten :

--	--	--	--

2. No. Register M.U. Pen. K.B. :

--	--	--

3. No. Polisi : _____

4. Alamat pelapor : _____

A. Berapa kali melakukan kegiatan/operasi dalam bulan ini : _____ kali

B. Berapa jumlah kelurahan yang dikunjungi dalam kegiatan bulan ini : _____ keluraha

C. MACAM KEGIATAN

1. Mengadakan pertunjukan film : _____ kali

2. Mengadakan pertunjukan slide : _____ kali

3. Mengadakan filmstrip : _____ kali

4. Mengadakan pertunjukan kesenian : _____ kali

5. Mengadakan pameran : _____ kali

6. Mengadakan pemutaran cassette : _____ kali

7. Melakukan pembagian pamflet, poster/leaflet : _____ kali

8. Public address/penerang lisan : _____ kali

D. LAMANYA PENGGUNAAN ALAT²

1. Pemakaian proyektor film : _____ jam

2. Pemakaian proyektor slide : _____ jam

3. Pemakaian proyektor filmstrip : _____ jam

4. Pemakaian publik address : _____ jam

5. Pemakaian cassette recorder : _____ jam

6. Pemakaian generator : _____ jam

7. Pemakaian panel² pameran : _____ jam

E. 1. Jarak yang ditempuh : _____ km

F. 1. Penggunaan bahan bakar bensin) untuk kendaraan : _____ liter

2. Penggunaan bahan bakar untuk generator : _____ liter

3. Penggunaan olie untuk kendaraan : _____ liter

4. Penggunaan olie untuk generator : _____ liter

APPENDIX J

BAHASA LANGUAGE VERSION
OF THE RADIO PROGRAMME REPORT FORM

F/I/Radio.

PROGRAM KELUARGA BERENCANA NASIONAL

LAPORAN BULANAN PENERANGAN KB MELALUI RADIO

Bulan : _____

Nama Studio : _____

No.	PERINCIAN KEGIATAN	TANGGAL KEGIATAN												Jumlah		
1.	Jenis Studio :	R. R. I.														
		Non R. R. I.														
2.	Jenis Siaran :	Uraian/Pidato														
		Diskusi / Wawancara														
		Media tradisional / kesenian														
		Radio sport														
		Berita														
3.	Lamanya Siaran :	0 -- 60 detik														
		1 -- 5 menit														
		6 -- 30 menit														
		31 -- 60 menit														
		60 -- menit lebih														
4.	Waktu Siaran :	06.00 -- 09.00														
		09.00 -- 12.00														
		12.00 -- 17.00														
		17.00 -- 22.00														
		22.00 -- 04.00														
5.	Isi Siaran :	J. U. D.														
		P i l														
		Kondom														
		Kependudukan														
		Agama dan KB														
		KB & Kesejahteraan Keluarga														
U m u m																

Tanggal _____ 19____

Kepala Studio.

(_____)

23/1

APPENDIX K
FORMS OF THE TRAINING SYSTEM

APPENDIX K

FIGURE 1

Registration Form for Trainees

Training Center/Unit :

Province :

Trainee Register Number

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

I. ACTIVITIES

1. Personnel Category: _____

2. Training Category : _____

3. Type of Activity : 1. Initial

2. Refresher course 3. Orientation 4. Advanced

4. Time

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	s/d	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tgl	Bln	Thn		Tgl	Bln	Thn

II. TRAINEE IDENTITY

1. Name _____

2. Sex 1. Male 2. Female

3. Place of birth _____

Date of birth _____

4. Marital status

1. Married 2. Unmarried
3. Widow 3. Widower

5. Number of living child

0 1 2 3 or more

6. FP Acceptor

1. Yes 2. No

7. Contraceptive Method

1. IUD 2. Pill 3. Condom 4. Others

8. Home Address : _____

9. Education

10. Occupation : a. Type

1. BKKB Officer
2. Government Officer/Non BKKB
3. Private

b. Position _____

c. Personal register number

d. Office address _____

III. POPULATION AND FAMILY PLANNING

1. P/FP Training 1. Ever 2. Never

2. Pop/FP Training Attended (Total)

3. Type of Training

a. Training on FP 1. ever 2. never

b. Training on Pop. 1. ever 2. never

c. Training on Survey 1. ever 2. never

Signature: Chief of Training Centre

Signature: Trainee

236

APPENDIX K

FIGURE 2

Training Center Monthly Reporting Form

PROGRAM NASIONAL KEPENDUDUKAN DAN KELUARGA BERENCANA
LAPORAN TRIMULAN KEGIATAN LATIHAN

P/11/D3/lat/00

Penyelenggara :
Alamat :

Propinsi :
Laporan Triwulan :19...../.....

I. U M U M

No.	Kategori latihan	Jumlah angkatan (kali)	Jumlah hari latihan	Peserta latihan (orang)		biaya (dalam rupiah)		Sumber biaya (dalam rupiah)			
				Target	Realisasi	Target	Realisasi	APBN	Bantuan LN	PEMDA	Lain lain
		3	4	5	6	7	8	9	10	11	12
Jumlah											

II. JUMLAH TENAGA PENGAJAR DAN JAM PELAJARAN.

No	Kategori latihan	Tenaga Pengajar dan Jumlah jam yang diberikan								Jam Pelajaran			
		Pengajar (orang)				J a m							
		BPKKB	BKKBN	Luar BKKBN	Jumlah	BPKKB	BKKBN	Luar BKKBN	Jumlah	Teori	Praktik	Jumlah	
		3	4	5	6	7	8	9	10	11	12	13	
Jumlah													

III. HASIL PENILAIAN TERPITA LATIHAN.

No	Kategori latihan	Hasil Penilaian Awal			Hasil Penilaian Akhir		
		Baik	Cukup	Kurang	Baik	Cukup	Kurang
Jumlah							

237

