

f. Proj. Indonesia

AN EVALUATION OF THE
INDONESIAN NATIONAL NUTRITIONAL SURVEILLANCE SYSTEM
(INTERIM IN PROGRESS EVALUATION)

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PREFACE

To create a system which warns of impending food crises is not an easy task. No model exists elsewhere. Its no surprise that there are differences of opinion about how to procede. We hope that our evaluation will be viewed as constructive criticism en route to developing such a system.

We would like to thank all the people from NIHRD, CRDN, DITZI, other Indonesian government agencies, Cornell and USAID who made time available to answer all our questions. We are particularly grateful to Professor A. A. Loedin and Dr. R. Mark Brooks as well as Nicholas G. Studzinski whose contributions were substantial.

Much of this document has been reviewed by representatives of these groups in a meeting in which the Evaluation Team's effort and viewpoint was discussed in a spirit of cooperation and with an attitude toward learning.

EXECUTIVE SUMMARY

The effort to design and implement a National Nutrition Surveillance System (NNSS) was well worth initiating and is well worth continuing. The decision to restrict the effort, at first, to the design of an early warning system was wise. Such a system will fill the most immediate need of the Indonesian government while scaling down the overall tasks to more manageable proportions.

In reviewing the documentation of the effort to date and in talking with key people from among the design and operating staff, the evaluation team concluded that many of the original concepts for designing the National Nutrition Surveillance System (NNSS) were forgotten when the task of establishing the Early Warning System were initiated. The early work stressed the need to emphasize the linkage between problem identification and appropriate action. The evaluation team interpreted this emphasis as a recognition of the fact that the performance of the indicators should be determined in light of the characteristics (costs, response time and effectiveness) of the interventions. However, in practice, this fundamental systems perspective seems to have been forgotten.

Furthermore, the consequence of this failure to review the performance characteristics of the whole system is an unwillingness to proceed to a true test of an operational system. Resources are currently being channelled to a study to validate indicators that will delay the implementation of a complete early warning system for two or more years. Such a delay will not leave adequate opportunity for testing the operation of the system within the time allocated for Phase II. We feel that undue emphasis is being placed on the study of the relationship between indicators and food shortages at the expense of learning more about how a complete early warning system might operate.

Our overall recommendation is to introduce a systems perspective to the process of designing the early warning system. This means that the

decisions concerning the structure and processes of the early warning system should be made to maximize systems performance. In order to achieve this overall objective, we have made the following three major recommendations.

Recommendation 1 All parties should make time to reassess all ongoing activities from a systems perspective.

Recommendation 2 The project should concentrate on implementing a functioning system in one or at the most two pilot areas

Recommendation 3 The project should strive for greater coordination with other ministries, agencies, and donors concerned with early warning systems in Indonesia.

In addition to these three major recommendations we have made the following secondary recommendations:

1. Improve the administrative support for Mark Brooks.
2. Incorporate periodic external evaluation into the project.
3. Document in detail the model of the Early Warning Information System and the phases through which it evolved.
4. Devise techniques to monitor the performance of the operating Early Warning Information System, keep it alert, and maintain its integrity.
5. Consider changes in the sampling design and frequency of sampling in the validation study.
6. Evaluate carefully any further graduate student participation in the project.
7. Give consideration to the problem of the appropriateness of this form of Early Warning Information System in areas where political commitment is weak and data sources are scarce.
8. Consider both the merits and demerits of mapping food crisis areas.

We have included a short discussion of each of the primary and secondary recommendations.

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INTRODUCTION

At the request of USAID/Indonesia and with the concurrence of the Director of the Indonesian National Institute of Health Research and Development (NIHRD) an Evaluation Team was formed to review the performance and achievements to date of NIHRD, its contractor, Cornell University and USAID itself in implementing a National Nutrition Surveillance System (NNSS) for Indonesia. The purpose of the review is to improve the ongoing planning, implementation and monitoring/evaluation of the NNSS. The Evaluation Team, consisting of Dean Wilson, Roy Miller, Bruce Currey and Soekirman spent approximately ten man weeks in Indonesia performing the review. During this time, the team visited the Lombok Pilot area, met with several Central and provincial Indonesian officials, held numerous discussions with the Cornell consultants and reviewed all written materials that had been submitted to US/AID during the project. The activities undertaken during this period are described in Appendix I.

Because of scheduling problems, Mr. Soekirman's stay of two weeks overlapped with the other team members for only the first week of their visit. Therefore, he was asked to submit a separate report dealing with the Indonesian involvement in the NNSS. Although many of Mr. Soekirman's ideas have been incorporated into this report, his individual report is attached as submitted in Appendix II.

The very first question of relevance in a evaluation of a major project such as this is, "is it worthwhile?" This question must be answered on two levels. First, one must consider the importance of the multi-purpose NNSS. Paraphrasing the statement of the joint FAO/UNICEF/WHO Expert Committee, a surveillance system should provide ongoing information about all matters, pertaining to the nutrition of a population for use in policy formation, planning, management and evaluation. Clearly, this is a laudable goal and one well worth pursuing.

Second, one must consider the decision to place first priority on the early warning component of the multi-purpose NNSS. The Indonesia-

Cornell team made this decision midway through Phase I of the project in response to the stated needs of their Indonesian colleagues. Our own discussions with selected Indonesian officials, confirmed this very strong felt need for an Early Warning System. The evaluation team favors this decision to restrict the scope of the project in this way. By concentrating on this one aspect of NNSS, the problem becomes far more manageable for the project staff. More importantly, the experience derived by designing this one component of an NNSS should be invaluable in the later efforts to expand the system for other uses.

This strong feeling that the work should proceed is bolstered by the impression shared by the Evaluation Team that the current staff -- both the Indonesians and the Cornell consultants -- are strongly committed to the project and have made remarkable progress toward their stated goal. Most impressive is the progress made toward the organization of government officials in Lombok at all levels. The best evidence of this progress is the mobilization of resources toward the data collection activities.

Furthermore, the Indonesia-Cornell effort has achieved one remarkable feat -- the diversion of data at the lower levels of government to the political decision makers at those levels. In most countries, data is generated at the local level and passed up the bureaucracy where decisions are made. Those decisions are then passed back down the bureaucracy. Already, that pattern has been broken in the Pilot Area as a result of the NNSS test. Information is being gathered from multiple sources for use at the local level.

Although there is little doubt that the NNSS project should proceed, the Evaluation Team is concerned that the current planned sequence of activities (and the allocation of scarce resources to those activities) will lead to too much of a delay in testing the model. If more extensive testing is not begun soon, there will be too little time left in Phase II to allow for sufficient experience to accrue to the Indonesian team charged with carrying on once the research phase is terminated.

CONFORMANCE TO THE CONTRACT

This evaluation is being done one third of the way (eleven months) into Phase II and about twenty two months into the entire Indonesian effort to implement the NNSS. A useful starting point is an examination of the performance of the Indonesia-Cornell team during Phase I as compared to the Phase I Contract. In making the comparison between promise and performance, this Evaluation team confronted its first major problem.

A GENERAL COMMENT ON CONFORMANCE

In reading the contract, certain products were to be forthcoming by the end of the time allotted. In reviewing the written documents provided by the Indonesia-Cornell team to USAID, especially the draft Final Report for Phase I (still an incomplete document), the products were not obvious. Yet, in discussions with project staff, the assertions were made that they did indeed exist. The most critical product was to be the model of a system.

The Phase I contract asserts:

This model (for the NNSS), along with the methodology of implementation, will be presented to the GOI and will be tested in the pilot areas at a future time.

Furthermore, the contract asserts:

The model developed in Phase I will be suitable for testing in pilot areas in Indonesia.

When the evaluation team asked for a description of the model, the response consisted first and foremost of a diagram of the Indonesian governmental structure with an indication of the role to be played by officials at the various levels in operating the system. This diagram also noted the flows of information planned for the system and emphasized that the primary decision point would be the office of the Bupati in the Kabupaten level (Regency). A second component of the model was a preliminary hypothesis of the sequence of events leading to a food crisis (Figure 2 of the draft final report for Phase I)

Because these are currently viewed as the major elements of the model, the Indonesia-Cornell team defines testing the model as a test of the ability to get the information to flow as diagrammed and a validation and calibration of the causal sequence leading to food crises. Indeed, these appear to be the primary activities planned for Phase II and are the activities underway at present.

The evaluation team's perception of a testable model is quite different. Because the early warning system has as its objective (in our judgment) the alleviation of hardship due to nutritional problems, a test of the model for such a system must be a test of the ability of all components of the system to function together to achieve that desired goal. Thus, it is not enough; to be concerned with the prediction of food crises. Equally important are the response time to crises, the ability of the interventions to alleviate those crises and the costs associated with prediction and response.

We emphasize the issue of this apparent inconsistency between the perceptions of the evaluation team and those of the Indonesia-Cornell team with regards to "the model" because this inconsistency hindered every attempt to match-up contract to performance. Our interpretation of the contract was that at the end of Phase I, a hypothetical construct of an operating system would be ready for testing in Phase II. The Indonesia-Cornell interpretation appears to be that the early part of Phase II would be the calibration of the model for testing nearer the end of the project.

It is useful to speculate on the origins of this apparent conflict of interpretation. When the Indonesia-Cornell collaboration was begun, there was really no clear definition of a nutritional surveillance system. Although it was generally agreed that the FAO/UNICEF/WHO expert committee on Nutritional Surveillance definition was the guide, the application of that definition to Indonesia had not yet been worked out. Also, the definition was clearly so broad, some paring down of the problem was needed.

Discussions with Indonesian officials at all levels suggested that an early warning system was their most immediate need. In particular, they needed a system that could predict food crises (in this case, sudden drops in consumption)¹ with sufficient lead time to allow for preventive action. The Indonesia-Cornell team adapted the design of such a system as the first stage in the development of a more broadly conceived surveillance system.

The choice of the word "early" in the title "Early Warning System" for the first component of the NNSS was unfortunate. Implicit in this word is the assumption that the key to a successful activity is that the warning be made early. This assumption may not be valid. The need for early warning, might well be reduced if the response times for interventions are improved. The need for accuracy of the early warning may be reduced if the costs of intervention are reduced.

In the preliminary materials produced as part of the Indonesia-Cornell effort, there is evidence that this interaction between prediction, intervention time and intervention cost was understood. The draft document entitled "The Scope of a National Surveillance System" dated August 17, 1979 (author not specified) alludes to the importance of this interaction. Once the decision to stress "Early Warning" was made, the concept of the need to balance the prediction time against adequacy and costs of available response was lost.

Our best guess of the reasons for this is that many operational activities were well underway when the decision to focus on early warning was made. The staff on-site were so caught up in the enormous effort to organize the government structure, design and operationalize a survey to validate the indicators, order a computer, etc. that they failed to step back and reflect upon the full implications of concentrating on early warning. The perceived need of the Indonesians was better lead time; it was accepted on faith that primary energies should be directed toward getting that better lead time.

1. Some confusion exists here. Cornell defines crises as sudden drops in consumption but Indonesians continue to mention hunger oedema and starvation deaths as mentioned in newspaper articles. This dichotomy of definition is further extended in the Cornell Phase I report which mentions not only hunger oedema, but also sale of possessions and the eating of famine foods, Nowhere is "crisis" defined in terms of magnitude or "cut off" points.

Whether or not our interpretation of the causes of this conflict of interpretation is correct, the fact remains: the evaluation team's expectation for a testable model was not met. The Indonesia-Cornell team is acting as if the difficulty in identifying indicators for an early warning system is so great that the effort to experiment with an operating system must be deferred until nearer the end of Phase II. The argument is that further study of the specificity and sensitivity of the indicators must precede the operationalization of a system. In contrast, the Evaluation team believes that past experience, theoretical argument and some relatively simple analyses of past food crises could be used to generate a testable model of prediction, response and assessment in a relatively short time. This model could actually be put to work in the field to improve the existing early warning system. This would give the Indonesia-Cornell team the opportunity to learn about all aspects of the Early Warning System while there is still time to make adjustments under Phase II.

We will elaborate on the Evaluation Team's argument in the next section of the report. It is sufficient to note the conflict here and point out that apparent failure to produce a testable model by the Indonesia-Cornell team was not a failure to conform to the contract. Rather, it reflects some fundamental differences of opinion with regard to the prescribed sequence of activities and the balance between research and application in designing a system.

With regard to the balance of the contract, promised products must be assessed with the understanding that the focus of the NNSS narrowed throughout Phase I and that some of the tasks identified were no longer consistent with the revised focus. (As already noted, the evaluation team wholeheartedly endorses the selection of an early warning system as the first focus of a NNSS).

A POINT BY POINT ANALYSIS OF CONFORMANCE

Let us assess conformance of product to Phase I work statements point by point.

Section 2.01.1 calls for the establishment of a framework for an integrated system for national nutrition surveillance. This was done.

Several ministries have been brought into the NNSS process and the Interdepartmental Advisory Committee has been established. However, personnel in this framework, particularly within DITZI and the Interdepartmental Advisory Committee, have not been sufficiently involved in the problem solving activities in designing the system.

Section 2.01.2. calls for a series of research activities to help develop the system: an inventory of existing data sources; a retrospective analysis of past nutritional problems; and the analysis to select sensitive and specific indicators to predict malnutrition and nutritional status.

The inventory of existing data sources was made; however, during the brief tour of Lombok made by the evaluation team, sources not currently being used by the Indonesia-Cornell team were uncovered. For example, previous sociological work by CIDA, a past Indonesian conference on the great Lombok famine, and the Bupati's own surveillance system.

The retrospective analysis of past nutritional problems was initiated prior to the decision to concentrate first on the early warning system. This study should have been a cornerstone in the design of the Early Warning System used for establishing a hypothetical model for identifying and testing the validity of crises indicators. We believe that the study should be repeated with a direct emphasis on early warning (see the recommendations section).

Again, the study of the sensitivity and specificity of indicators was conceived prior to the decision to concentrate on early warning systems. At the outset, it was felt that one primary variable in a nutrition surveillance system would be nutritional status. This study was directed at potential indicators of this primary variable. Once early warning became the focus, nutritional status indicators were considered to be less important -- they coincide with food crises and do not predict them. Therefore, the original study of nutritional status indicators has less relevance to the immediate problem of designing early warning systems. However, it should prove to be useful when the system is expanded to cover other nutritional issues.

Section 2.01.3 calls for the development of a Model for National Nutritional Surveillance. A preliminary design was made, a Workshop was held and the model was revised -- as promised. We need not repeat the argument that the model was incomplete.

Section 2.01.4 calls for the preparation for the pilot project. This was done remarkably well. The target areas were identified and well primed (perhaps, too well primed) for the test. (Expectations in the pilot area that ongoing research will result in food assistance may lead to disappointment and disenchantment among communities participating in the study).

Section 2.01.5 calls for long-term development for Nutrition Surveillance. This included training functions, and the development of data processing and analytical capabilities. These were done in part. A computer is here in Jakarta after some delay and will be ready for use in Bogor within weeks. One person went to Cornell for statistical and computer training, but the status of the Masters student in surveillance remains unclear because of difficulties in finding a candidate with sufficient proficiency in English. An additional component of training, identified in Section 2.02.5 of the Contract Work Plan was a training workshop for personnel in the Pilot Project areas. This was not held and plans should be made to correct this omission. This workshop should emphasize the transfer of knowledge and skills. These should include the basic concepts of NNSS and how these are to be applied.

Except for the key points discussed above, the Indonesia-Cornell effort adhered to the letter of the contract in all respects. The real question is the appropriateness of the current plan for implementing the early warning component of the NNSS.

Assessment of progress to date on the Phase II contract is more difficult since the work is in progress. However, the Phase II contract does emphasize the parallel nature of the validation study and the testing of the model. The text of task 2.01.1 on testing the model reads

Each of these Pilot Projects will have (a) fully operational system including an information system to detect food consumption problems and mechanisms to trigger relief for these problems. During this testing there will be a large amount of research and the original Model will be modified periodically according to the results of this work. At the conclusion of this Contract each Pilot Project area should have a full-scale Nutritional Surveillance System capable of operating independently.

Again, the different interpretation of "testing a model" confuses the issue of conformance.

More importantly, the contract refers to four pilot areas and, in the Work Plan, outlines a three stage process to be undertaken in those four areas. This process spans 27 months. With only 26 months to go, this process is yet to begin in two of the pilot areas. Ultimately, the project will have to be extended or scaled back.

Aside from these reservations, work on Phase II is proceeding according to the work plan. The validation study is underway in one Pilot Area while the ground work has been laid in a second area. Preparations for full scale testing are being made in Lombok now.

APPROACH TO SYSTEMS DESIGN

We have already alluded to the fact that the "model" being tested by the Indonesia-Cornell staff in Phase II does not conform fully to the image of a model held by the evaluation team. At first, one might attribute this difference to semantics or argue that it is not a difference in kind but a difference in degree. This would be a mistake!

By their own estimate, the Cornell consultants will spend 80% of their time in the coming year on a validation study. They acknowledge that a considerable effort will be needed beyond this first year of Phase II to complete that study. The study is dedicated to relating some subset of indicators selected from data collected routinely by Indonesian agencies to a set of validators. These validators are variables describing the consumption and food stocks of households and several behavioral attributes of those households thought to signal the onset of food crises. A survey is being administered every six weeks to households in order to establish the approximate timing of changes in the validators prior to food crises. Note, this survey is being done in 85 villages, 20 households per village, every six weeks -- in Lombok alone. The magnitude of the data processing task for one pilot area alone is enormous. For four pilot areas, it is staggering.

Thus, the major "product" of Phase II will be a statement of the best known way to predict food crises based on the analysis of the relationship between the indicators and the household consumption data. Although it would be nice to have such a statement before venturing forth into the effort to predict crises in the "real world", it is hardly the most needed element of an early warning system. Indeed, it may not even be needed at all!

Suppose, for example, that the longest response time required to carry out the set of interventions available to the Bupati -- the key decision maker in the system -- is two weeks. That is, once the Bupati decides to act, the intervention will be in place within two weeks. The table of interventions in the draft Phase I progress report

identifies such short response times for the most often used responses to food crises. The distribution of free rice or the sale of subsidized rice can begin within days. Even food for work projects are usually initiated within a few weeks. If two or three weeks is all that is needed for intervention, then the early warning system need only predict crises two or three weeks ahead.

To extend this type of thinking, suppose the response time for most interventions was three months. Then, the argument of the last paragraph suggests that the lead time of the early warning system must be three months. A question remains. Should the early warning system designers try to help the government shorten that three month response time and, thereby diminish the need for such advance warning or should they accept the three month response time and perfect the procedures for anticipating crises so far in advance? Where is the pay-off?

Similar arguments can be made with respect to costs. If the cost of intervention can be decreased, it may not be essential to improve the quality of prediction. Or, it may be necessary to consider more expensive preventive interventions directed at the causes of problems and thereby eliminate the need for successive curative interventions.

Questions of this type arise when one reviews the overall system under consideration. They must be answered in parallel. That is, the success of the early warning system will depend on finding the best balance between prediction and response where "best" might be defined as the least cost, most effective system.

The model envisioned by the evaluation team is one which will not only document the organizational structure but also the process to be followed by members of that structure so that these questions get asked and answered. Furthermore, it is important to recognize that conditions change and that the best system now may lose effectiveness a year from now. A good system repeatedly asks these kinds of questions of itself in an effort to improve its own performance.

