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**REVIEW OF THE  
NUTRITION: SURVEYS AND SURVEILLANCE PROJECT  
(No. 931-1064)**

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**Sigma One Corporation**

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NUTRITION: SURVEYS AND SURVEILLANCE PROJECT  
(No. 931-1064)**

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## **1.0 BACKGROUND AND OBJECTIVES**

In 1977, the United States Agency for International Development (AID) initiated a project entitled "Nutrition: Surveys and Surveillance" to develop methods for nutrition surveys and nutritional surveillance systems at the national level in developing countries. The surveys were to be used to provide baseline information useful for assessing activities directed towards improved nutrition from which to launch a surveillance system; the design of surveillance methodologies was to assist country personnel in making decisions about long-term nutrition planning, program management and evaluation, and timely warning measures and interventions to prevent extreme reduction in food consumption.

In the first three years of the project, the Division of Nutrition in the Center for Health Promotion and Education of the Centers for Disease Control (CDC) and the Nutrition Assessment Unit of the University of California at Los Angeles (UCLA) collaborated to develop methods for the assessment of nutritional status, dietary surveys and surveillance. In 1980 AID established a cooperative agreement with the Cornell Nutritional Surveillance Program (CNSP) in the Division of Nutritional Sciences at Cornell University for the development of a multisectoral nutritional surveillance methodology. This cooperative agreement was later amended to add a maternal and child health component and more in-depth surveillance activities.

In October 1978, the project was reviewed by the Committee of International Nutrition Programs of the Food and Nutrition Board, National Academy of Sciences. In October 1981, AID did a formal evaluation of the project. In June 1982, a five-year extension of the project was authorized to fund the cooperative agreements through September 1987. In 1984, a midterm evaluation was undertaken by an external review panel organized by the National Science Foundation.

### **1.1 Objectives and Method for this Review of the Project**

The review of the project for this report was performed in late 1987 and early 1988. The purpose of the review was to evaluate the progress and experience gained through the project; particular emphasis was placed on the accomplishments since the last evaluation in 1984. The objectives of the review were:

assessment of the compliance with the objectives as stated in the Agreements with CDC and with CNSP;

- . assessment of the results that have been achieved by the project; and
- . assessment of the effectiveness of the technical and managerial staff as related to training, research, analysis, and dissemination of intermediate and final results.

The review of the project consisted of three components:

- . review of documentation;
- . interviews with US-based personnel;
- . international visits for interviews with in-country personnel.

Review of the available documentation was undertaken first (see Appendix I).

The documentation included the following:

- . project paper (including revisions and amendments)
- . reports from previous evaluations
- . progress reports from the contractors from 1984 to 1987
- . reports from national nutrition surveys and surveillance systems of countries that were assisted by the project
- . working papers, scientific articles and papers presented at international workshops resulting from project activities
- . manuals of survey methods, data analysis, and field assessment methods prepared by the technical staff of the contractors
- . promotional literature related to workshops and training programs conducted by the project.

The second step of the review was to interview personnel from the two contractors, CDC and CNSP, as well as staff from the Office of Nutrition (AID S&T/N), nutrition and health officers of the AID regional bureaus, and staff from other donor agencies (see Appendix II). The persons interviewed either collaborated with the technical staff of the project or represent the clientele for the project. Because of the recent changes in leadership of CNSP, previous directors also were interviewed.

Following the documentation review and interviews with US-based personnel, representatives of several USAID missions, governments, and other donor agencies were interviewed during visits to Jakarta, Rome, Lilongwe, Harare, and Nairobi (see appendices IV and V). Project activities were visited in the geographically distinct regions of Indonesia and East and Southern Africa. Indonesia was selected because it has an active nutritional surveillance system and because CNSP staff assisted country

personnel through funding from the project and USAID/Jakarta. In Africa, representatives from the USAID Mission in Malawi, and UNICEF representatives in Malawi and Kenya were interviewed regarding efforts undertaken by the Joint Programme between UNICEF and CNSP. Dr. John Mason was interviewed at the Secretariat for the United Nations Administrative Committee on Coordination-Subcommittee on Nutrition (ACC/SCN) in Rome about his earlier role as director of the CNSP and about aspects of interagency collaboration.

The following problems and issues were to be addressed by the review:

- . Is the project design, as described in Project Paper Revision No.2, dated July 8, 1982, consistent with the objectives of providing leadership and assistance to countries and concurrently advancing the state-of-the-art and the understanding of nutritional surveillance?
- . Is the project making an impact? Are developing country needs being adequately served? Has the rate of progress been satisfactory?
- . Should changes be made in the orientation of the project?
- . Should changes be made in the emphasis which is placed on each of the project components?
- . Has there been appropriate coordination of project activities with other interested U.S. governmental and non-governmental entities, and with U.N. Agencies and other international assistance organizations? Is this coordination being carried out in a productive manner?

## **1.2 Objectives of the Project**

The project, as described in Project Paper Revision No.2, was designed:

to develop and refine rapid, simple, low-cost procedures for:

- . assessing the nature, magnitude, and regional distribution of malnutrition in populations;
- . determining patterns of family food consumption and individual dietary intake; and
- . maintaining a nutritional surveillance system capable of early warning of nutrition problems; and

to assist selected LDCs in the implementation of these procedures.