As an example of how a system might change, suppose that in the early stages of the operation of an early warning system, crises might be

anticipated with some set of indicators and alleviated through BULOG adjustments in rice supplies. After three years of alleviating similar crises in the same area by the same curative action, a good "early warning system" will identify the need for intervention to prevent such occurrences from happening again. (This type of surveillance has already been successful in Lombok where the government is trying to relocate people from chronically dry areas to more favorable environments elsewhere).

More important than the best relationship between a set of indicators and consumption is a process which will lead to an ongoing reassessment of the performance of the system as experience with the system is accrued. For some time now, systems analysts have developed procedures for getting at the kinds of thinking that must go into such a process. In general, they attempt to set performance criteria for the system. For early warning, they might decide that the system should miss no more than two crises a year throughout Indonesia, that interventions should cost only \$4,000,000/year, that the operation of the system should cost only \$1,000,000/year etc. Then they identify all the components of the system. For early warning, available indicators and interventions are catalogued and described. Such a description would include the sensitivity and specificity of the indicators, cost of the interventions, response times of the interventions, cost of failing to intervene, etc. (Many of these items might not be known at the outset; however, in the test phase of the project, estimates can be derived from performance. Special studies may be carried out to improve those estimates as needed). To test the system, systems analysts put it into operation (where the risks of being wrong are considered too great, a variety of techniques are used to test system performance without actually implementing the system; for example, simulations). After the system begins to operate, its performance can be evaluated. Where it fails to meet the criteria, modification must be made -- until it does. A certain amount of trial and error -- learning -- is involved.

One side comment is in order. An application of this approach to the design of an early warning system might point to the need for the

validation study now underway. However, such a costly study should have been undertaken only after it was shown to be essential to enable the performance of the system to meet its standards. No such analysis has been done, yet, to justify this study.

Aside from believing that a system design process should be applied to the model early warning system to improve that system, the evaluation team believes that such a model advances the cause of development in a nation such as Indonesia better than any other perceived option. An early warning system involving local governmental administrators in a process of exploring the dynamics of their own society and of devising solutions to problems identified through that explorations has far greater long term value to the nation than the delivery of a package developed by consultants to answer a specific question. The skills developed through the design of such a system can be transferred to many other development problems within Indonesia.

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THE VALIDATION STUDY

The arguments of the last section suggest that the "product" of Phase II of the NNSS design project should be the installation of an ongoing systems design process into the Indonesian governmental structure (operate the system, compare its performance to established criteria, ask the kinds of questions that might lead to improved performance and do the studies needed to answer those questions). If the Indonesia-Cornell team feels that it is either infeasible or inappropriate to implement the system at this time, the validation study will remain the center of attention. The Evaluation Team is not optimistic that the validation study, as it is now progressing, will discover a strong enough sequence of causal relationships between indicators and events at the village level to enable the specification of an operational model for use in predicting food crises. Furthermore, even if such a model is forthcoming, serious questions remain regarding its generalizability to other locations beyond the four pilot areas, and the stability of the model over time.

The members of the evaluation team have been involved in a variety of empirical studies similar to the one underway now in Bogor. In almost every such study, no matter how carefully planned and implemented, the results of the analysis were subject to a variety of interpretations. The "published" interpretation is not always the only one and, in fact, it not always the correct or valid one.

In such interdisciplinary social research studies, the variables used to predict nutritional status, consumption, health status, mortality, etc. are always related in ways more complex than can be revealed with the methodological tools of mathematics and statistics. The variables respond to so many stimuli, that it is exceedingly difficult to sift through correlations to get at causal sequences. Just a few of the problems likely to hinder the validation study are: normal seasonal variation in both validators and indicators must be distinguished from variation signalling crises; some crises may be anticipated by small but repeated declines in certain indicators or validators rather than clearly identifiable drops in those indicators;

the aggregation of household level variables to form correlates with community level indicators may obscure trends perceivable at the individual household level only.

Most importantly, the underlying systems are often counterintuitive in their actual operation. Where it seems logical that a relationship should exist between variables, intervening factors cause the data to show that the opposite is true. For example, in a study done in Villa Rica, Colombia designed to diagnose the causes of malnutrition, the data gathered included consumption information derived by weighing foods just prior to meal time served in a home over a 24 hour period and an anthropometric indicator of nutritional status. The analysis revealed that there was no relationship between nutritional status in preschool children and the amount of food consumed by the household! This remarkable finding, if published, would cause some consternation in the nutrition field -- yet, further field investigation (not data analysis) revealed that this counterintuitive result was indeed correct. The children in Villa Rica were in the habit of congregating at the houses where food was available. The extended family culture of Colombian villages made it easy for children to find some relative who could feed them when they were hungry. Consumption patterns in the home were, therefore, not a true predictor of individual consumption.

This anecdote illustrates the fundamental nature of the state of the art of nutrition studies. If the observed results meet with the intuition of the analyst, they are accepted. If the results are counterintuitive, further explanations are sought until the results are explained. The reliability of the analysis is, therefore, a function of the intuition of the analyst or, in other words, the level of understanding of the multidimensional problem being investigated as held by the analyst before the data analysis begins.

Clearly, one way to improve the validity of the results of such studies is to increase the level of understanding of the environment producing the data held by the analyst. If the evaluation team were performing the study, there would be a shift in resources from data gathering to the kinds of activities that lead to the deeper under-

standing of the local environment. These same activities are needed to assist in the systems design process and are defined further in our recommendations section.

RECOMMENDATIONS

The overall recommendation is:

Introduce a systems perspective (see page 10) to the process of designing the early warning system.

This means that the decisions concerning the structure and processes of the early warning system should be made to maximize systems performance. For example, by applying the systems perspective, the quality of a set of indicators is judged by its ability to enable the system to eliminate crises (as defined) and not necessarily its ability to correlate with consumption.

In order to achieve this overall objective, we make the following three major recommendations.

Recommendation 1 All parties should make time to reassess all ongoing activities from a systems perspective.

Recommendation 2 The project should concentrate on implementing a functioning system in one or at the most two pilot areas

Recommendation 3 The project should strive for greater coordination with other ministries, agencies, and donors concerned with early warning systems in Indonesia.

Each of these three major recommendations may be considered in the light of the following discussion.

Discussion of Recommendation 1

1. All parties should make time to reassess all ongoing activities from a systems perspective. A guide for doing this already exists in the draft paper entitled "The Scope of a National Surveillance System" dated August 17, 1979. This review should include.

a. Identification of all tasks needed to make the system operate in

- a field site.
- b. Identification of the kinds and numbers of staff needed to carry out these tasks.
- c. The assignment of staff to tasks (if consultants are used they should be allocated sufficient time to complete the tasks)
- d. The establishment of an ongoing review procedure to assess the contribution of each task to overall system performance.

The evaluation team has tried to apply the systems perspective to ongoing activities, in a limited way, during their stay in Indonesia. Whereas the judgements of the Indonesia-Cornell staff would be more informed because of their intimate knowledge of the problem, it may be useful to articulate our guess as to what tasks might result from such a review.

- a. Define clearly the term "food crisis". The operational definition should include severity and magnitude characteristics. The Bupati must agree to this operational definition.
- b. Document the present responses of the Bupati prior to, during and after food crises. This documentation should include the assessment of the economic and political costs of intervening as well as the costs of not intervening in crisis situations.
- c. Complete the documentation of the response times needed for various interventions at the Kabupaten level. The costs of the actual interventions must be assessed.
- d. Set the performance criteria for the system in conjunction with the Bupati.

Only after these tasks have been completed is it appropriate to select indicators to be used to give sufficient warning to enable the system to work.

Discussion of Recommendation 2

Concentrate on implementing a functioning system in one or, at most, two pilot areas. To preserve needed resources, the current data

gathering operation should be limited to that area (or those areas) In order to explain this recommendation, we outline an example of how the project might proceed by concentrating in one pilot area.

The island of Lombok (with its three Kabupatens -- Barat, Tengah and Timur -- in NTB Province) forms an excellent field site for developing a learning model of an early warning information system as part of the larger NNSS. Being a small island with a relatively simple irrigated and rainfed sawah ecosystem in the lee of Gunung Baru, it offers the possibility of modelling or simplifying the causes and responses of food crises.

The island has a long history of food crises since Dutch times.¹ Seven major food crises have occurred since the 1930's (1938, 1946, 1953, 1957, 1966, 1969, and 1972)², and there have been about fourteen newspaper reports of areas with Kekurangan Makanan (food shortage) in the five years from 1975 to 1979.³ This recurrence of food crises has already generated some exploratory background information on the causes of food crises and responses to them. For example, Hartoyo and Ali Asikin's Survey Social - Ekonomi di Kabupaten Lombok Tengah, Helen C. Abell's Villagers of the "Critical Area" of Lombok and particularly Dr. Abell's March 1973 Interim Report reviewing "existing government records of recurrent famine relief during the periods of severe food shortage in 1966 and more recently in 1972." The Assistant Provincial Governor in Mataram also has access to the recent Conference Proceedings on the great 1936-38 famine.

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1. Alfons van der Kraan (1976) Selaparang under Balinese and Dutch Rule: A History of Lombok from 1850 to 1940 Ph.D. Thesis Australian National University.
 2. R. Daroesman (1976) An Economic Survey of West Nusatenggara Bulletin of Indonesian Economic Studies Vol XII No. 1 March
 3. NIHRD-Cornell University (1981) Final Report on Phase I of the Development of the Indonesian Nutrition Surveillance System (Draft, January) Table 1 pp.16.

The Bupatis of Lombok have developed their own system of predicting these recurrent food crises. The current Bupati of Lombok Tengah Kabupaten in Praya has a documented food crisis prediction system which forecasts shortages in food stocks, the number of people likely to be affected, and the food supplies required for relief. This system is based on both qualitative and quantitative information which is interpreted by the Bupati who is the ultimate decision maker in this system. The decision to intervene is made by balancing the negative impact of failing to act brought out by newspaper reports of hunger oedema or starvation death with the opposing negative impact of reacting unnecessarily and squandering scarce resources. Although this decision-making process makes no use of formal optimization analysis, the intuition of the Bupati has been refined considerably through experience.

In order to improve the Bupati's decision model, a portion of the research team or additional staff could work with him in Lombok. Additionally they would work with: local SKG (Sistim Kewaspadaan Gizi; or Nutritional Surveillance System) staff, the Bupati's staff, members of DEPSOS and DOLOG, newspaper reporters e.g. Mr. Chairul of Sinar Harapan and local food crises researchers e.g. Drs. Karim Sahidu. They should study the existing documentation on: the Lombok food system; the causes of Lombok's food crises: the historical records of food crises in both Lombok Tengah and Lombok Timur Kabupaten; newspaper records of the sequence of signals prior to past food crises; the existing warning system of the Bupati and the chief Kabupaten Physician; and the present behavioral responses of the Bupati prior to and during a food crisis.

The team should analyse the human ecology of the island's food system noting local perceptions of food crises and community reactions to food crises. They should give particular attention to the phenology (or seasonal occurrence) of critical periods e.g. rice germination times, dearths in labor demand, or peaks in rice prices. Much of this information is already partially available in the existing reports. -e.g. Mary Judd's "Lombok; A Brief Profile" pp 205-216 - P.D.P. report for Nusa Tenggara

Barat and Robert H. Dodd's "Review of the Agricultural Aspects of the Provincial Development Program for NTB Indonesia USAID Jakarta 15th February, 1980 20 pages.

Once this graphical calendar of critical seasons in the food cycle is derived, the sequences of signals preceeding the documented historical food crises should be superimposed upon it for analysis and comparison. These sequences of signals can be derived from analysing the contents of the Sinar Harapan newspaper.¹ The sequences of signals e.g. the timing of the brown plant hopper attacks, the lack of rainfall, the desertion of villages, etc. would be displayed in calendar form. The signals mentioned in the newspapers in years when no food crises occurred must also be noted as a control.

The graphical superimposition of these sequences of signals upon the seasonal calendar of Lombok's food system will allow the research team to derive a series of contingency models of the following form

" if there is no rain at the end of month x in the planting season and if there is an attack of wereng in months p or q as well as rice prices being over r rupiahs in September, then we should watch for signs such as an increase in beggars, prostitutes and the eating of famine foods etc. etc. in months t or u. If months t or u do show such a concensus of signals then a survey of the magnitude of possible food shortage should be carried out to determine the type, timing and magnitude of the interventions.

These qualitative hypotheses should be improved by a process of trial and error and by retrospectively examining the sequences prior to past famines. Once improved, they should be used as templates to derive a quantitative learning model by using the numerical information or indicators presently collected by the Bupati of Lombok Tengah. Once refined, this quantitative learning model should then be tested against the historical record of food crises in Lombok Timur Kabupaten.

1. In future reporters could be sensitized to additional signals of food crises and their limitations. Sensitized reporters would keep the Bupati's system alert.

The tested learning model with critical times and trigger levels should be displayed graphically on a blackboard in the Bupati's office in Praya. As indicators are then continuously plotted on to the model template on the blackboard, the Bupati will be able to compare the learning model with his own intuitive system and thus improve his decision making.

The team should have already noted (by participant observation procedures) the behavior of the Bupati in responding to food crises. The behavioural analysis will be strengthened by analysing the documentary files and letters available in the Bupati's office. With the introduction of the learning model, changes in the Bupati's behavioural response should be noted. The real test of the learning model, in the short run, is whether the bad effects (hunger odema, starvation deaths) of food crises can be circumvented through immediate action. The long run test, however, is whether new interventions are devised which reduce or eliminate altogether the advent of food crises caused by food shortages and/or reductions in purchasing power. Ultimately, the real test must be the improvement of nutritional status through the reduction of chronic malnutrition.

Any improvements in his intuitive system which reduce food crises in Lombok Tengah will be seen as the Bupati's administrative success. Such a successful model will attract other Bupati's, who (if the procedure for deriving the learning model is well documented) could quickly adapt the model to the different human ecological conditions in their area of Indonesia.

Discussion of Recommendation 3

The project should strive for greater coordination with other ministries, agencies and donors concerned with other early warning systems in Indonesia.

Our first two recommendations have pressed for depth of analysis, but the project must not lose sight of its original essential concept of interdepartmental coordination (as recommended by Soekirman). This is particularly important because it now appears that BULOG,

DEPSOS, and Agriculture are all engaged in the design and implementation of early warning systems. The NNSS early warning system should not operate in a vacuum.

Improved coordination with the Inter-ministerial advisory committee at the national level, and particularly with DEPSOS who now act as the secretariate of the "Inter-ministerial Body for dealing with Disaster" will help to stimulate coordination at the lower provincial and Kabupaten levels.

Donor agencies who are encouraging the different early warning information systems e.g. USAID, FAO, WHO, and UNICEF should also dovetail their approach both between agencies and ministries and also within the agencies own departments e.g. among nutrition, agriculture, rural development and humanitarian programs. This improved coordination should also occur in the field areas as in the Lombok critical area where USAID has three expatriates working on the provincial development program.

Communication on various aspects of EWIS might be facilitated by the short monthly bulletin proposed by Soekirman.

SECONDARY RECOMMENDATIONS

✓ The primary concern of the Evaluation Team is that the Indonesia-Cornell staff has lost sight of the forest as they wandered into the trees. This gave rise to the three major recommendations of the last section. ✓ In addition there are also eight secondary recommendations of a more administrative nature that might prove to be useful whatever the outcome of the total system review suggested earlier.

1. Improve the administrative support for Mark Brooks.
2. Incorporate periodic external evaluation into the project.
3. Document in detail the model of the Early Warning Information System and the phases through which it evolved.
4. Devise techniques to monitor the performance of the operating Early Warning Information System, keep it alert, and maintain its integrity.
5. Consider changes in the sampling design and frequency of sampling in the validation study.
6. Evaluate carefully any further graduate student participation in the project.
7. Give consideration to the problem of the appropriateness of this form of Early Warning Information System in areas where political commitment is weak and data sources are scarce.
8. Consider both the merits and demerits of mapping food crisis areas.

Each of these eight secondary recommendations may be considered in the light of the following discussion.

Discussions of Secondary Recommendation 1. Improve the administrative support for Mark Brooks.

The Evaluation Team was greatly impressed by the performance of Mark Brooks as Site Director. He has shouldered remarkably well the burden of being the chief "thinker" of the project, the chief administrator

for the project, and the primary link between agencies within the Indonesian government. The Evaluation Team believes that some of the failure to retain the overall systems perspective arises because Mark Brooks has been allowed no time to sit back and reflect on the progress of the project. Additional on-site assistance may remedy this situation.

Discussion of Secondary Recommendations 2. Incorporate periodic external evaluation into the project.

Evaluation is necessary so that the Indonesia-Cornell team have to review their progress with the help of individuals unafraid to ask penetrating questions. The evaluation must be undertaken with the active cooperation and participation of the Cornell-Indonesia project team seeking self improvement.

At the very least, the next evaluation team should include a systems analyst with experience in moving from concept to operation.

Other disciplines which might be brought to bear include cultural anthropology, geography, and economics. Least important is knowledge of nutrition because the existing expertise of so much of the current Cornell team lies primarily in that area.

We recommend that an early review (perhaps in August 1981) be carried out, rather than an annual review. If additional evaluation is deferred until 1982, there will be insufficient time for the Indonesia-Cornell team to react adequately prior to project completion.

Discussion of Secondary Recommendation 3. Document in detail the model of the Early Warning Information System and the phases through which it evolved.

The Indonesian Early Warning System reflects some excellent and creative work with regard to organizing governmental resources, conceptualizing nutritional surveillance in general and early warning in particular, and implementing a system within the very real constraints of the Indonesian culture and governmental structure. The linkages between the concept and the product should be carefully articulated

in a single document for both dissemination to interested international observers and to other kabupaten and central ministries within Indonesia.

We believe that this document should be prepared by an Indonesian-- perhaps Soekirman -- with the assistance of the Cornell consultants. Such a document might be integrated with a second evaluation as suggested in Recommendation 2.

Discussion of Secondary Recommendation 4. Devise techniques to monitor the performance of the operating EWIS, keep it alert, and maintain its integrity:

So much energy has gone into the creation of the early warning system that little time has been available to consider its operation once its in place.

We see no mechanism emerging to evaluate the performance of the system once it is operating. The performance criteria suggested by the evaluation team in this report i.e. costs, response times, and impact and failure rates should be used for the self-monitoring of performance.

A problem with the early warning system once it is operating is that the operators of the system lose vigilance once the procedure become routine. To prevent this procedures should be developed in collaboration with a person who has experience with other early warning systems. As examples one might intervene and change the indicators for an area to signal crisis and observe whether the appropriate intervention is initiated or one might try to keep reporters sensitized so that newspaper reports which are rapidly published keep the system alert.

As the warning system evolves, and becomes understood people will attempt to benefit from the system. There is already evidence in Lombok, that participants in the household surveys have devised ways to beat the system; i.e. to falsify responses in the hope of getting additional assistance. As local bupatis come to understand the early warning system such efforts to take advantage of the existence of the system are likely to increase.

Procedures to get vital information from more than one source might hinder such action. Special verification studies may be needed on a spot-check basis to guarantee the integrity of the system.

Discussion of Secondary Recommendation 5. Consider changes in the sampling in the validation study

One way to reduce the costs and effort expended in the validation study would be to survey other village in Lombok Tengah Kabupaten instead of every village. Only half the information would need to be processed and analyzed. (Frankly, the Evaluation Team is not sufficiently familiar with Lombok to be confident that nothing would be lost by sampling villages as well as households; however it is one way to cust costs)

Furthermore, to minimize the problem that the six week spacing of surveys might be inappropriate, some of the villages might be surveyed every three weeks while, to compensate, others might be surveyed every 12 weeks. Again, the logistics of such a strategy are not fully understood by the Evaluation Team; but, it is worth considering.

Discussion of Secondary Recommendation 6: Evaluate carefully any further graduate student participation in the project.

Internally the evaluation team expressed concern over the use of graduate students on the Cornell staff. We sense that the Indonesian counterparts share that concern. Certainly, graduate students can do exceptionally good work for less money. The risk is that their ultimate objective -- to get a degree -- will bias their judgments with regard to the best direction for the project. No sensible student will support any change in project procedures that would jeopardize the completion of his/her degree.

The temptation is to make a recommendation that student assistance should be discouraged. We feel that such a recommendation is too strong. We can only warn everyone concerned over the risks of using students in primary roles and advise that each case be evaluated carefully.

Discussion of Secondary Recommendation 7: Give consideration to the problem of the appropriatenes of this form of EWIS to food crisis areas where political commitment is weak and data sources are scarce.

The evaluation team foresee the EWIS system spreading to other kabupatens by example because of its effectiveness and the increased political prestige of the Bupati. Differences in human ecology in different kabupatens will affect the choice of both indicators and responses. These differences can be handled, but a great deal of thought must be given to dealing with those areas which are prone to food crises but characterized by minimal streams of indicators, minimal involvement of the local government officials, and minimal communication ties with the response system (e.g. DOLOG) as in parts of Sumbawa, the Sikka area of Flores, and other areas of Nusa Tenggara Timur)

Discussion of Secondary Recommendation 8: Consider both the merits and demerits of mapping food crisis areas.

The evaluation team have noted mentions of "daerah kritis" (critical areas) "minus areas" and "hunger mapping" as a procedure to be considered prior to the spread of the EWIS to other Kabupaten. It must be remembered that demarcation of such areas can only help in a priority targetting system, it should not limit the coverage of the warning system. Food crises will always occur outside the critical areas - as happened in the Lombok case documented by Abell in 1972 and also in the Krawang food crisis of 1976.

APPENDIX I

The team held discussions with the following people during their evaluation.

Dr. H.A.R. Tilaar	(Head, Bureau of Social Welfare People Housing and Health, BAPPENAS)
Mrs. H. Soetedjo	MPH Planning Staff, BAPPENAS
Mr. Ig. Tarwtotjo	Director, Directorate of Nutrition - and staff.
Mr. Djumadias	CRDN Staff - Bogor
Mr. Darwin Karyadi	Director CRDN - Bogor
Mr. M. Enoch	CRDN Staff - Bogor
Ms. Soekartijah	Head, Division of Nutrition
Prof. Loedin	Head, National Institute of Health, Research and Development.
Dr. Soebroto	Head, Provincial Department of Health Central Java
Mr. Soetarto	Head, Nutrition Division, Provincial Health Department Central Java.
Mr. Moh. Tohir	Bupati - Boyolali
Mr. Putu Jiwa	Head, Nutrition Division Provincial Health Department, Bali
Dr. Lalu Sukri	Assistants to the Governor for Economic and Social Development of NTB
Dr. Djalal	
Dr. Saroso	Head, Provincial Dept. of Health of NTB
I.R. Sapuan	Head, Bureau of Prices and Marketing, BULOG
Mr. Tobing	DEPSOS
Mr. Putia	DEPSOS
Dr. Mark Brooks	Surveillance Project Site Director
Mr. David Williamson	Surveillance Project Staff
Mr. Abas Jahari	
Mr. Iman Soemarno	Surveillance Project Staff - Bogor

Mr. N.Studzinski	USAID
Mr. R.G.Pratt	USAID
Dr. David Calder	USAID
Mr. Joe Stepanek	USAID
Mr. R.Tilden	Hellen Keller Foundation
Dr.S.Solter	KOBA
Dr. J.P. Habicht	Cornell Ithaca, N.Y.
Dr. John Mason	Cornell, Ithaca, N.Y.
Dr. Dan Sisler	Cornell, Ithaca, N.Y.
Dr. Steve Hoffmen	NAMRU
Mr. Leroy Hollenbeck	RI/USAID BAPPEDA LOMBOK
Dr. Bambang Poernomo	Chief Kabupaten Physician, Central Lombok Kabupaten.

APPENDEK II

REPORT ON GENERAL STATUS EVALUATION
OF NNSS - PHASE I AND PHASE II (ON-GOING)

Submitted by : SOEKIRMAN
Date of Visit : 10 January - 27 January, 1981

Terms of Reference for the Evaluation

PHASE I.

- A. Examine the Contractor's role in stimulating the involvement of important central GOI institutions in the process of design and on-going implementation of the NNSS:
1. Review work pursuant to (2.01.1 and 2.02.1) Phase I Contract relating to the contractor : "Establishing a system which will coordinate the efforts of several ministries and government institutions in Indonesia".
 - (a) Interview members of Interdepartmental Committee determine nature and extent of activities of this body with the collaboration of Cornell Personnel and those of CRDN (e.g. number of times met, decisions/action taken etc.)
 - (b) Review project records and interview the Director and staff of the Directorate of Nutrition, MOH to determine the nature and extent of participation of this directorate in the design and implementation of the NNSS. Of particular interest here, is the specific activities related to the transfer of knowledge and skills needed for the eventual management of the NNSS by this directorate (i.e. appropriate training, actual working with data, simulations, field visit, etc.).
 - (c) Review the activities connected with the workshop conducted at the end of Phase I and determine if the stated contract objectives under section 2.01.3 and 2.01.5 (a and b) of the

Phase I Contract have been accomplished.

- B. Review the Contractor's attainment of certain Terms of Contract:
 - 1. Training of NIHRD and Directorate of Nutrition Personnel.
Review attainment of training objectives specified in section 2.01.5 (a) of the Phase I Contract.

PHASE II.

- 1. Review the progress leading to attainment of the NNSS Organizational Structure objectives (Central and Local levels). In particular, provide comments and recommendations regarding the timing and phasing in of the involvement of the Nutrition Directorate (DITZI). Discuss the adequacy of the training and practical involvement of the appropriate staff of DITZI.
- 2. Review the adequacy, nature and extent of involvement of the Inter-departmental Committee, and provide recommendations, if any, for the strengthening of this body's function.
- 3. Review the progress and problems, if any, with the tasks of organizing the Kabupaten and Provincial Surveillance system particularly with regard to the response system mechanism.

Activities

- Jan. 10, 1981 : Arrived in Jakarta
- Jan, 12, 13, 14, 16 : Discussion of the objectives and schedule of the evaluation team with Mr. Studzinski, and Dr. Mark Brooks at US - AID.
- Jan. 13 : 1) Met Dr. H.A.R. Tilaar (Head, Bureau of Social welfare, People's Housing and Health, BAPPENAS), and Mrs. H. Soetedjo, MPH. Planning Staff, BAPPENAS, to discuss the current development of nutrition programs, especially NNSS.
- 2) Met Mr. Ig. Tarwotjo, M.Sc., Director, Directorate of Nutrition, and staff, Dr. Mark Brooks and Mr. David Williamson, to discuss the current status of the NNSS from DITZI's point of view and the prospect of applying NNSS in the future.
- Jan. 15 : Attended Staff meeting of NNSS at CRDN, Bogor, chaired by Mr. Djumadias, M.Sc. Met Dr. Darwin Karyadi, (Director, CRDN - Bogor), and Miss Soekartijah, MPH (Head, Division of Community Nutrition), to discuss the current development of NNSS and the purpose of the evaluation team's visit.
- Jan. 16 : Reported to Prof. Loedin, Head, NIHRD and discussed the terms of reference of the evaluation team and schedule.
- Jan. 19 : Attended evaluation team meeting at US-AID, attended by : Mr. Studzinski (US-AID Jakarta), Dr. Dean Wilson (Team-leader, CSF), Dr. Bruce Currey, (Team-member, East-West Center), Dr. Mark Brooks (Site Director NNSS, Cornell).

- Jan. 20 : Left for Semarang to discuss the current development of NNSS with :
- Dr. Subodro, (Head, Provincial Department of Health, Central Java).
 - Mr. Sutarto (Head, Nutrition Division, Provincial Health Department), and
 - Mr. Mr. Djumadias, M.Sc.
- Jan. 21 : Attended Boyolali Nutrition Board (BPGD) meeting chaired by Boyolali's Bupati Mr. Moh. Tohir, with the special topic of the NNSS in Boyolali.
- Jan. 22 : 1) On the way to Lombok from Boyolali, met Mr. Putu Jiwa, MPH, Head, Nutrition Division, Provincial Health Department, Bali, and also an officer in charge for NNSS in Bali.
- 2) Arrived in Lombok : Met Drs. Lalu Sukri and Drs. Djalal (both are Assistants to the Governor for Economic and Social Development of NTB) to discuss the current development of the BPGD and the NNSS in Lombok.
- Jan. 23 : 1) Together with other members of the evaluation team and the NNSS-team, met Dr. Saroso, Head, Provincial Dept. of Health of NTB.
- 2) Attended BPGD meeting chaired by Drs. Lalu Sukri and Drs. Djalal. Other members of the evaluation team and the NNSS team attending the meeting were: Drs. Dean Wilson, Bruce Currey, Mark Brooks, and Messrs. Dave Williamson,

Djumadias, Enoch, Sunarko. The agenda of the meeting was a review of economic and social development of NTB and discussions about the validation study of NNSS.

3) Left Lombok for Jakarta.

Jan. 24 : Meeting with some members of the NNSS Advisory Committee held at BAPPENAS. Attending the meeting were:

1. Mrs. H. Sutedjo, BAPPENAS.
2. Ir. Sapuan, Head, Bureau of Prices and Marketing, BULOG.
3. Mr. Tobing, DEPSOS.
4. Mr. Putia, DEPSOS.

Agenda of the meeting was to review the role of the NNSS Advisory Committee.

Jan. 24, 25, 26 : Writing of report draft

Jan. 26 : Courtesy call to Dr. R. Soebekti, Director General for Community Health, Department of Health, and to Mr. Soejoto, SH, Deputy Chairman for Social and Cultural Affairs, BAPPENAS.

Attended meeting with Prof. Loedin, together with the other members of the team.

Jan. 27 : Left for Cornell

THE ROLE OF THE NUTRITION DIRECTORATE (DITZI)

The Directorate of DITZI is a member of the NNSS Advisory Committee. In phase I his major contribution was in the establishment of NNSS design now being tested in phase II. In phase II, the DITZI has assigned several staff members to be involved in the base-line data collection, validation studies and in training. In the DIP for 1980/81, a budget for the amount of Rp 7.000.000,- was available for travel/administrative purposes. This amount is proposed to be increased to Rp 34.000.000,- in the DIP for 1981/1982. This shows that the DITZI is fully aware of its role and responsibilities as the consumer of the NNSS.

The overall plan to accommodate the NNSS after the research and development project is completed has been initiated by the Director of DITZI :

1. NNSS Sub-unit in the new organization of the DITZI

A new organization for the Directorate of Nutrition has been proposed. In this new organization, the NNSS activities will be assigned to a "NNSS sub-unit", under the unit for "Program Development" (see attachment app.1). The NNSS sub-unit will be responsible not only for the early warning system to prevent the occurrence of food crises, but also for monitoring and evaluation of all nutrition programs.

Reorganization of the Directorate has to wait for a total reorganization of the entire Department of Health, which may take place only in the next REPELITA (REPELITA IV 1982 - 1986). However, some actions have been taken to participate in phase II of the NNSS, without waiting for the new organization of the Directorate.

It is planned that 10 staff members will be assigned to participate in the NNSS. Four of them have participated in various activities of NNSS. They are Dr. Martini, Sunarko, Herno Soekirno, and Siti Zaenab (see appendix 2). How effective has been their

involvement in the NNSS is difficult to judge, since there is no evaluation method for their work. It seems, however, there is little coordination among this staff for participating in the NNSS. Since the involvement of Dr. Martini in the NNSS is longer than the others and she has shown her ability to understand the NNSS, it is suggested that she should be given authority to coordinate DITZI staff working in the NNSS.

2. Transferability of the NNSS to other areas

The serious participation of DITZI Staff (with more involvement in the problem-solving process) is more crucial when considering a plan to extend the pilot areas to 2 other Kabupatens managed by DITZI in 1981/1982. Since the right indicators to predict food crises will not be known by 1981/82, this extension to new areas is probably appropriate only for setting up experimental systems to sensitize local officials, especially in critical areas, to the possibility of food crises at any time of the year. If the extension is meant to establish an EWS for a food crises, the transfer of knowledge and skills in 1981/82 from the current NNSS is probably too early.

In addition, more training and experience are still needed by DITZI staff in order to be capable in managing intersectoral projects such as the NNSS. Since a three week training workshop (sec. 2.02.5 b phase I) has not been implemented, it is very essential to start this training for the staff involved in the NNSS as agreed upon in the contract. This training should cover both technical aspects of the NNSS as well as the managerial skills needed to implement the NNSS.

The following are steps suggested to initiate the transfer of knowledge and skills for the NNSS :

- 1) Organize a three-week training course for NNSS staffs from CRDN, DITZI and Provincial level. The curriculum should cover :
 - (a) Principles of managing a project (including effective communication)

(b) Basic statistics (Descriptive)

(c) Basic concepts of the NNSS and its application

- 2) Involve these trained personnel in the pilot areas and give them more responsibilities in the field. A field experience report from each trainee should be encouraged (see Dr. Brooks's memo to Mr. Tarwotjo, Nov. 22, 1980).
- 3) Prepare new sites for the extension of the NNSS with appropriate criteria. (It is recommended that the Kecamatan selected match with criteria for the "Kecamatan miskin" BAPPENAS 1981/1982, app.III).
- 4) Prepare manuals for NNSS operations at different stages.

Steps 1 - 4 could be carried out in the the first and second year of phase 2, and

- 5) DITZI could initiate operational preparation in new areas with guidance from the CRDN and NNSS team in the second and third years of Phase 2.

3. Long Term (degree) Training for NNSS Staff (Sec. 2.01.5 Contract Phase I)

The contractor's commitment in this area was not implemented due to the unavailability of qualified candidates. Due to the urgency for this type of training, a rigorous effort should be initiated to select candidates from DITZI staff, preferably these who have been involved in the NNSS.

4. Organizational and Structural Objectives of the NNSS

At the Provincial and Kabupaten levels, the integrated nature of the NNSS is attained through the Provincial and Kabupaten nutrition Boards (BPGD) (app. 3). This board had been inactive for several years. In NTB and Central Java, the NNSS has reactivated the board to function properly as a coordinative forum. With this encouraging development, the flow of data from various agencies to be processed together at one point, is now possible.

At the central level (in Jakarta), the integrated nature of the NNSS is feasible through the inter-departmental working group on nutrition ("POKJA GIZI/PMMR") established under the Corrdinating Minister for People's Welfare (MENKO KESRA).

The effectiveness of this high-level coordination mechanism for the NNSS will depend primarily on the abiltiy of the future unit of NNSS at DITZI to complete work and prepare appropriate reports for decision-making.

NNSS in Boyolali (Central Java)

Initial preparations to implement the NNSS in Boyolali were formalized in a Provincial Nutrition Board (BPGD) meeting held on August 26, 1980. The meeting was attended by the NNSS team from Bogor and Jakarta. As a follow-up, the NNSS team met various agencies in Semarang (Provincial level) and Boyolali (Kabupate level) to discuss, individually, the NNSS concept and participation expected from each agency.

A NNSS workshop was organized on September 26 - 28, 1980. This workshop was attended by the Bupati's staff and various agencies from Boyolali as well as the province. It was concluded that to initiate the NNSS in Boyolali, a decree of the Governor (SK GUBERNUR) to reorganized BPGD at various levels was required. This decree, known as "SK GUBERNUR NO. 444/180/1980 OCTOBER 3, 1980", was finally issued. This decree will assist the implementation of NNSS and other nutrition programs.

Based on our discussions with Dr. Subrodo, Head, Central Java Dept. of Health, and Mr. Sutarto, MPH, Head, Nutrition Division of the Provincial Dept. of Health, the new BPGD will have better prospects in functioning compared to the old BPGD. The new BPGD has budget for its operation.

Since the effectiveness of the NNSS mostly depends on the functioning of the BPGD, the Nutrition Division ("DINAS GIZI") in Semarang should initiate staff work to make an inventory of problems to implement nutrition programs in Central Java. In additon, they should provide alternative solutions to the problem to be discussed and solved a a BPGD forum.

Without an active role of DINAS GIZI, BPGD could slowly "disappear" again. The NNSS team from Bogor and Jakarta could help DINAS GIZI in Semarang by providing a list of problems encountered in the NNSS (or others) and alternative solutions based on local conditions.

Several issues which may be relevant to BPGD are :

- 1) The effectiveness of the Integrated - UPGK in Central Java (UPGK Terpadu).
 - 2) Decision-making mechanism in relation to the NNSS at provincial level.
 - 3) Job-distribution and other managerial problems among agencies; etc.
- Problems encountered in implementing the NNSS in Boyolali are mainly managerial problems i.e. : lack of effective communication between the NNSS team and various agencies in Boyolali. Since there has been no follow-up after the workshops of NNSS for Boyolali, many agencies/persons forgot the concept (the what and how of NNSS). Therefore, they could not fulfil their commitment to send reports to Bogor, because of misunderstandings of what data to report, how and where to report, etc.

To maintain the level of interest and attention of officials in Boyolali concerning the NNSS, the following actions are recommended to be taken :

A two page letter should be written by project officer of NNSS in Bogor to :

- Thank the Bupati for his important support of NNSS
- Brief but clear statement of what is the NNSS and how it will operate
- Plan of action in the very near future
- Short explanation/comment on the problems discussed at the BPGD meeting of January 21, 1981.
- What to expect from various agencies to work out NNSS.

The letter should be sent to KA-KANWIL DEP.KES. with copies to Bupati Boyolali and agencies concerned.

NNSS in Bali

A very brief discussion, with Mr. Putu Jiwa, MPH (Head of Nutrition Division, Provincial Department of Health, Bali), was held on the way to Lombok on January 22, 1981. The major problem in initiation of the NNSS in Bali is man power. Mr. Jiwa is to be promoted to a higher non-nutrition position, without a senior successor to run the nutrition programs.

It is recommended, therefore, that a serious discussion be held with Mr. Tarwotjo, Ka-Kanwil Dep. Kes. Bali, and the Project NNSS officer to find an alternative method of filling Mr. Jiwa's post. If the NNSS is to be started in the near future without Mr. Jiwa's responsibility in this project, then more intensive supervision from NNSS team Bogor/Jakarta will be needed.

Mr. Jiwa mentioned the possibility of using PLKB (Family Planning Field Worker) in the NNSS. This possibility could be explored since the nutrition program in Bali is going well with BKKBN. In the coming workshop serious discussion on manpower should be given attention.

NNSS in NTB

In an extensive private discussion Drs. Lalu Sukri and Drs. Djalal (both are assistants to the Governor for Economic and Social Development affairs of NTB and the chairmen of NTB Nutrition Board (BPGD).), expressed their interest in making the NNSS in Central Lombok a success. They were also concerned with the effectiveness of BPGD in facilitating the NNSS development. One of the major obstacles to activation of BPGD is budgetary; the NTB BPGD has no operational budget. After discussing the budget allocation procedure for BPGD, I suggested that they follow the Central Java BPGD. The Governor's decree mentioned explicitly that the budget for routine activities is allocated by APGD (Provincial Budgeting Plan). I also mentioned that instructions for budget allocation for BPGD were issued by the Minister of the Interior (MENDAGRI) two or three years ago. These instructions can be found in the secretariate of POKJA GIZI MENKO KESRA (Ir. Supardan).

It will be helpful to NTB BPGD if the NNSS-team could bring along with them a copy of the instruction on the next visit to Lombok. Some of the problems encountered during BPGD meeting on January 23, 1981 centered around communication difficulties among the NNSS team and several agencies at the provincial level. It seems that the NNSS concept is not yet fully understood by all agencies concerned. For instance the Head of NTB-Department of Social Welfare (DEPSOS) proposed that NNSS provide them with special forms questionnaires to fill out. In addition some agencies still think that special personnel and an organization should be provided, e.g. like BKKBN (Family Planning Coordinating Board).

This writer recommends that, in Central Java, a better and more effective way of communicating the NNSS requirements should be explored.

A potentially serious technical problem which needs to be considered by the NNSS team is the concern of Central Lombok authorities (as stated by SEKDA (Secretary of BUPATI) about the expectations of the survey respondents.

There is concern that people will expect aid from the government because of the repeated interviewing. Because of this attitude there is concern that questionnaire responses may be exaggerated.

This writer suggests that the NNSS-staff give serious thought to this valid concern raised by the Lombok authorities.

that the participation of the agencies at provincial/kabupaten level, often depend on the policy at central level.

To obtain a better understanding of NNSS, the writer suggests that more frequent contact are made among the key members of the committee, i.e. BULOG/DOLOG (Central/Provincial Logistic Body), DEPTAN (Dept. of Agriculture), DEPKES (Dept. of Health) and DEPSOS (Dept. of Social Welfare), and Statistic (BPS). A simple (2-3 pages) monthly bulletin of NNSS may be helpful to facilitate communication among all members of the committee and others.

Based on the data/information collected by NNSS team, it is probably useful to have a special committee meeting to discuss the popular terminology of KM, KKM, KHO; difinition of "famines" or "food crisis" etc. The result could be inputted to POKJA GIZI (National Nutrition Working Group) of MENKO KESRA. Hopefully through this mechanism, a policy could be issued regarding the cirteria of "famine", "food crisis", etc.

GENERAL CONCLUSION

1. In attempting to establish an organizational system for NNSS, the project is progressing significantly. Serious concern and commitment from various agencies and officials at Central as well as regional levels are apparent.
2. NNSS has proved to be able to provoke the reorganization/revival of BPGD as occurred in NTB and Central Java. Hence, NNSS also may enhance the implementation of other nutrition programs.
3. There are some weakness in maintaining effective communications among NNSS team and the agencies at central and regional levels. This shortcoming can be overcome by appropriate training to the staff involved in NNSS.

INTERDEPARTMENTAL COMMITTEE

The writer had a chance to discuss some problems of NNSS with some members of interdepartmental committee, i.e.: Ir. Sapuan, Head Bureau of Price and Marketing, BULOG, Drs. Putra Tobing, and Sarwohadi from DEPSOS (Dep. of Social Welfare). The discussion was held at BAPPENAS, on January 24, 1981. The representative from Agriculture could not attend the discussion because of conflicting agenda.

Since its establishment in 1979 this committee had met two or three times. The last meeting was held during the workshop in January 1980. No records or minutes of the meetings were available. However, since the writer was a member of the committee he recalled that the topic discussed in above meetings was the concept of NNSS to be developed and tested. They also discussed the possible indicators to be used from various departments. The concept and indicators were finally discussed at the Workshop.

The discussion held on January 24, 1981 with BULOG and DEPSOS mainly to review the current development of NNSS and the involvement of those agencies. Ir. Sapuan from BULOG stated that he is aware of the development of NNSS from one NNSS staff (Ir. Mashari) who visited his office several times. He also mentioned that BULOG is developing a new information system. He welcomes the NNSS team to discuss with him how the new system complements NNSS. He stressed the important role of DEPSOS, since DEPSOS now acts as the secretariate of "Inter-Ministerial Body for Dealing with Disaster", chaired by the Coordinating Minister of People's Welfare (MENKO KESRA). BULOG acts on the request of DEPSOS (at central level) when a disaster (including food crisis) occurs.

The representative from DEPSOS (Drs. Putra, Drs. Tobing, Drs. Saworhadi) were new to NNSS. The official familiar with NNSS is now at different post. In practice, DEPSOS has lost contact with NNSS since the workshop in January 1980. A new approach to Depsos is needed.

The writer recommended, that a periodic meeting (once in 3 months) should be organized to maintaining the interest of committee members on NNSS and solve problems encountered at pilot areas. It should be noted

SUGGESTED PARAMETER FOR FUTURE EVALUATION

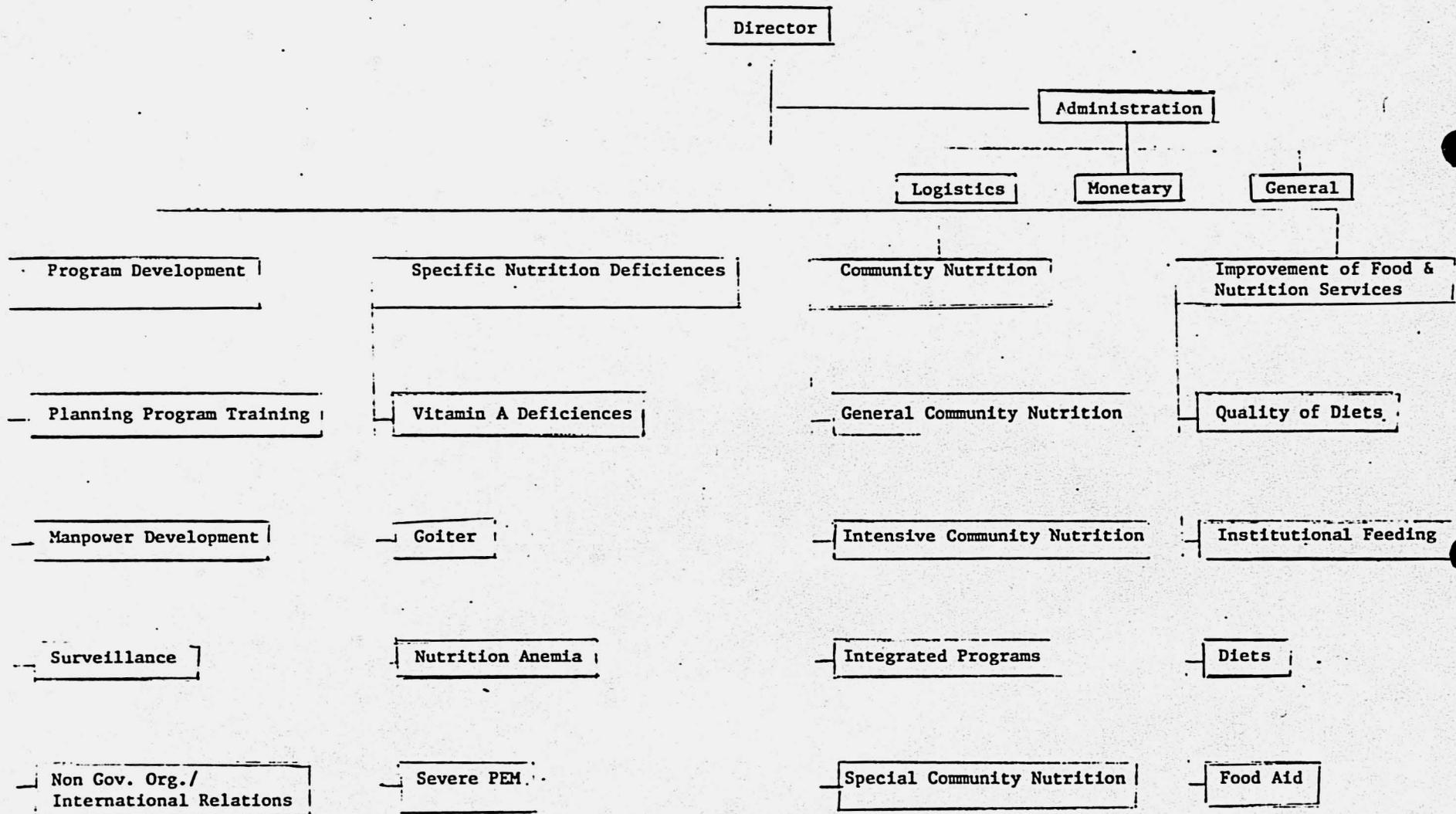
Organizational

1. Development of NNSS in pilot areas:
 - * the smoothness of flow of data
 - * capability of processing data/information to be further analyzed in Bogor
 - * number and type of response made by decision makes at different levels pertaining to NNSS
2. Development of NNSS at Nutrition Directorate:
 - * number of staff trained
 - * capability of handling data
 - * number sent forward to decision maker for further instructions
 - * realization of proposed new structure with sub-unit of surveillance

Technical

- * Progress of "validated" data
- * Number of indicators used
- * Adequacy of response/feedback from NNSS team for Bogor to Province/Kabupaten
- * Number and quality of report submitted

PROPOSED - Administrative Structure Of The Nutrition Directorate



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 Appendix II: Involvement DITZI STAFF

In Phases I and II, NNSS

No.	Name	Date	Location	Activities		
1.	Martini	- Jan, 9-11, '80	Cisarua, Bogor	Participant of workshop on NNSS		
		- April '80	Mataram, NTB	Attended a meeting with governor : - Feasibility study of pre-indicators (discussion with agencies)		
		- May, 26, 28 '80	Mataram NTB	NNSS training orientation (resource person)		
		- June 3 - July 11	Central Lombok, NTB	Baseline (supervision of enumerators)		
		- Aug. 25 - Sept. 1	Semarang, Central Java	Feasibility study of pre-indicators (discussion with agencies).		
		- Sept. 13	Bandung, West Jawa	BPGD meeting (participant)		
		- Sept. 25 27	Bandungan, Central Java	NNSS Training Orientation (resource person)		
		- Oct. 29	Central Lombok, NTB	Supervision of supervisors		
		- Dec.	Bali	Attended a meeting with Governor		
		- Jan. 18-20 1981	Bali	BPGD meeting (observer, resource person)		
		- Jan. 21-23 1981	Boyolali, Central Java	BPGD meeting (observer, resource person)		
		2.	Sunarko	- 9-11 1980	Cisarua, Bogor	Participant of workshop on NNSS

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	June, 1- 23, 1960	Mataram, NTB	Training enumerators (e.g. explain the use of form, etc.)
	Aug.28 Sept.13	Central Lombok NTB	Resurvey I (Supervisor)
	Oct.13- 23	Boyolali, Central Java	Baseline (supervisor)
	Jan.24- 30	Central Lombok, NTB	Resurvey III (Supervisor)
3. Siti Zaenab	Oct.20- 25	Boyolali, Central Java	Baseline (Supervisor)
	Dec.3- 15	Central Lombok, NTB	Resurvey II (Supervisor)
	Dec.27- 31	Bogor, (CRDN)	Processing data (Tabu- lation)
4. Herno Sukirno	Aug.25-31	Semarang, Central Java	Feasibility study of pre-indicators (discuss- ion with agencies)
	Dec.27- 31	Bogor	Processing data (tabulation)

LIST: POOR AND VERY POOR KECAMATAN (1981/1982)
 BASED ON CROSS-ANALYSIS OF DATA FROM
 AGRARIA, PROVINCIAL DATA, AND RURAL-DEVELOPMENT

MKS = VERY POOR
 MK = POOR

No	Propinsi	Kabupaten	Kecamatan	Luas (Km ²)	Jumlah pendu- duk.	Jum- lah De- sa	Klas- ifi- ka- si	Ket.
	2	3	4	5	6	7	8	9
1.	Daerah Istimewa Aceh.	1. Aceh Utara	1. Samalanga	270,0	28.517	74	Mks	MKS = mislim sekali MK = mislim
			2. Dewantara	256,3	31.026	59	Mks	
			3. Muara dua	113,7	1.078	28	Mks	
		2. Aceh Barat	4. Simeulu Ti- mur.	307,5	20.121	29	Mks	
			5. Johan Pahla- wan.	45,1	23.940	20	Mks	
2.	Sumatera Utara	1. Deli Ser- dang.	6. Bandar Kho- lifah	44	20.722	5	Mks	
			7. Teluk Mang- kudu.	91	24.411	12	Mk	
		2. Tapanuli Utara.	8. Pakkat	127	24.968	23	Mks	
			9. Pangaribuan	680	26.265	28	Mks	
			10. Parlilitan	967	26.516	20	Mks	
		3. Asahan	11. Medanig Deras	65	25.271	12	Mk	
		4. Labuhan Ba- tu.	12. Sei Kanan	1137	13.893	9	Mk	
		5. Langkat	13. Pangkalan Susu.	325	28.375	16	Mk	
		6. Tapanuli Tengah.	14. Sarkam	309	28.345	53	Mk	
		3.	Sumatera Barat	1. Agan	15. Baso	86,97	28.606	23
2. Limapuluh Koto.	16. Harau				496,80	26.203	39	Mk
3. Padang Pa- riaman.	17. Siparua			23.300,00	3.626	10	Mk	
4. Solok	18. Kubang			192,00	32.713	49	Mk	
5. Sawah Lunto/ Sijunjung	19. Sijunjung			850,14	30.170	51	Mk	
4.	Riau	1. Kep. Riau	20. Siantar	260,63	20.907	9	Mk	
			21. Tambelan	169,42	3.984	6	Mk	
			22. Bungaran Timur.	1983,34	8.784	8	Mk	
		2. Kampar	23. Pangkalan Kuras	4724,75	9.000	17	Mks	

	2	3	4	5	6	7	8	9
Jambi	1. Bungo Tebo	24. Tebo Tengah.	3.000	25.287	36	Mk		
	2. Sarolangun Bangko.	25. Batang Asai.	1.222	10.224	50	Mk		
		26. Sei Manu	1.367	11.500	45	Mk		
	3. Batanghari	27. Mersan	1.733	26.042	27	Mk		
Bengkulu	1. Bengkulu Utara.	28. Muko-Muko Utara	1564,00	15.209	32	Mk		
		29. Ketahun	297,01	9.530	27	Hm		
		30. Muko-muko Sel.	2472,70	11.928	24	Hm		
	2. Rejang Lebong.	31. Lebong Utara	987,50	28.788	32	Hm		
Sumatera Selatan.	1. Lahat	32. Muara Penang.	564,55	42.729	38	Mk		
	2. O K U	33. Muara Dua Kisan	1.378,00	17.841	36	Mk		
		34. Cempaka	1.449,00	88.400	37	Mk		
	3. Liot	35. Prabumulih.	2.150,00	108.812	48	Mk		
Lampung	1. Lampung Selatan.	36. Ketibung	476,35	119.558	35	Mks		
		37. Palas	149,94	35.985	15	Mks		
	2. Lampung Tengah.	38. Jabung	1.826,46	82.437	23	Mk		
		39. Kalirejo	110,27	75.988	22	Mk		
	3. Lampung Utara.	40. Pesisir Utara.	383,91	15.612	27	Mk		
		41. Pesisir Selatan	266,70	17.398	26	Mks		
		42. Mesuji	310,51	10.509	9	Mks		
Jawa Barat	1. Ciamis	43. Pangandaran.	14714,04	57.783	11	Mk		
		44. Cijerang.	5727,649	34.268	11	Mk		
	2. Bogor	45. Cariu	12457,30	55.115	12	Mks		
		46. Sawangan	6603,23	68.409	17	Mks		
		47. Citerup	11093,76	90.675	17	Mks		
		48. Cisarua	10329,55	94.911	17	Mks		
		49. Ciawi	8951,79	115479	23	Mks		
	3. Karawang	50. Cikaupek	84,44	106.312	12	Mks		

4. Lebak

2	3	4	5	6	7	8
	4. Lebak	51. Sajira	180,56	22.799	5	Mks
		52. Muncang	140,13	32.043	5	Mks
		53. Warung Gunung.	84,92	45.918	16	Mks
		54. Panggarangan	253,57	34.982	8	Mks
	5. Serang	55. Mancah	73,580	23.821	11	Mks
		56. Cilegon	34,828	42.728	16	Mks
		57. Petir	87,219	47.677	14	Mk
		58. Krugilan	42,147	30.690	9	Mk
	6. Tangerang	59. Batucoper	3,637	76.357	7	Mks
		60. Ciledug	39,62	83.831	12	Mks
		61. Cikupa	79,79	58.852	13	Mks
		62. Curug	79,41	65.977	13	Mk
		63. Balaraja	100,73	87.453	18	Mk
	7. Tasik Malaya	64. Indihiang	55,70	24.588	11	Mks
		65. Cikatomas	141,338	31.349	5	Mk
	8. Cianjur	66. Cugonang	56,41	55.488	14	Mks
		67. Campaka	133,13	49.914	7	Mk
	9. Cirebon	68. Waled	44,505	54.975	11	Mks
		69. Ciwaringin	37,206	38.057	11	Mks
		70. Arjawinangun	35,256	57.103	11	Mks
		71. Sumber	40,110	44.783	15	Mks
		72. Weru	29,208	73.814	13	Mks
		73. Klangeran	38,938	54.061	14	Mks
	10. Majalengka	74. Lemah Sugih	80,639	35.675	10	Mk
		75. Argapura	37,380	27.216	11	Mk
	11. Garut	76. Cisurupan	293,70	49.527	9	Mk
	12. Subang	77. Pabuaran	173,15	95.274	10	Mks
		78. Sagala Herang	129	71.576	19	Mks
	13. Indramayu	79. Bangodua	61,08	44.110	10	Mk
	14. Pandogelang	80. Cimanggu	181,354	30.933	9	Mks
		81. Jiput	9,686	34.420	13	Mk
		82. Bojong	67,391	38.043	10	Mk
0: DKI Jakarta	1. Jakarta Barat	83. Tambora	7,29	200.252	10	+
	2. Jakarta Timur	84. Pulogadung	26,06	220.565	6	+

1	2	3	4	5	6	7	8	9
11	Jawa Tengah	1. Cilacap	85. Kawungan- : ten.	169,47	109.318	14	Mks	:
:	:	:	86. Dayeuh : Luhur	187,24	37.240	12	Mks	:
:	:	:	87. Majenang	150,64	88.550	13	Mks	:
:	:	:	88. Kosugihan	78,38	74.030	15	Mks	:
:	2. Banyumas	89. Lumbir	104,86	37.158	10	Mk	:	
:	:	90. Gumelar	96,93	42.471	9	Mk	:	
:	3. Purbalingga	91. Karang : Anyar	67,90	52.793	24	Mk	:	
:	4. Banjarnegara	92. Wanayasa	82,01	30.009	17	Mks	:	
:	:	93. Kalibening	39,96	44.009	24	Mk	:	
:	5. Kebumen	94. Ayah	71,85	43.602	18	Mk	:	
:	:	95. Sedang	109,45	48.115	21	Mk	:	
:	:	96. Karangga- : yam	109,29	42.891	19	Mk	:	
:	6. Wonosobo	97. Kaliwira	116,09	50.306	24	Mk	:	
:	7. Magelang	98. Sawangan	53,14	46.189	15	Mk	:	
:	:	99. Srunbung	41,23	36.136	17	Mk	:	
:	:	100. Ngluwar	20,91	27.964	8	Mk	:	
:	:	101. Saleu	30,29	34.821	12	Mk	:	
:	8. Boyolali	102. Cepogo	52,87	44.464	15	Mk	:	
:	9. Klaten	103. Kemalang	28,76	28.361	13	Mk	:	
:	10. Sukoharjo	104. B u l u	45,02	39.690	12	Mk	:	
:	:	105. W e r u	43,58	50.667	13	Mk	:	
:	11. Wonogiri	106. Bulukerto	72,13	46.801	16	Mks	:	
:	:	107. Giriwoyo	97,52	44.827	16	Mk	:	
:	:	108. Purwantoro	59,00	43.712	15	Mk	:	
:	:	109. Jatiroto	63,47	34.348	15	Mk	:	
:	:	110. Kismantoro	69,86	32.107	10	Mk	:	
:	12. Karang : Anyar	111. Jatiyoso	68,80	29.607	9	Mk	:	
:	13. Sragen	112. Sidoharjo	46,00	41.822	12	Mk	:	
:	14. Grobogan	113. Kradenan	104,82	57.733	14	Mk	:	
:	:	114. Klaten	42,05	23.898	9	Mk	:	
:	15. Blora	115. Tunjungan	91,46	31.955	15	Mk	:	
:	:	116. Menden	109,54	30.804	10	Mk	:	
:	16. Rembang	117. Pancur	42,79	19.617	23	Mk	:	

2	1	3	:	4	:	5	:	6	:	7	:	8	:	9
	17. Pati		:	118. Garbong	:	67,37	:	33.652	:	11	:	Mk	:	
	:		:	119. Cluwak	:	68,92	:	35.333	:	13	:	Mk	:	
	18. Demak		:	120. Wedung	:	97,08	:	54.494	:	20	:	Mk	:	
	19. Temanggung		:	121. J u n o	:	72,10	:	34.527	:	18	:	Mk	:	
DI Yogyakarta	1. Bantul		:	122. Kretok	:	22,792	:	28.801	:	5	:	Mks	:	
	:		:	123. Pandak	:	23,636	:	40.271	:	4	:	Mk	:	
	2. Kulon Progo		:	124. Lendah	:	30,794	:	34.255	:	6	:	Mks	:	
	:		:	125. Sami Galuh	:	79,107	:	30.158	:	7	:	Mks	:	
	:		:	126. Kalibawang	:	50,176	:	31.027	:	4	:	Mk	:	
	3. Sleman		:	127. Cangkringan	:	41,765	:	24.459	:	5	:	Mks	:	
	4. Gunung Kidul		:	128. Nglipar	:	88,411	:	44.998	:	10	:	Mk	:	
	:		:	129. Patuk	:	89,976	:	43.570	:	14	:	Mk	:	
Jawa Timur	1. Gresik		:	130. Manganti	:	66,07	:	57.114	:	22	:	Mks	:	
	:		:	131. Pancang	:	62,59	:	29.131	:	14	:	Mks	:	
	2. Probolinggo		:	132. Lumbang	:	92,71	:	22.995	:	10	:	Mks	:	
	:		:	133. Kuripan	:	22,80	:	22.931	:	7	:	Mks	:	
	3. Banyuwangi		:	134. Kabat	:	18,10	:	54.939	:	16	:	Mk	:	
	4. Paoitan		:	135. Angedani	:	112,247	:	32.480	:	17	:	Mk	:	
	:		:	136. Tegalrebo	:	138,69	:	42.402	:	10	:	Mk	:	
	:		:	137. Landan	:	116,63	:	33.459	:	8	:	Mk	:	
	5. Madiun		:	138. Hangu	:	71,21	:	54.297	:	17	:	Mk	:	
	:		:	139. Gemarang	:	113,96	:	27.917	:	7	:	Mk	:	
	6. Trenggalek		:	140. Dongko	:	25,29	:	43.827	:	10	:	Mks	:	
	:		:	141. Munjungan	:	144,85	:	33.651	:	11	:	Mks	:	
	:		:	142. P u l e	:	42,05	:	38.175	:	10	:	Mks	:	
	7. Tuban		:	143. Kenduruan	:	83,65	:	20.872	:	9	:	Mks	:	
	:		:	144. Senori	:	83,02	:	31.517	:	12	:	Mks	:	
	:		:	145. Singgahan	:	64,26	:	27.874	:	12	:	Mks	:	
	8. Ngawi		:	146. Padas	:	93,44	:	57.349	:	25	:	Mk	:	
	:		:	147. S i n c	:	79,91	:	42.369	:	15	:	Mk	:	
	9. Blitar		:	148. Panggung	:	111,04	:	33.095	:	10	:	Mk	:	
	:		:	149. Sojo	:		:		:		:		:	
	10. Bojonegoro		:	149. Ngraho	:	197,75	:	51.165	:	22	:	Mks	:	
	:		:	150. Ngasem	:	170,02	:	53.213	:	23	:	Mks	:	
	:		:	151. Bul lan	:	19,22	:	31.179	:	12	:	Mks	:	
	11. Sampang		:	152. Srosch	:	71,96	:	26.031	:	12	:	Mks	:	
	:		:	153. Toxjan.	:	88,19	:	36.900	:	18	:	Mks	:	
	:		:	154. Ceben	:	92,76	:	55.627	:	20	:	Mks	:	

12. Pamakuan

1	2	3	4	5	6	7	8	9
:	:	:12. Pamekasan	:155. Palengaan	:	-	: 47.407	: 12	: Mk
:	:	:	:156. Waru	:	-	: 74.878	: 21	: Mk
:	:	:13. Lumajang	:157. Klakah	:	160,77	: 68.410	: 22	: Mk
:	:	:	:158. Ranuyoso	:	122,24	: 32.446	: 11	: Mk
:	:	:14. Nganjuk	:159. Sukomoro	:	27,93	: 31.350	: 12	: Mk
:	:	:	:160. Jatikalem	:	41,53	: 16.708	: 10	: Mk
:	:	:15. Situbondo	:161. Arjasa	:	216,38	: 31.042	: 8	: Mk
:	:	:	:162. Banyuputih	:	452,29	: 30.062	: 4	: Mk
:	:	:16. Tulung Agung	:163. Tanggung Gunung	:	21,86	: 22.285	: 7	: Mks
:	:	:	:164. Kedungwaru	:	29,3	: 55.161	: 19	: Mks
:	:	:	:165. Fucanglaban	:	11,70	: 22.281	: 9	: Mks
:	:	:17. Bangkalan	:166. Kckop	:	125,74	: 36.571	: 13	: Mks
:	:	:	:167. Socch	:	53,30	: 38.219	: 11	: Mks
:	:	:	:168. Arosbaya	:	54,15	: 29.780	: 18	: Mks
:	:	:	:169. Klampis	:	67,01	: 40.907	: 22	: Mks
:	:	:18. Malang	:170. Sumber Manjing	:	189,81	: 72.275	: 13	: Mk
:	:	:	:171. Bantar	:	304,16	: 99.444	: 17	: Mk
:	:	:	:172. Donomulyo	:	196,02	: 62.749	: 8	: Mk
:	:	:19. Lamongan	:173. Laron	:	85,20	: 27.447	: 20	: Mks
:	:	:20. Sumenep	:174. Batu putih	:	104,07	: 35.446	: 14	: Mks
:	:	:	:175. Arjasa	:	460,96	: 59.133	: 28	: Mks
:	:	:	:176. Masalembu	:	34,64	: 17.830	: 4	: Mks
:	:	:21. Jember	:177. Kalisat	:	51,91	: 53.816	: 12	: Mks
:	:	:	:178. Sumberbaru	:	148,68	: 83.191	: 9	: Mks
:	:	:22. Kediri	:179. Mojo	:	187,44	: 48.153	: 20	: Mks
:	:	:	:180. Grogol	:	154,46	: 120.389	: 28	: Mks
:	:	:	:181. Campangrejo	:	38,03	: 52.240	: 23	: Mks
:	:	:23. Bondowoso	:182. Cerme	:	175,00	: 35.816	: 9	: Mk
:	:	:24. Pasuruan	:183. Paserepan	:	77,76	: 36.415	: 17	: Mks
:	:	:	:184. Kraton	:	48,41	: 57.626	: 26	: Mks
:	:	:	:185. Lakok	:	48,72	: 39.594	: 11	: Mks
:	:	:	:186. Rembang	:	48,96	: 35.769	: 17	: Mks
:	:	:25. Ponorogo	:187. Ngobel	:	59,51	: 17.658	: 8	: Mk
:	:	:	:188. Jonangan	:	52,48	: 46.464	: 17	: Mk
:	:	:26. Magetan	:189. Parang	:	67,95	: 37.466	: 13	: Mks
14	B a l i	: 1. Tabanan	:190. Pupuan	:	81,34	: 33.618	: 7	: Mk
:	:	:	:191. Baturiti	:	73,22	: 38.325	: 8	: Mk

1	2	3	4	5	6	7	8
		2. Buleleng	192. Savan	67	48.288	13	Hm
			193. Sukaada	150	48.559	15	Hm
		3. Bangli	194. Tembuku	58,00	27.962	6	Ho
		4. Karang Asem	195. Manggis	76,00	39.419	8	Hm
			196. Rendang	117,00	27.479	5	Hm
15	Nusa Tenggara Barat	1. Bima	197. W e z a	607,7	28.490	11	Mk
		2. Pempu	198. K i l o	35,95	5.174	3	Mk
		3. Lombok Barat	199. Layan	562,13	22.786	6	Mks
			200. Mataram	16,39	55.045	7	Mks
			201. Ampenan	20,97	60.871	7	Mks
		4. Lombok Tengah	202. Pringgarata	31,32	38.911	6	Mks
			203. Batukiang	261,23	76.188	11	Mk
		5. Lombok Timur	204. Sambelia	318,7	14.608	4	Mk
		6. Sumbawa	205. Lape/lopok	44,59	18.507	5	Mk
			206. Batu lantah	68,44	8.549	7	Mk
			207. Seteluk	45,81	15.277	7	Mk
			208. Jereweh	132,53	7.571	5	Mks
16	Nusa Tenggara Timur	1. Alor	209. Pantar	787,00	29.875	11	Mk
		2. Belu	210. Tasifito Timur	331,60	20.397	12	Mk
			211. Malaka Barat	220,50	47.123	19	Mk
		3. Ende	212. Ende	333,77	65.392	20	Mk
		4. Flores Timur	213. Ilcape	135,50	14.191	15	Mk
			214. Solor Timur	73,90	12.908	10	Mk
			215. Solor Barat	142,00	13.162	13	Mk
			216. Nagawutung	342,00	12.258	13	Mk
			217. Atadai	100,20	13.644	14	Mk
		5. Kupang	218. Kupang Barat	472,20	24.625	30	Mk
			219. Kupang Timur	944,36	26.759	25	Mk
		6. Manggarai	220. Lambaleda	513,60	47.917	12	Mk
		7. Ngada	221. Amero	211,35	15.433	13	Mk
		8. Sikka	222. Talihura	616,50	30.015	16	Mk
			223. Maucero	118,90	35.230	18	Mk
		9. Sumba Barat	224. Katikutana	1.830,00	28.737	26	Mk
			225. Louli	306,40	22.615	11	Mk
			226. Kodi	554,60	42.916	21	Mk
		10. Sumba Timur	227. Paberawai	1395,00	20.703	23	Mk
			228. Tabundung	1.028,70	10.565	10	Mk
		11. Timor Tengah Selatan.	229. Amanatun Utara.	227,30	22.233	13	Mk
			230. Amanatun Selatan	539,10	41.981	26	Mk
		12. Timor Tengah Utara.	231. Meccafu Timur	702,20	50.933	38	Mk

17. Kalimantan Barat

1	2	3	4	5	6	7	8
17.	Kalimantan Barat.	1. Kapuas Hulu.	232. Putussibau.	8.375,00	16.433	64	MK
			233. Semitau.	1.575,08	8.118	20	MK
		2. Sanggau.	234. N o y a n.	843,75	6.039	31	MK
			235. Moliau.	1.400,00	22.156	66	MK
		3. Sintang.	236. D e d a i.	771,16	10.608	54	MK
			237. Tempunak.	1.158,00	9.698	62	MK
18.	Kalimantan Tengah.	1. Barito Selatan.	238. Q. Bintang Awai.	1.450	6.456	17	MKS
			239. Jonamas.	400	4.923	4	MKS
		2. Kapuas.	240. Kapuas Hilir.	140	12.189	6	MK
		3. Kota Waringin Barat.	241. Lamandau.	2.400	6.267	21	MK
19.	Kalimantan Selatan.	1. T a p i n.	242. Tapin Utara.	64.257	35.980	28	MK
		2. Tanah Lant.	243. K u r a u.	26.775	20.711	15	MK
		3. Barito Kuala.	244. Mandastana.	434,23	12.390	8	MK
		4. Hulu Sungai Selatan.	245. Daha Selatan.	41.401	29.995	13	MK
		5. Hulu Sungai Utara.	246. A w a y a n.	41.824	13.442	11	MK
			247. J u r a i.	75.535	18.358	10	MK
		6. Hulu Sungai Tengah.	248. Haruyan.	14.869	20.689	13	MK
		7. Tabalong.	249. K e l u a.	20.882	26.102	17	ME
		8. Kota Baru.	250. P. Sembilan.	23	7.016	5	MK
			251. Gampahan.	355	8.200	13	MK
20.	Kalimantan Timur.	1. Bulongan.	252. Long Pujung-an.	8.400	3.620	21	MKS
			253. Kayan Hilir.	8.800	3.877	11	MK
		2. K u t a i.	254. Long Apari.	5.170	2.381	9	MK
		3. P a s i r.	255. Long Kali.	3.637	8.017	12	MK
21.	Sulawesi Utara.	1. Bolang Mongondow.	256. Bolang Urit.	1.023,30	14.094	17	MK
			257. Pinolosian.	819,80	9.778	12	MK
		2. Gorontalo.	258. Suwawa.	771,60	15.105	14	MK
		3. Sanggitalaud.	259. Manusa.	60,79	5.178	6	MK
			260. Kaburuan.	115,61	7.687	10	MK
22.	Sulawesi Tengah.	1. Buol Tali-tali.	261. Momuni.	1.740,40	9.559	14	MK
			262. Baolan.	914,60	23.502	15	MK
		2. Donggala.	263. Balaesang.	540,30	16.326	13	MK
		3. P o o o.	264. Ampana Tete.	706,80	8.183	10	MK

23. Sulawesi Selatan

1	2	3	4	5	6	7	8	9
13.	Sulawesi Selatan.	11. Bone	265. Tangattalata.	35,85	52.201	7	MKS	
			266. Dua Lerau.	159,00	40.427	13	MKS	
		12. Majene	267. Banggae.	22,00	41.718	5	MKS	
		13. Polmas.	268. Mamhi.	3180,00	28.581	7	MKS	
		14. Takalar.	269. Kapaka Sungai.	256,70	19.398	4	MKS	
		15. Tana Toraja.	270. Makale.	10550,00	36.660	7	MKS	
		16. Bulukumba.	271. Bontobahari.	120,00	20.223	3	MKS	
		17. Enrekang.	272. Anegeraja.	243,00	22.978	5	MKS	
		18. Jemponto.	273. Kelara.	120,00	36.315	4	MK	
		19. Mamuju.	274. Mamuju.	412,00	21.274	6	MK	
			275. Lufong-budong.	3265,00	11.093	4	MK	
		10. Luwu.	276. Watu.	2110,00	20.010	5	MK	
			277. Uha.	2910,00	19.494	8	MK	
14.	Sulawesi Tenggara.	11. Buton.	278. Kaledupa.	457,60	17.531	9	MKS	
			279. Sempolawa.	284,37	8.925	12	MKS	
		12. Kendari.	280. Kendari.	31,42	33.705	9	MKS	
			281. Aroa.	2076,86	7.535	10	MK	
		13. Muna.	282. Kallianea.	1127,00	20.570	11	MK	
15.	Maluku.	11. Halahera Tengah.	283. Wailo.	5035,36	8.679	14	MK	
		12. Maluku Tengah.	284. Malaka Sumai Ulu.	5265,0	13.083	49	MK	
			285. Tual.	39	3.772	16	MK	
			286. Tola.	5600,0	10.216	20	MK	
			287. Bulu.	3500,0	5.049	8	MK	
			288. EU. Barat.	1771,0	7.337	13	MK	
			289. Eura Selatan.	4876,0	19.076	53	MK	
		13. Maluku Utara.	290. Kota Ternate.	17,6	43.573	10	MKS	
			291. Takabu Barat.	2500,00	14.475	20	MK	
			292. Makin.	45	19.876	20	MK	
			293. Galola.	700	14.850	22	MK	
			294. Gano Barat.	1.000	11.358	26	MK	
26.	Irian Jaya.	11. Jayapura.	295. Kauruh.	-	1.488	9	+	
		12. Teluk Condongmasih.	296. Kauruh Barat.	-	3.528	5	+	
		13. Manokwari.	297. Warton.	1715	10.430	9	+	
			298. Wintetl.	705	2.272	4	+	
		14. Sorong.	299. Gausafar.	-	5.317	8	+	
		15. Pak-Pak.	300. Toluk Etna.	7455	1.087	3	+	

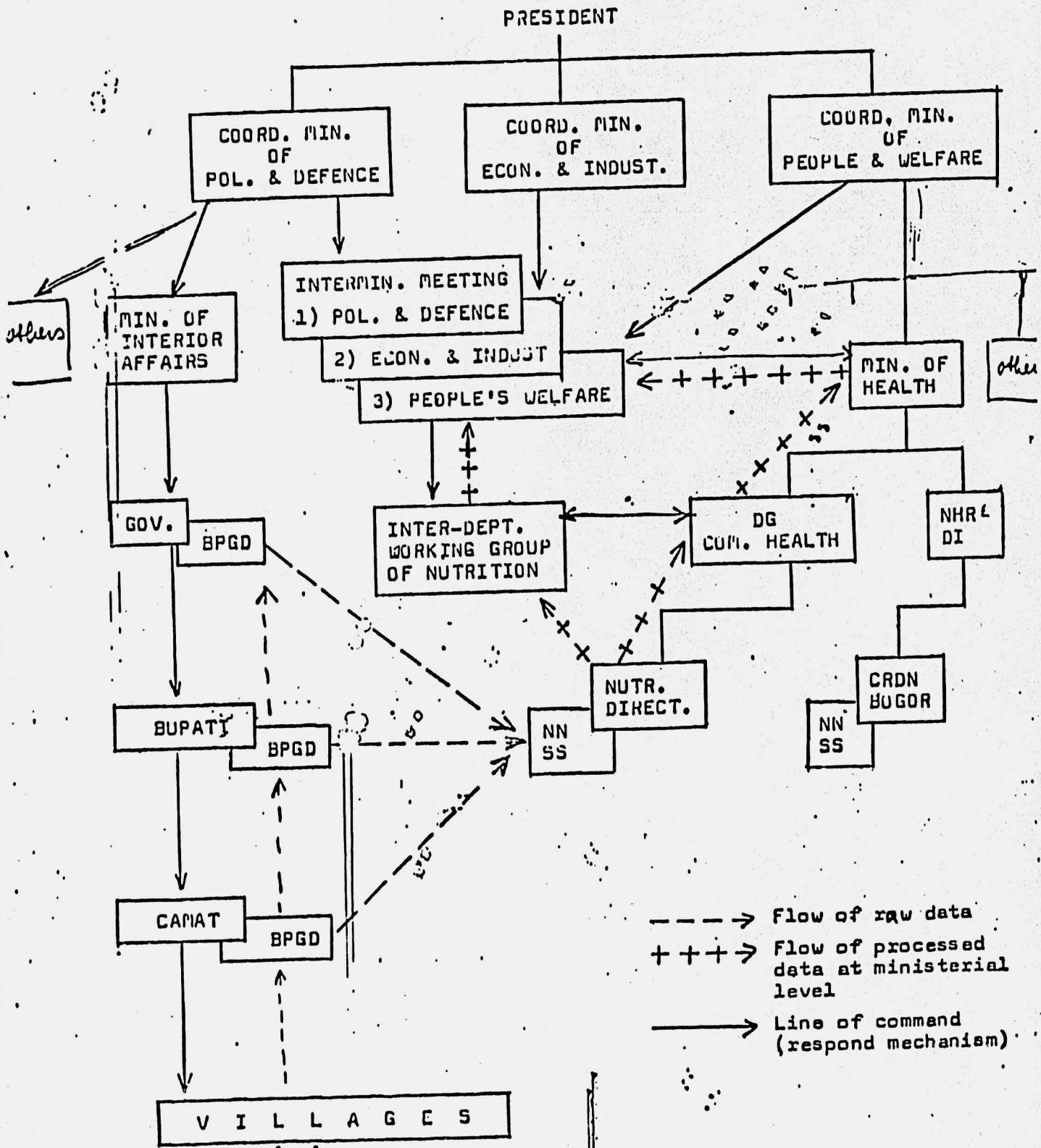
Keterangan : MKS : Miskin Sekali.

MK : Miskin.

MI : Miskin Miskin.

+ : Belum ada penelitian.

Flow of data & response mechanisms for the NNSS at various level of coordination.



- - - - -> Flow of raw data
 + + + -> Flow of processed data at ministerial level
 ———> Line of command (respond mechanism)

6671

HEALTH TRAINING RESEARCH & DEVELOPMENT

(497 - 0273)

PROJECT EVALUATION SUMMARY

(PES)

January 10, 1980

CLASSIFICATION
PROJECT EVALUATION SUMMARY (PES) - PART I

Report Symbol U-447

<p>1. PROJECT TITLE</p> <p style="text-align: center; font-weight: bold;">HEALTH TRAINING RESEARCH & DEVELOPMENT</p>	<p>2. PROJECT NUMBER</p> <p style="text-align: center;">497-0273</p>	<p>3. MISSION/AID/W OFFICE</p> <p style="text-align: center;">INDONESIA</p>													
<p>4. EVALUATION NUMBER (Enter the number maintained by the reporting unit e.g., Country or AID/W Administrative Code, Fiscal Year, Serial No. beginning with No. 1 each FY) <u>80 - 5</u></p> <p><input type="checkbox"/> REGULAR EVALUATION <input type="checkbox"/> SPECIAL EVALUATION</p>															
<p>5. KEY PROJECT IMPLEMENTATION DATES</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">A. First PRO-AG or Equivalent FY <u>78</u></td> <td style="width: 33%;">B. Final Obligation Expected FY <u>82</u></td> <td style="width: 33%;">C. Final Input Delivery FY <u>84</u></td> </tr> </table>	A. First PRO-AG or Equivalent FY <u>78</u>	B. Final Obligation Expected FY <u>82</u>	C. Final Input Delivery FY <u>84</u>	<p>6. ESTIMATED PROJECT FUNDING</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">A. Total</td> <td style="width: 50%;">\$ _____</td> </tr> <tr> <td>B. U.S.</td> <td>\$ <u>3.6</u></td> </tr> </table>	A. Total	\$ _____	B. U.S.	\$ <u>3.6</u>	<p>7. PERIOD COVERED BY EVALUATION</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">From (month/yr.)</td> <td><u>Sep. 1978</u></td> </tr> <tr> <td>To (month/yr.)</td> <td><u>Nov. 1979</u></td> </tr> <tr> <td>Date of Evaluation Review</td> <td><u>Dec. 7, 1979</u></td> </tr> </table>	From (month/yr.)	<u>Sep. 1978</u>	To (month/yr.)	<u>Nov. 1979</u>	Date of Evaluation Review	<u>Dec. 7, 1979</u>
A. First PRO-AG or Equivalent FY <u>78</u>	B. Final Obligation Expected FY <u>82</u>	C. Final Input Delivery FY <u>84</u>													
A. Total	\$ _____														
B. U.S.	\$ <u>3.6</u>														
From (month/yr.)	<u>Sep. 1978</u>														
To (month/yr.)	<u>Nov. 1979</u>														
Date of Evaluation Review	<u>Dec. 7, 1979</u>														

8. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR

A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., airgram, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
1. Develop a plan with GOI to include Nutritional Surveillance System (NNS) (tranche funded) as a Research & Development Subproject activity.	R.G. Pratt D. Roberts	Dec. 28, 1979
2. If necessary, initiate procedure for sole source waiver for Phase II NNS contractor.	R.G. Pratt D. Roberts	Dec. 28, 1979
3. Review with GOI the lack of an implementation plan for Health Education Subproject and reprogram funds if indicated.	N.G. Studzinski	Mar. 31, 1980
4. Identify Nutrition Planning technical assistance needs for the project.	N.G. Studzinski	Mar. 31, 1980

<p>9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS</p> <table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> Project Paper</td> <td><input checked="" type="checkbox"/> Implementation Plan e.g., CPI Network</td> <td><input type="checkbox"/> Other (Specify) _____</td> </tr> <tr> <td><input type="checkbox"/> Financial Plan</td> <td><input type="checkbox"/> PIO/T</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Logical Framework</td> <td><input type="checkbox"/> PIO/C</td> <td><input type="checkbox"/> Other (Specify) _____</td> </tr> <tr> <td><input type="checkbox"/> Project Agreement</td> <td><input type="checkbox"/> PIO/P</td> <td>_____</td> </tr> </table>	<input type="checkbox"/> Project Paper	<input checked="" type="checkbox"/> Implementation Plan e.g., CPI Network	<input type="checkbox"/> Other (Specify) _____	<input type="checkbox"/> Financial Plan	<input type="checkbox"/> PIO/T	_____	<input type="checkbox"/> Logical Framework	<input type="checkbox"/> PIO/C	<input type="checkbox"/> Other (Specify) _____	<input type="checkbox"/> Project Agreement	<input type="checkbox"/> PIO/P	_____	<p>10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 5%;">A.</td> <td><input type="checkbox"/> Continue Project Without Change</td> </tr> <tr> <td>B.</td> <td><input type="checkbox"/> Change Project Design and/or</td> </tr> <tr> <td></td> <td><input checked="" type="checkbox"/> Change Implementation Plan</td> </tr> <tr> <td>C.</td> <td><input type="checkbox"/> Discontinue Project</td> </tr> </table>	A.	<input type="checkbox"/> Continue Project Without Change	B.	<input type="checkbox"/> Change Project Design and/or		<input checked="" type="checkbox"/> Change Implementation Plan	C.	<input type="checkbox"/> Discontinue Project
<input type="checkbox"/> Project Paper	<input checked="" type="checkbox"/> Implementation Plan e.g., CPI Network	<input type="checkbox"/> Other (Specify) _____																			
<input type="checkbox"/> Financial Plan	<input type="checkbox"/> PIO/T	_____																			
<input type="checkbox"/> Logical Framework	<input type="checkbox"/> PIO/C	<input type="checkbox"/> Other (Specify) _____																			
<input type="checkbox"/> Project Agreement	<input type="checkbox"/> PIO/P	_____																			
A.	<input type="checkbox"/> Continue Project Without Change																				
B.	<input type="checkbox"/> Change Project Design and/or																				
	<input checked="" type="checkbox"/> Change Implementation Plan																				
C.	<input type="checkbox"/> Discontinue Project																				

<p>11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Names and Titles)</p> <p>HN: RGPratt <i>RP</i> PRO: RCohen <i>RC</i></p> <p>HN: DRoberts <i>DR</i> DD: WGBollinger <i>WGB</i></p> <p>PRO: LMarshall <i>LM</i></p> <p>PRO: RFZimmerman <i>RFZ</i></p>	<p>12. Mission/AID/W Office Director Approval</p> <p>Signature: <i>Thomas C. Niblock</i></p> <p>Typed Name: Thomas C. Niblock, DIR</p> <p>Date: January 10, 1980</p>
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13. SUMMARY

I. BACKGROUND - DESCRIPTION OF CURRENT DESIGN

Project Authorization Date: May 1, 1978
Project Agreement signed : September 1, 1978
Request For Proposal
(Contract) Finalized : August, 1979
Project Assistance
Completion Date : September 30, 1984

Project Purpose:

The existing project design provides for three distinct subproject activities, intended to strengthen the planning, research, and management, capabilities of the GOI Ministry's of Health Bureau of Health Planning, the National Institute for Health Research and Development (NIHR&D) and the Directorate of Health Education.

Major Sub-Project Activities:

<u>Kind of Activity</u>	<u>Institution</u>	<u>Amount</u> \$(000)	<u>Life of</u> <u>Activity</u>
1. Health Planning - Manpower planning - Health Personnel Information System	Bureau of Health MOH	738	3 yrs
2. Health Research & Development - priority GOI research areas (as yet un- specified)	NIHRD	2,250	5 yrs
3. Health Education - System planning development (as yet unspe- cified)	Directorate of Health Education MOH	160	5 yrs
4. Sub-Project Coord- ination	U.S. Contractor	450	5 yrs
<hr/> Total:		3,600	

Use of Grant Funds

<u>USAID Inputs</u>	<u>Funding (\$000)</u>
US Tech. Assistance	2,250
Incountry Research	870
Training	463
Commodities	17

II. IMPLEMENTATION STATUS

✓ There has been no progress in project implementation on Goal, Purpose, Outputs or Inputs since the signing of the Project Agreement approximately 14 months ago (Sep. 1978).

III. PROBLEMS ENCOUNTERED

A. Specific Implementation Plan Still Not Formulated in Full due to:

1. Discontinuity in NIHRD Director leadership - i.e., Dr. Sulianti's frequent absence and long transition to Dr. Loedin's Directorship; his slow formulation of specific research priorities and proposals.
2. Lack of specific clearly-defined priorities and implementation plan concerning health education from the Directorate of Health Education.
3. Lack of adequate staffing and continuity of project design/management in USAID/HN.
4. Inadequate GOI counterpart staff and effort to collaboratively formulate detail of implementation plans.

B. Delayed Request for Contractor Proposal (RFP finalized in August, 1979):

1. Disagreement on source of funding of vehicles for long-term contractors between USAID and NIHRD's Dr. Loedin (Eventually USAID agreed to fund up to 4 vehicles).
2. Resolution of open competitive vs minority firm contractor procurement finally settled in favor of competitive procurement among minority firms. Proposals are to be reviewed in AID/W in February, 1980.

C. Non-availability of language-qualified candidates among provincial health planners to receive training in the U.S.

IV. CONCLUSION

// Implementation delays due to the above reasons must now be rectified with prompt steps to specify work plans and procure technical assistance commensurately with the health/nutrition priorities as reflected in the current orientations of both USAID and the MOH. A perceived improvement in the capability of leadership of some important MOH counterpart institutions on the one hand, and full staffing of the USAID Office of Health and Nutrition on the other, are both aspects of a new technical and managerial environment believed to be more favorable to project implementation than that prevailing during the life of the project to date. As is clarified below, the visibly stronger commitment of the MOH to community nutrition (perhaps the most important health problem of mothers and children) suggests that nutrition should receive greater attention within this project.

14. EVALUATION METHODOLOGY

This "Evaluation", or more correctly stated, the first "review of project progress" follows the signing of the Project Agreement in September, 1978. Carried out this time as an internal USAID procedure, the effort is intended to highlight problems with project design, implementation, and to explore the possibilities for modification of design and funding.

This project evaluation was prepared by a team composed of the Project Officer and the USAID/HN consultant. Data was collected from a review of project records and documents (project paper, project agreement, amendments, memoranda) weekly reports, discussions with staff members of O/HN and the USAID Program Evaluation Officer. A total of seven person-days were spent in preparing this evaluation document. This final PES represents conditions and decisions obtained as result of final Mission Review on December 7, 1979.

15. EXTERNAL FACTORS

1. Increased MOH Concentration on Nutrition Programs.

Following the submission of the HTR&D PP a new Health Minister (also serving as Chairman of the BKKBN) was appointed. Under his leadership there has been an increased emphasis on community oriented health programs, particularly involving nutrition (i.e., UPGK, PKMD and the FP/MCW). This emphasis on nutrition has also been demonstrated by the willingness of donor agencies (UNICEF and the World Bank) to fund large scale nutrition projects.

In response to this policy emphasis, USAID/HN and GOI are planning to include Phase II Nutritional Surveillance Project within the Research and Development Sub-project.

2. New Director of NIHRD with priorities for operational and applied research.

In October 1978, Dr. Loedin, the new director of the Institute Health Research and Development, was appointed. His research priorities are operational and applied, rather than laboratory oriented as were those of his predecessor, Dr. Sulianti, under whom the original HTR&D design was developed.

3. New Leadership in the MOH Directorate of Nutrition.

In assuming the leadership of this traditionally weak Directorate Dr. Tarwotjo (who has performed successfully as the GOI counterpart to the AID Nutritional Blindness Study) is expected to vastly improve the nature of broad-scale nutrition planning and operational programming. In view of this recent development, USAID may be asked to provide some assistance.

4. Weak Leadership and Questionable GOI Commitment in Health Education.

During the past year the weakness of leadership in the Directorate of Health Education has been increasingly apparent. The GOI's budgetary investment in Health Education through the Directorate of Health Education has diminished following a surprise reduction in the budget for that directorate's activities. Recent contacts with this administrative entity lead USAID to conclude that the originally formulated EOPS, outputs, and inputs may be unappropriate, and if so, a revised subproject implementation plan may be desired.

5. USAID/HN Staffing

USAID Office of Health and Nutrition is now fully staffed with four full-time professionals and the HN consultant and thus are able to manage this project effectively.

6. Soundness of Assumptions (See Logical Framework - Annex 1).

Upon review, the following assumption for achieving Outputs does not appear to be sound:

"Continued GOI emphasis on health, especially education and training".

Insufficient allocation of funds and authority to the Directorate of Education and PUSDIKLAT (the Center for Education and Training) would suggest that the MOH lacks adequate commitment to strengthen their education and personnel training programs. Also, another example of this lack of commitment to health personnel training is the reluctance of the MOH to release long-term training candidates for language instruction prior to training in the U.S.

16. GOAL

"To make health program more effective and responsive to the health needs of the poor in terms of both coverage and quality".

It is too early to measure any impact on the goal since project implementation has yet to begin. However, even if considerable progress in Output attainment did take place indicator-verification of this Goal is unrealistic.

17. PURPOSE

"To strengthen the public health planning, research, and education capabilities of the GOI in such a way as to contribute to Goal achievement". In addition, three Sub-Purposes were specified, each relating to one of the three MOH institutions targeted for project implementation:

Health Planning (Bureau of Health Planning)

"To strengthen health planning and evaluation at national and provincial levels, with special emphasis on personnel and manpower".

Health Research and Development (National Institute for Health Research and Development).

"To strengthen the capability of the NIHRD to undertake high quality research geared towards issues of planning and policy and toward development of health services delivery technology appropriate for the Indonesian environment and biological research".

Health Education (Directorate of Health Education)

"To establish an appropriate modern system to plan, manage, and experiment with health education".

No progress toward the attainment of the project Purpose and Sub-purposes has taken place to date, due to reasons already stated in the SUMMARY, No. 13.

Compatibility of USAID/GOI Perceptions of Priorities and Purpose

In general, the project Purpose as regards the Health Planning and the Health Research sub-projects still concurs with USAID/GOI perceptions of current needs and priorities. Although viewed as desirable by the GOI, the strengthening of the capabilities of the Directorate of Health Education currently lacks specificity and mutual agreement on sub-project purpose formulation, End of Project Status (EOPS), Outputs, and necessary Inputs.

Relevance and Attainment of EOPS

- Health Planning Sub-Project -- Some revision of EOPS will be necessary; these changes concern those planning initiatives that originally were meant to contribute to the formulation of the Repelita III Health Plan. (The Plan has already been formulated and widely distributed -- without the use of HTR & D project inputs).
- Health Research and Development -- The EOPS for this sub-project have yet to be specified. It is hoped that in the near future an agreement regarding research priorities and specific research project initiatives can be discussed and mutually approved for implementation.
- Health Education -- The vaguely-stated EOPS under current design calls for a "More relevant, thorough, widespread and standardized health education system". Given the absence of a clear and specific plan for activities to assist the Directorate of Health Education, and the lack of mutually agreeable objectives and implementation, it appears as though the Purpose of this Sub-Project needs collaborative re-thinking and revision.

18. INPUTS (See Logical Framework - Annex 1).

A. Technical Services

RFP ✓ Delayed by one year to date. We anticipate that the actual delay will extend to 18 months from project signing.

1. Health Planning

Dr. Hapsara requested an increase from one to two long-term consults to perform personnel planning and management information system outputs. This modification has resulted in a decrease in the time allowed for short-term consultants as originally proposed.

2. Research and Development

The duration of short-term consultants' involvement has been decreased to allow for 3 research and design analysis specialists (12 months each) versus retaining one long-term consultant for 3 years, as previously designed.

In a recent development, USAID agreed to the funding of Nutrition Surveillance - Phase II (to cost an estimated additional \$800,000) under this Sub-project. This research activity will be funded with available FY 79 and 80 funds and thus if necessary additional funds will be requested in FY 82 to fund other priority research.

3. Health Education

As stated earlier, if the project purpose is revised, the original inputs will be modified accordingly.

B. Commodities

Vehicles (4) for long-term consultants are not presently funded through project budget. Maintenance and purchase costs are estimated at \$100,000 for the life of this project. Additional funding is required.

C. Training

Candidates for long-term training have difficulty in English language proficiency. USAID has proposed funding for in-country English language instruction which will decrease the amount of funds available for USA training. Therefore, the number of long-term candidates trained will be less than originally planned.

19. OUTPUTS (See Logical Framework - Annex 1)

Due to the implementation problems as described in No. 13, there has been no progress in the projected output targets. The project output targets described in the Logical Framework for the Health Planning and Research & Development components are generally still compatible with the proposed project goal, but they lack specificity. If the Education Sub-project is redesigned, the outputs as listed will be revised.

20. BENEFICIARIES

I. Impact re Section 102(d) Criteria:

- Increase Agricultural Productivity
- Reduce Infant Mortality
Only Indirectly - See below
- Control Population Growth
- Promote Greater Income Distribution
- Reduce Un-Under Employment

And related criteria:

- Strengthen/Create institutions which aid social/economic development.

Given the fact that the HTR & D Project is an institution-building enterprise, the crucial assumption underlying this activity is that the improved planning, research, training and management capability of the three relevant institutions within the MOH, will contribute significantly to action programs aimed at the reduction of morbidity and mortality in the Indonesian population. Based on this assumption, any benefits realized by the rural poor as a result of this project's activities will be necessarily indirect.

The direct beneficiaries of the HTR & D Project will therefore include the concerned institutions, and all relevant MOH managers, planners, researchers and in-country and participant trainees. It is hoped that the improved skills and increased knowledge of these officials and affected service personnel, along with the knowledge gained from applied research, will be promptly utilized for the improvement of Indonesian health and nutrition status via various community-oriented preventive and curative initiatives of the MOH.

Improve condition of women: Social/Economic/Political.

II. Benefit Incidence* (Please specify effect on women wherever possible)

A. Direct Beneficiaries

	(Number)	(Who)	(Where)
Income			
Labor			
Agriculture Production			
Education/Training/ Management.	6	Health Planners	USA
	17	Research Staff	USA
Medical Treatment (Re- duction of Disease, available facilities/ services)			
Living Conditions Improved (water, housing, sanita- tion, nutrition, institu- tions, decrease cost of living).			
Provision of Power/ Transportation.			
Estimated Overall Total Without Double Counting	<u>23</u>		

*Most of these figures are not mutually exclusive and many will include people who benefit in two or more ways.

B. General Population in an Area that indirectly benefits from:

increased availability of food _____
increased mobility in area _____ Overall _____
general health improvement _____
or overall economic improvement _____

C. People in MOH not affected. Why?

NA

D. People in MOH adversely affected. How?

NA

21. UNPLANNED EFFECTS

In the almost total absence of implementation progress on this project there have been no noticeable unplanned effects resulting from project activities.

22. LESSONS LEARNED

Relevant Development Strategy

1. Institution-building projects like this one should as much as possible relate directly to major and specific operational programs of high priority and commitment in the host Government and USAID. Project design based upon vague and undefined outputs should be avoided.

2. Like all projects, activities of this nature should undergo rigorous conceptual development and be subject to rigorous scrutiny to insure that causal relationships underlying the whole fabric of practical flow from Inputs to Outputs and attainment of Purpose objectives is valid and realistic.

3. The Purpose and Objectives of project assistance should adhere closely to real and evident personal and financial commitment of host Government institutions and counterparts.

4. The development and implementation of projects like this one demands a certain minimum of continuous staff involvement on the part of both the Host Government and USAID. Until now, this has not been true for either USAID or the GOI during project design and implementation.

23. SPECIAL COMMENTS OR REMARKS

At the present time USAID is adequately staffed to insure continuity of project management; also, leadership transition previously affecting major Project activities is now completed, with a new leader in the nutrition sector requesting assistance appropriate under this project. Following some Project design revisions and some increased funding, USAID/HN suggests that the general Goal and intended Purpose of this activity can be pursued successfully.

ANNEX 1

AID 1020-28 (1-73)

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 78 to FY 82
Total US Funding \$4,000,000
Date Prepared: 12/13/77

Project Title & Number: Health Training Research and Development 497-0273

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATOR	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Program or Sector Goals: The broader objective to which this project contributes: To make health program more effective and responsive to the health needs of the poor in terms of both coverage and quality.</p>	<p>Measures of Goal Achievement: 1) Improved health 2) Disease incidence</p>	<p>1) Surveys on mortality and morbidity 2) Special and routine reports</p>	<p>Assumptions for achieving goal targets: 1) Very important causes of inadequate health services to the poor are inadequate facilities and lack of knowledge of management, manpower development, logistics, and research techniques at many levels of the GOI health network. 2) There is enough flexibility in the GOI organizational structure that rational argument and research evidence can produce systemic changes. 3) The GOI has the political will to improve the health of the poor to the extent that the GOI would make the sacrifice necessary to alter and expand the distribution of health services. 4) Research findings will be communicated to decision makers.</p>
<p>Project Purpose: To strengthen the public health planning, research and education capabilities of the GOI in such a way as to contribute to goal achievement.</p>	<p>Conditions that will indicate purpose has been achieved: End of project status. 1) Application of modern management techniques in all aspects of MOH operation. 2) Rationalized allocation of MOH personnel and other resources. 3) Increased use of Public Health services.</p>	<p>1) MOH reports and observation 2) MOH reports and observation 3) MOH reports (misc.)</p>	<p>Assumptions for achieving purposes: 1) The GOI MOH lacks appropriate research skills and experience 2) The GOI MOH lacks management and evaluation skills 3) The GOI MOH can integrate sub-project components into a single system</p>
<p>Sub-Sub-Project Purpose: 1) To strengthen health planning and evaluation at national and provincial levels, with special emphasis on personnel and manpower. 2) To strengthen the capability of the National Institute of Health Research and Development to undertake high quality research geared towards issues of planning and policy and toward development of health services delivery technology appropriate for the Indonesian Environment and biological research. 3) To establish an appropriate modern system to plan, manage, and experiment with health education. 4) To augment substantially the ability of the MOH to carry out evaluations of its own health training programs. 5) To resolve the likely technical, logistical and managerial issues of implementing a nationwide immunization program and to effect a 70% coverage of the population of Indonesia against smallpox, T.B., tetanus, diphtheria, and whooping cough by the end of 1979.</p>	<p>Conditions that will indicate purpose has been achieved: End of project status. 1. a. An improved manpower plan for Repelita-III integrated into the overall plan b. Repelita III and annual plans completed on time c. Existence of BHP capability to continue manpower planning d. Improved personnel management e. Health planning and evaluation capabilities f. Improved evaluation methods in use 2. Number, relevance, and quality of research projects completed. 3. More relevant, thorough, widespread and standardized health education system 4. Improved and more numerous evaluation on health training programs 5. A complete, workable plan for the expanded immunization program</p>	<p>1) MOH reports and observation 2) MOH reports 3) MOH reports and observation 4) MOH reports 5) Review of plan, reports of successful immunization program</p>	<p>Assumptions for achieving sub-Purposes: 1) GOI MOH will make full, effective use of long-term advisor and short-term consultants 2) Research results will be communicated to decision makers 3) No change in USAID policy respect to payment of honorarium to investigators</p>

AID 104-49 (1-73)

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORKLife of Project: _____
From FY _____ to FY _____
Total US Funding: _____
Date Prepared: _____

Project Title & Number: _____

NARRATIVE SUMMARY	QUANTITATIVELY VERIFIABLE INDICATOR	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Outputs:</p> <p>1) Formulate health manpower plan</p> <p>2) Strategies for recruitment and maintenance of personnel</p> <p>3) Design and implementation of a computerized manpower management information system.</p> <p>4) Improved data collection system for (1) health status, (2) physical and biological environment, (3) social and cultural factors in health, (4) health delivery outputs and inputs, (5) expenditures, (6) policy needs at central, provincial, and local levels (7) demographic trends, and (8) economic trends (9) health manpower.</p> <p>5) Improved planning and evaluation methods, including development of a planning and evaluation manual</p> <p>6) Provincial health officials trained in improved planning and evaluation methods.</p> <p>7) Health provincial-level health planners trained in U.S. institutes in health planning</p> <p>8) Staff trained</p> <p>9) Research projects completed</p> <p>10) data processing procedures</p> <p>11) extramural research resources used</p> <p>Education Outputs</p> <p>12) National Health Education Plan</p> <p>13) Output measures for Health</p> <p>14) Health Education Provincial Demonstration</p> <p>Training Outputs</p> <p>15) Design and test and evaluation system for current course training program which will include:</p> <p>a. Personnel trained in evaluation techniques</p> <p>b. An evaluation manual</p> <p>Outputs</p> <p>16) a. Better initiation of appropriate DPT dosage schedule</p> <p>b. Cold Chain logistical system design and implementation</p> <p>c. Project management system</p> <p>d. Plan for expanded vaccine production</p> <p>e. vaccine</p>	<p>Magnitude of Outputs:</p> <p>1)a. report b. report c. report d. report e. report f. at least 72 from at least 6 provinces g. at least 9</p> <p>2)a. 2,000 b. an average of \$170,000 worth per year c. adequate d. to a significant degree</p> <p>3)a. report b. report c. 1 in each of the provinces</p> <p>4)a. 10 personnel trained in basic evaluation technique; 20 personnel trained in advanced evaluation technique; 5 Indonesians qualified to consult on evaluation</p> <p>5)a. Test results b. in place adequate to cover 20% of population c. 1 adequate d. 1 plan e. 20% coverage</p>	<p>1) Consultant reports</p> <p>2) a. MOI and Consultant reports b. Program documents and MOI reports c. Consultant reports</p> <p>3) Reports</p> <p>4) Consultant and MOI reports</p> <p>5) MOI and Consultant reports</p>	<p>Assumptions for Achieving Outputs:</p> <p>1) Continued GOI emphasis on health, especially education and training</p> <p>2) A sufficient number qualified Indonesians meet the English language requirements for overseas fellowships</p> <p>3) Language barrier for domestic courses can be overcome through either: use of Indonesian speaking consultants or screening course participants for English ability</p>

Best Available Document

ANNEX 1

AID 1000-20 (1-73)

**PROJECT DESIGN MEMORANDUM
LOGICAL FRAMEWORK**

Project Title & Number: _____

List of Projects: _____
 From FY _____ to FY _____
 Total US Funding: _____
 Date Prepared: _____

DESCRIPTIVE SUMMARY	QUANTITATIVELY VERIFIABLE INDICATOR	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS					
Inputs:		Implementation Target (type and quantity):						
1) a.	12 months LTC manpower planning	100,000	*Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
b.	12 months LTC manpower management	100,000	253	299	186	-	-	738
c.	35 man months STCs, including 1 health economist; 2 health planners; 1 statistician; 1 health planner/statistician	350,000	728	558	406	322	197	2,211
d.	10 long term fellowships	118,000	61	30	30	15	40	176
e.	Inservice training at regency/provincial level	23,000	142	174	109	20	-	445
f.	Inservice training in software	4,000	250	160	-	-	-	430
g.	Translator for consultants	1,000			751	357	237	4,000
h.	100-hour block grant of computer time	36,000						
i.	Commodities	6,000						
	TOTAL:	738,000						
2) a.	LTC Research design and analysis 58 months	400,000	For details, see budget tables.					
b.	LTC Management science - 12 months	100,000	*Year" refers to Project Year, April 1 - March 31.					
c.	STCs: relevant research fields 44 man mths.	440,000						
d.	Fellowships in relevant research fields	362,000						
e.	In-country Courses (15 courses)	52,000						
f.	Local consultants	4,000						
g.	Research Projects	847,000						
h.	Internal fellowships	6,000						
	TOTAL:	2,211,000						
3) a.	440 days STC Health Education Planner	165,000						
b.	50 days STC Health Education Planner (PDSF-funded)	-						
c.	60 days STC Health Education Planner (PDSF-funded)	-						
d.	Commodities	11,000						
	TOTAL:	176,000						
4) a.	In-Country Training Courses	99,000						
b.	Local Consultants	30,000						
c.	24 man months STC	240,000						
d.	5 Fellowships	60,000						
e.	15 pre-Fellowships	4,000						
f.	Commodities	12,000						
	TOTAL:	445,000						
5) a.	24 man month long term Consultant in immunization program management	200,000						
b.	18 man month STCs in relevant fields	180,000						
c.	Commodities (vaccines and vaccine pro- duction equipment)	50,000						
	TOTAL:	430,000						
TOTAL USAID PROJECT INPUTS: \$4,000,000								

PROJECT APPRAISAL REPORT (PAR)

PAGE 1

1. PROJECT NO. 497-0230	2. PAR FOR PERIOD: 7/74 TO 11/76	3. COUNTRY Indonesia	4. PAR SERIAL NO. 77-5
5. PROJECT TITLE Health Research and Development			

6. PROJECT DURATION: Began FY 75 Ends FY 77	7. DATE LATEST PROP 6/14/74	8. DATE LATEST PIP	9. DATE PRIOR PAR Original
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10. U.S. FUNDING	a. Cumulative Obligation Thru Prior FY: \$ 373,000	b. Current FY Estimated Budget: \$ 500,000	c. Estimated Budget to completion After Current FY: \$ -
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11. KEY ACTION AGENTS (Contractor, Participating Agency or Voluntary Agency)

a. NAME	b. CONTRACT, PASA OR VOL. AG. NO.
1. Direct hire U.S.A.I.D. Staff	
2. Management Services for Health - Contractors for Consultants	Contract No. AID/Afr-C-1137
3. NIH, National Institute for Health Research and Development Staff	

1. NEW ACTIONS PROPOSED AND REQUESTED AS A RESULT OF THIS EVALUATION

A. ACTION (X)			B. LIST OF ACTIONS	C. PROPOSED ACTION COMPLETION DATE
USAFR	AID/W	NCST		
			1. In the ProAg for 1977:	
X		X	(a) Further define the project purpose - re-adjust the purpose to a more realistic level.	December 1976
			(b) Redefine assumptions based on current understanding of the NIHRD capacity.	
X			2. In the Letters of Agreement for FY 1977, incorporate: a) more specific requirements for progress reports, b) define project completion dates, and c) withhold salaries until final papers are submitted.	March 1978

D. REPLANNING REQUIRED
REVISED OR NEW: PROP PIP PRO AG PIO/T PIO/C PIO/P

E. DATE OF MISSION REVIEW

PROJECT MANAGER: TYPED NAME, SIGNATURE, INITIALS AND DATE
Ann W. [Signature], Program Analyst, OPH

MISSION DIRECTOR: TYPED NAME, SIGNATURE, INITIALS AND DATE
Thomas C. Niblock, Director 11/16/77

PH:TH [Signature] PH:NTerry [Signature] PH:EVanderhoof [Signature] PRO:RFZimmerman [Signature]

II. PERFORMANCE OF KEY INPUTS AND ACTION AGENTS

A. INPUT OR ACTION AGENT CONTRACTOR, PARTICIPATING AGENCY OR VOLUNTARY AGENCY	B. PERFORMANCE AGAINST PLAN							C. IMPORTANCE FOR ACHIEVING PROJECT PURPOSE (X)					
	UNSATISFACTORY		SATISFACTORY			OUT-STANDING		LOW	MEDIUM		HIGH		
	1	2	3	4	5	6	7	1	2	3	4	5	
1. Management Services for Health						X							X
2. American Public Health Assoc.					X								X
3. Barbara Thomas						X							X

Comment on key factors determining rating

4. Duane Thomas					X								X
5. P. T. In-Search Data							X						X
6. P. T. Inscore				X									X

1. Management Services for Health

A. From November 26, 1975 to December 15, 1975. Dr. Lauridsen and Mr. Moore undertook preliminary work on authorizing guidelines and (see continuation sheet)

4. PARTICIPANT TRAINING	1	2	3	4	5	6	7	1	2	3	4	5
			X									X

Comment on key factors determining rating Currently, two participants are enrolled in training. There have been no completions to date, and a major problem has been a scarcity of qualified candidates with requisite English skills. Plans are currently being made in NIHRD and USAID for the recruitment of candidates and provision of intensive in-country English training for NIHRD staff for future training funding.

5. COMMODITIES	1	2	3	4	5	6	7	1	2	3	4	5
			X							X		

Comment on key factors determining rating USAID has funded commodities for the general support of NIHRD activities, such as office and printing equipment, technical books and a small Wang computer and a jeep. Commodities have also been provided to support the Vitamin A deficiency study of AFOB - office, i.e., office, photographic and medical equipment, medicines and vehicles. Therefore, the (See Continuation sheet)

6. COOPERATING COUNTRY	a. PERSONNEL												
	1	2	3	4	5	6	7	1	2	3	4	5	
		X	X										X
	b. OTHER												
					X								X

Comment on key factors determining rating Personnel:
The Management Structure of NIHRD under the present Director, has been rather pyramidal until recently. This situation has slowed down submission of research proposals when the key counterpart has been out of the country fulfilling duties with WHO. Also, smooth implementation of research projects has been hindered by lack of sufficient authority delegated to project managers for project design. Some decentralization of project design work appears to have taken place within the last several months, however. Staff within NIHRD and its affiliates are mainly medical doctors and appear to be potentially quite capable, although handicapped by inadequate training in survey research methodology; have (see Continuation Sheet)

7. OTHER DONORS	1	2	3	4	5	6	7	1	2	3	4	5
				X							X	

(See Next Page for Comments on Other Donors)

II. Performance of Key Inputs and Action Agents

Comment on key factors determining rating (continued):

methodology for development of a simple data management information systems for Serang Regency, West Java. A draft report and project proposal have been submitted to USAID.

B. From November 15 to January 15, 1977 Dr. Lesar and Mr. Owens are in the process of designing Phase I of a health management information sub-project.

C. From November 8 until November 30, 1976 Mr. Ausherman has taught a three day workshop on programmed learning which included 17 participants from NIHRD, BPS and UNICEF. He will return to Indonesia to assist in the completion of a field test February 15 to March 31, 1977.

2. American Public Health Association

In November 1975 Dr. Robert Grosse, University of Michigan assessed the feasibility of introducing the PPBS system in MOH and revised the progress of the physician's income study. A draft and final reports have been submitted to USAID.

3. From September 29 to November 27, 1976, Barbara Thomas (Personal Services Contract) taught a one month course in social science survey research methodology. A draft report has been submitted.

4. From September 29 to November 16, 1976 Duane Thomas assessed NIHRD's need for hardware and software facilities. He was funded under a purchase order from trust funds budgeted to the project.

5. P. T. In-Search Data, an Indonesian survey research firm has undertaken the field work and preliminary data preparation for the physician's income study. Field research has been completed.

6. P. T. In-Search Data has also contracted to assist in questionnaire design, field research and data analysis for this same study. Data analysis has been started. This Agency, however, was slow in incorporating changes to the questionnaires that were requested by USAID and MOH.

5. Commodities (continued):

fore, the level of commodity support for FY 76 was significantly higher than that originally planned. This shift in the use of funds resulted from the initial difficulty NIHRD staff had in identifying and implementing the 7 to 10 annual research projects originally planned.

USAID has been informed that the Wang mini-computer does not have sufficient capacity to analyze the magnitude of data usually gathered in NIHRD studies and it does not have the capacity to utilize software packages like SPSS, but that it can be used for editing of data and generating simple tables.

6. Cooperating Country Personnel (continued)

too many responsibilities as project leaders and co-investigators. The Director, moreover, has reassigned principal investigators from project to project.

The lack of staff training in research methods should be alleviated through in-service courses and overseas training planned in the near future. Government salaries will be raised next GOI fiscal year, which should ease the financial need for researchers to undertake too many projects at one time. The changes in staff allocation of assignments remains an issue.

Despite these weaknesses, the management and staff of NIHRD have shown creativity and enthusiasm in undertaking exploratory research and the use of pilot testing to solve complex health problems.

Other support of NIHRD in terms of provision of in-kind inputs, i.e., office space and local transportation, has been highly satisfactory.

II. 7. Continued: Comment on key factors determining rating of Other Donors

WHO is involved with NIHRD with 4 consultants at offices in Jakarta and Surabaya in systems analysis, statistics, health economics, and epidemiology. WHO has contributed heavily to the overall planning of MOH and to the introduction of primary health care concepts through strengthening of Health Services Project. Due to WHO's main emphasis on technical assistance, and their limited project funds, staff time is spread over a variety of projects.

III. KEY OUTPUT INDICATORS AND TARGETS

A. QUANTITATIVE INDICATORS FOR MAJOR OUTPUTS		TARGETS (Percentage/Rate/Amount)					
		CUMULATIVE PRIOR FY	CURRENT FY		FY ____	FY ____	END OF PROJECT
			TO DATE	TO END			
A series of sub-projects which (a) establish baseline data for use in planning long term comprehensive rural health care systems (b) test new concepts in health services delivery systems, or (c) provide research on social cultural and medical factors affecting improvements in the general health situation.	PLANNED	14-20	-	21-30	-	-	21-30
	ACTUAL PERFORMANCE	6	6				
	REPLANNED			14			14
	PLANNED						
	ACTUAL PERFORMANCE						
	REPLANNED						
A small cadre of trained staff within NIHRD in research techniques and analysis.	PLANNED	US partici-	unspecified				
	ACTUAL PERFORMANCE	0	2				
	REPLANNED			5			5
	PLANNED	In-country	unspecified				
	ACTUAL PERFORMANCE	37	37				
	REPLANNED						
B. QUALITATIVE INDICATORS FOR MAJOR OUTPUTS	COMMENT: Means of Verification: submission to USAID of a Health Training, Research and Development PRP which includes a large component for manpower training - 36 overseas fellowships. A directive from the Secretary General to the Chief of the Bureau of Planning to establish						
1. Improved perceptions within NIHRD of current institutional and staff development needs.							
2.	COMMENT: a personnel/career development program within the MOH. This may have been facilitated by preliminary findings of the Physicians Income Study.						
3.	COMMENT:						

AID 1020-25 (10-70)	PROJECT NO.	PAR FOR PERIOD:	COUNTRY	PAR SERIAL NO.
PAGE 4 PAR	497- 0230	7/74 to 11/76	Indonesia	77-5

IV. PROJECT PURPOSE

A. 1. Statement of purpose as currently envisaged.

2. Same as in PROP? YES NO

The purpose of this project is to provide GOI planners and administrators with:
a) reliable health system benchmark measures; b) estimates of the impact of rural health programs on the people's health; c) alternative program modalities for delivering services and creating increased utilization of modern health practices; and d) new insights into variables effecting the health of the rural population.

B. 1. Conditions which will exist when above purpose is achieved.

2. Evidence to date of progress toward these conditions.

At the end of this project, reliable rural health system data will be available and the general health of the rural population groups will be more fully understood. Estimates of the health program's progress, its effectiveness and efficiency and review of alternative rural health systems, service and demand creation will be available. Finally, a beginning will have been made in attempting to focus the complex relationships between socio-economic-cultural factors and health, and the potential for development in Indonesia of more effective rural health programs.

Reliable data collected on health systems and general health status: the Jamu Study has collected data on the use of jamu and its perceived impact on health; a Drug Utilization study has collected data on the system of supply and re-supply within health centers and hospitals.
Estimates of Health Programs Effectiveness and Efficiency: Plans now exist for sub-projects during FY 1977 for a unit cost study, of health center utilization and a staffing patterns study. The village health promoters study, the drug utilization study, and the physicians income study have each obtained data on the effectiveness of various health program inputs.
Estimates of health program progress: There are plans for funding under the Health Training, Research and Development PRP of a health data module to be included in the nationwide Central Bureau of Statistics quarterly survey.
Development of Alternative Rural Health Systems: The Village Health Promoters Project is developing a (cont.)

V. PROGRAMMING GOAL

A. Statement of Programming Goal

The stated common goal of all Government of Indonesia (GOI) health programs is to improve the health status of Indonesian citizens. The primary goal to which this project relates in consonance with more specifically stated goals expressed in the GOI 2nd Five-Year Health Plan, is to improve the general health of Indonesia's lower income population group through improved personal and community health programs. (cont.)

B. Will the achievement of the project purpose make a significant contribution to the programming goal, given the magnitude of the national problem? Cite evidence.

An intermediate goal is the development of an efficient and effective rural health care system by which improved health, nutrition and fertility control programs can be provided. If the purpose of this project is achieved it will contribute greatly to the intermediate goal of the project (the improvement of health services within health facilities and within the community) by exploring new approaches, and by undertaking experiments as may be necessary. The potential benefits from project progress to date for improved health coverage of the population project are: (a) development of a system for establishing and training community volunteers for health services at the village level, (b) improvement of the quality of health services at the local level through doctor placements and improved drug supply and treatment. It is too early to fully evaluate these benefits, which remain largely potential.

Cont.

B.2 Evidence to date of progress toward these conditions.

system of voluntary health workers at the village level which is supported by funds provided through the Department of Interior to support local health improvement activities.

V. A. Statement of Programming Goal

encompassing preventive medicine, medical care, nutrition and fertility reduction.

V. Review at Continued Relevance of Current Project Purpose

A. Are there alternation approaches to achieving this project purpose?

The original project paper assumed that the intermediate project goal of improved health services could best be met through a series of discrete research and development activities, identified according to MOH priorities. These activities were envisioned by USAID as representing support for targets of opportunity in contrast to a more comprehensive integrated health scheme. Projects were not to be selected in an ad hoc manner but were to be identified within a framework of GOI priorities, as described in the implementation plan of the original PRDP, dated June 24, 1974 as follows: "During the period January 1974 to July 1974 the Department of Health is developing the criteria for project sites and field project problems requiring research, evaluation or development attention." Sub-project selection criteria was to be based on how well each sub-project contributed to the project purpose.

Such criteria apparently do not exist now, however, nor do they appear implicitly within the approach of the GOI for proposal submissions to USAID. MOH prioritization of programs based on knowledge of the impact of various activities or conditions on health status and the effectiveness of health services, as well as knowledge of possible intervention methodologies would seem to be prerequisites for development of such criteria. For example, which "health system benchmark figures" are most relevant to policy? How shall the affect of health programs on community health status be evaluated? How will this evaluation take into account intervening variables? What are the factors affecting utilization of available modern health services? Without consideration of such criteria the development of health R&D sub-projects to date appears to be haphazard. The project purpose should be changed to include the development of criteria for use in alternative sub-project evaluation as one of the primary project purposes.

However, the general approach presented in this project of selected or guided "incrementalism" on the part of the MOH appears to be a good one. It is believed to be preferable to a planned and integrated approach as is being listed in the DEIDS project in Thailand because of its more modest demand on limited financial and manpower resources.

B. What is current priority of project with the GOI?

Within the NIHRD, the project provides the major source of donor funding of research projects, while WHO continues to provide technical advice.

The GOI Development Budget for the NIHRD has continued to increase during the years of the project:

GOI FY

1974/75	Rp. 192,000,000
1975/76	295,000,000
1976/77	333,980,000
1977/78	1,000,000,000

During the life of the project the GOI has established the Institute for Pharmaceutical Research. Also, in addition to the central Institute for Health Research and Development there are the Institute for Health Services, the Institute for Nutrition Research, the Institute for Development of Ecological Research, and the Institute for Biomedical Research. Currently, NIHRD has about 670 personnel, and is provided approximately 15,000 square meters of office and laboratory space, and has about Rp 400 million in laboratory and office equipment.

Coordination between NIHRD and other important agencies, i.e., the Bureau of Planning and the Center for Education and Training, appears to be adequate in terms of information exchange, but underdeveloped in terms of program and policy coordination. The MOH since its reorganization in 1974/75 is continuing to define the relationships between research, planning and program implementation. USAID is trying to assist the process of coordination through a multi-faceted approach in the 1978-80 PRP for Health Training, Research and Development.

C. How does GOI view USAID's Role?

It appears that NIHRD views USAID's role largely as that of the administrator of AID provided project funds and provider of technical assistance upon GOI request. Direct technical guidance, or rejection of NIHRD proposals by USAID seems to be outside of their current perceptions of USAID's role.

The project purpose is rather general and for that reason it can encompass variations in perceptions between USAID and NIHRD. The PRP maintains flexibility in use of project funds to make possible responsive USAID action, but lacks definite guidelines on criteria for project selection and contents of required progress reports, as well as deadlines for project completion. This has proven to be largely unworkable, and USAID is currently drafting guidelines for progress reports, that include deadlines. The issue of how to determine criteria for project selection is still unresolved.

D. Are there Adverse Side Effects to this Project?

There does not appear to be any major adverse side effects from this project. However, the Development Project for Primary Health Care in Sarang wasted a lot of staff time of NIHRD and, provincial and local staff, and accomplished nothing. Also, the Director of Planning in the Provincial Health Office of West Java explained in July that the local and provincial staff was overloaded with 39 research projects underway or planned at that time, and that many of those undertaken by the central MOH have not been effectively discussed with the provincial officials beforehand. Project activities may have contributed to this conditions.

E. Do the Benefits Justify the Costs?

The outputs from the project include on-going and planned sub-projects. All of these studies are either exploratory or quasi-experimental and should have high returns in terms of systems development, and further understanding of the intermediate variables affecting community health status. As none of the projects have yet been completed, there is insufficient information to quantify or identify the benefits of the various system methodologies tested. Also, the direct and indirect costs to AID and the GOI for these benefits have yet to be calculated.

F. Are there Any Unexpected Benefits?

This project has highlighted the need within NIHRD for extensive staff upgrading to develop the basic research skills and capabilities that were assumed to already exist in the original PRGP. In reviewing the progress of sub-project activities, it is apparent that the absorptive capacity of the NIHRD to utilize foreign assistance to carry out research is limited by four major factors: (1) a shortage of qualified research manpower, (2) a need for facilities (software, technical staff and hardware), (3) an inadequate compensation scheme that would encourage research personnel to devote full time to a manageable number of projects, and (4) a responsive and competent management/administrative system to support research and development activities. Thus, the primary purpose of the PRP for FY 78-80 for Health, Training, Research and Development will be to strengthen the NIHRD's capacity to perform its assigned responsibility. An extensive research manpower development program and U.S. and in-country training, along with research apprenticeships, will be used to accomplish this purpose.

Performance Against Plan

Unsatisfactory		Satisfactory			Outstanding	
1	2	3	4	5	6	7
	X X					

G. Overall Assessment of the Project

Progress to date: The concept of this project which is establishment of a flexible means for responding to GOI initiatives in the health R&D field is a potentially fruitful one. As with most new approaches, it takes time to work out details in systems and GOI was slower in developing proposals than anticipated during the first part of the project. A variety of managerial and technical reasons may have contributed to this, including the lack of clear guidelines for development and selection of sub-projects. Prior to completion of the project, at least general guidelines should have been established for prioritization of various studies and pilot testings. In retrospect it seems that Project Development and support funds project would have been a better mechanism for undertaking innovative developmental sub-projects within the MOH.

Project progress compared to original purpose to date has been slight, but unexpected benefits of this project have been quite high. In fact, HEARD has invested \$373,000 in order to gain a better understanding of the present capacity of NIHRD for undertaking policy-based research. This project represents funds well-spent for the identification of future programming needs although the original project purpose has only been met in part.

REVIEW OF THE CURRENT

LOGICAL FRAMEWORK

I. Project Purpose:

a. Statement of Project Purpose:

The purpose of this project is to provide GOI planners and administrators with: a) reliable health system benchmark measures; b) estimates of the impact of rural health programs on the people's health; c) alternative program modalities for delivering services and creating increased utilization of modern health practices; and d) new insights into variables affecting the health of the rural population.

b. Conditions Expected at the End of the Project:

At the end of this project, reliable rural health system data will be available and the general health of the rural population groups will be more fully understood. Estimates of the health program's progress, its effectiveness and efficiency and review of alternative rural health system modalities of service and demand creation will be available. Finally, a beginning will have been made in attempting to focus the complex relationships between socio-economic-cultural factors and health and the potential for the development in Indonesia of more effective rural health programs.

c. Means of Verification:

Progress toward these accomplishments will be measured through the written analyses of (a) the functional analysis of the current rural health programs including the analysis of clinic utilization, the time-work patterns of professional and administrative staff and cost inputs versus work outputs of health programs; and (b) reports and evaluations of alternative modalities for creating an effective demand for and the delivery of modern health services among rural populations.

d. Important Assumptions:

The accomplishment of full project purposes will necessitate that the research and development findings be communicated to appropriate GOI planners,

administrators and technicians by written reports and through opportunities for direct field observations or conferences. An additional assumption is that planners and administrators will be willing to use relevant research and development findings for improving program performance.

III. Project Outputs:

A. Statement of Project Outputs

Outputs of this project will be a series of rural health care research, evaluation or pilot subprojects. These subprojects will effect one of the following: (a) establish baseline data for use in planning long term comprehensive rural health care systems, (b) test new concepts in health services delivery systems, or (c) provide research on social, cultural and medical factors affecting improvements in the general health situations. Subprojects will be designed to provide either better techniques for providing health services or increased understanding of health phenomena in Indonesia.

In addition a small cadre of staff within the LRKN will be trained in research techniques and analysis. Training begun during but extending beyond the life of this project will provide personnel (trained at the graduate level) who, on their return, will strengthen Indonesia's research capability.

B. Magnitude of Outputs

The indicators of the project outputs will be the design and implementation of approximately 7-10 specific research, evaluation or pilot subprojects per year for three years. The majority of the field projects will be implemented in one of four kabupaten field sites representing widely varying conditions within Indonesia (e.g. West Java, Kalimantan, Sulawesi and Molucca). Additionally, short term and long term training experiences will result in the further development of a small cadre of trained Indonesians capable of undertaking independent health services research.

C. Means of Verification

Each project will have a precise project protocol, Plan of operation and final report. Hence the project outputs can be verified from these documents with relative ease.

D. Assumptions

It is assumed that some institutional and individual capability to conduct rigorous research already exists in Indonesia and that in order for this to increase other donors will continue their support to the various health research institutions. Further, it is assumed that local governments will approve the increase levels of field research. Finally, it is assumed that qualified participants for short/long term training can be identified and that the GOI will agree to release them for training.

Purpose	Progress to Date	Date Letter of Agreement	Estimated Completion Date	Balance Due	Total
A. Village Health Promoters					
<p><u>Purpose:</u> to test the feasibility of using volunteer village health promoters (VHP) to improve general health of the village population; develop criteria for selection, and train them in simple treatment techniques, health education for improved health practices; environmental sanitation, increase coverage of vaccination programs, etc. <u>Location:</u> Central Java (3 villages; 3 control villages).</p>	<p>Preliminary community involvement promoted, baseline data collected and analyzed, questionnaire designed, village health promoters chosen, training begun, programmed learning modules produced for training, implementation begun.</p>	<p>5/26/1975 (1st year) 9/21/1976 (2nd year)</p>	<p>September 1978</p>	<p>-0- -0-</p>	<p>\$15,272 \$18,589</p>
B. Drug Utilization Study					
<p><u>Purpose:</u> * to (1) test the clinical adequacy of a standardized drug list and develop a drug use manual (2) evaluate the cost of the drugs and describe the current procedure for drug supply. <u>Location:</u> health centers and a regency hospital in West Java and South Sumatra.</p>	<p>(1) List of INPRES-funded drugs determined; (2) Drug diagnosis and treatment manual produced; drugs purchased; fieldworkers trained and ready to go in the field.</p>	<p>5/2/1975</p>	<p>May-June 1977</p>	<p>\$11,015</p>	<p>\$24,694</p>
<p>* Current purpose adjusted from purpose in letter of agreement.</p>					

Purpose	Progress to Date	Date Letter of Agreement	Estimated Completion Date	Balance Due	Total
<p><u>C. Physicians Income Study</u></p> <p><u>Purpose:</u> to provide information on physician's income and attitudes which will be of use in analysis of policy alternatives for the provision and financing of health services.</p> <p><u>Location:</u> Jakarta, West Java, Central Java, Bali, North Sumatra, North Sulawesi</p>	<p>Phase I completed. It included analysis of available secondary data and development of Phase II questionnaire. Phase II: in-depth interviewing of + 250 physicians respondents complete; preliminary data analysis started with NIHRD staff, preliminary draft report with recommendations to be turned in by early January.</p>	<p>5/21/1975 (Phase I) 12/29/1975 (Phase II)</p>	<p>January 77</p>	<p>-0- \$7,238</p>	<p>\$ 5,839 \$50,954</p>
<p><u>D. Jamu Study</u></p> <p><u>Purpose:</u> to determine the general magnitude of use and perceived efficacy of jamu among consumers, compared with use of modern drugs; to obtain information on the marketing and distribution systems of jamu for possible MOH intervention.</p> <p><u>Location:</u> Jakarta, West, East, and Central Java, Yogyakarta, Palembang</p>	<p>Questionnaires designed, and P.T. Inscore field interviewers trained, field data collected.</p>	<p>4/28/1976</p>	<p>April 1978</p>	<p>\$8,903</p>	<p>\$30,196</p>
<p><u>E. Development Project for Primary Health Care in Serang, West Java.</u></p> <p><u>Purpose:</u> a four month study to develop training programs and materials for the improvement of village health posts, which are extension of health centers at the village level.</p>	<p>The project was not undertaken because NIHRD did not identify a workable project design. The balance of the unused funds were returned to USAID.</p>	<p>5/23/1975</p>	<p>July 1976</p>	<p>\$1,448 to be accounted for or returned by NIHRD</p>	<p>\$ 3,624</p>

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ANNEX I

ANNEX II Page 3

Departure

Total Cost

Participant Training:

Two undergoing
Health Planners Training - MPH
at Univ. of Michigan

8/18/76

\$15,600

In-Service Training - Consultant
Services:

One month Social Science Survey
Research Methods Course
One workshop in Programmed Learning
Instruction

\$28,200

Commodities:

(a) Books

\$ 1,000

(b) Printing equipment for publication
of Health Service Reference Manual
and general NIHRD support;
1 Jeep for Serang

\$42,050

(c) AFOB Vitamin A Deficiency Blindness
Studies for medicines,
photographic equipment and 6 jeeps.

\$66,049
(to date)

\$78,049

<u>Prog</u>	<u>Obligation (Deobligation)</u>	<u>Disbursements as of 11/30/1976</u>	<u>Purpose</u>	<u>Status</u>
FY 75-1 Original	\$100,000		\$60,000 for local currency R&D Sub-projects \$40,000 for purchase of data processing and other equipment for R&D facilities	4 R&D projects: Village Health Promoters Study, Drug Utilization Study, Planning Exercise for Serang Kabupaten Health System, Phase I of Physician's Income & Attitudes Study. Commodities delivered and installed including Wang programmable calculator. (\$35,926.50)
FY 75-1, Rev. 1	\$ 60,354		\$51,000 local currency support for R&D sub-projects. \$1,000 for procurement of technical books. \$23,000 for international travel and stipend for 3 mm of technical assistance (1 mm in PPBS Systems, 2 mm for design of primary health care data system.	Medical and health books ordered and delivered, 10/76 (all but five items) for \$999.50
FY 75 Total	\$160,354	\$36,000 (As of 6/75)		
FY 76-10	\$204,000		\$7,500 for technical assistance for overall development of health research and development project. \$192,500 for health R&D subprojects such as the Jamu Study; Design and Pilot Test of Health Service System; Extension of VHP Study; Demonstration of condensed midwife/assistant training; other community development projects.	Consultant did not come for overall development of the project. Technical assistance funds combined with funding under Revision 1. Jamu Study funded. Village Health Promoter's Study second year funded.
FY 76-10, Rev. 1	-0-		Use of funds obligated in FY 76-10 under "other costs" to be switched into "participants" for up to two years of US training (\$15,000) and into "personnel costs" for approximately 4 months of consultant services - one on consultant in social science survey research methods.	2 participants in place; consultations completed -- one 3 day workshop in programmed learning; 1 month course in social survey methods.
FY 76-10, Rev. 2	-0-		To extend a waiver for implementing documents from December 29, 1975 to September 29, 1976	
FY 76-10, Rev. 3	\$96,000		To obligate an additional \$96,000, and shift \$38,500 from "other costs" to provide \$134,000 for office and printing commodities for NIHRC and commodities for the APOB Vitamin A Project. Provision of 3 manmonths of consultant services for assistance in protocol development of a health information and management system.	Commodities ordered, except for \$12,088 for APOB sub-project. Consultants for development of health management information system currently in Indonesia.
Total FY 76	\$296,000	\$139,000		
Total FY 75-77	\$173,000	\$177,000		