Other project objectives included:

- . assistance to policymakers responsible for food, nutrition, and health to become more aware of nutrition planning activities;
- . creation of improved nutritional assessment capabilities; and
- . the initiation of survey/surveillance follow-on activities in each country.

The implied objective of the agreements with both CDC and CNSP was to provide "core support to a scientific center of excellence", where the state-of-the-art in nutritional assessment, survey, and surveillance would be monitored and developed. From this core of scientific knowledge, the two participating institutions were to demonstrate the applicability of such knowledge to the problems of developing countries, and to carry out various forms of short-term technical assistance to selected countries. The main objective for CDC was to assist developing countries with surveys in the health sector; for CNSP the main objective was the promotion of the multisectoral approach to nutritional surveillance systems.

Under the five year extension (FY83-FY88) of the Research Services Support Agreement (RSSA) with CDC, the activities to be accomplished were:

- . provide technical assistance in developing nutritional surveillance systems (usually through short-term consultant visits) to at least two countries per year;
- . assist in the planning and implementation of nutritional status surveys in three countries every two years and comprehensive assistance to one country every three years;
- . provide ad hoc short-term training to technical staff of governments in sampling, data analysis, and interpretation/presentation of survey results to at least one country each year (as well as six weeks of training annually to country personnel);
- . develop survey/surveillance methodology through follow-on analyses of survey data from individual countries and make cross-country comparisons for the purpose of identifying or confirming appropriate indicators of nutritional status.

Under the 1982 extension of the Cooperative Agreement with CNSP, the activities to be undertaken during the five-year extension period were:

- . provide comprehensive assistance to selected governments in establishing nutritional surveillance systems; this was to involve heavy support over an average of three years in each of three countries;
- . provide short-term technical assistance in nutritional surveillance to three countries annually;
- . provide training to two individuals (if possible from different ministries) through a six week short course at Cornell in surveillance data management and interpretation; upon completion of the course, assist the individuals to conduct a workshop for personnel responsible for implementation of the system; following the operation of the system, two individuals from each country would seek long-term training (an M.S. or Ph.D in International Nutrition at Cornell) not funded through the cooperative agreement;

- . collaborate with international organizations in sponsoring a regional workshop in nutritional surveillance covering topics specific to the region; and
- . prepare published materials for the advancement of nutritional surveillance, a report summarizing the proceedings of the workshops, a series of working papers based on the experiences in each assisted country; at least one training or surveillance procedures manual would be produced annually and a formal state-of-the-art or guidelines report published at least on a biannual basis.

In 1984, the Cooperative Agreement with CNSP was amended to include a Maternal and Child Nutrition Component designed to expand the base of knowledge about within-household factors influencing the nutritional status of mothers and their children in developing countries. The activities included in this amendment were:

- . review of the state-of-the-art for nutritional surveillance of mothers and children;
- . development of a database for analysis of predictors of low birthweight; and
- . small applied research projects as needed to serve as catalysts for further studies.

The Cooperative Agreement with CNSP was further refined in 1985. During the remaining three years of the project, the University was "expected to participate in in-depth cooperative efforts with three or more countries." I.e. each country CNSP was to assist the country government and the USAID Mission in:

- . the establishment of a design of a Nutritional Surveillance System (including definition of indicators, identification of government institutions to contribute to the system and estimation of resources required to establish the system);
- . the determination of data requirements for baseline information; and
- . work with the country personnel to implement the surveillance system.

In addition, the University was to conduct applied research in surveillance and prepare documentation in the form of field manuals, handbooks, and papers presenting the key research results.

The efforts of the two contractors were designed to be "non-duplicative and mutually supportive". The S&T/N project officer established informal mechanisms to insure coordination of the contractors in the U.S. and in host countries. The 1984 review team highly recommended that CDC and CNSP collaborate on at least one country project involving the integration of a nutrition survey and a multisectoral

**nutritional surveillance activity as a demonstration of the utilization of data for long-range planning and evaluation.**

The activities and the accomplishments of the project can be divided into three major areas: technical assistance to governments, training, and research. Tables 1 and 2 present the accomplishments of the CDC and CNSP with particular emphasis on the activities undertaken since 1984. Details of these accomplishments follow.

Table 1.

Activities Undertaken by the Division of Nutrition  
Center for Promotion of Health and Education  
Centers for Disease Control  
Project No. 931-1064  
between 1984 and 1986

YEAR	TECHNICAL ASSISTANCE IN SURVEILLANCE	TECHNICAL ASSISTANCE IN SURVEY	TRAINING	METHODOLOGY DEVELOPMENT
1984	Participation in PAHO/INCAP seminar in surveillance activities in Central America- <b>Guatemala</b> Visitors from <b>China</b> and <b>Somalia</b> visited CDC for consultation	Planning survey-Ecuador Planning survey-Peru Survey assistance- <b>Swaziland</b>	Surveillance workshop- <b>Thailand</b> Trained interviewers and supervisors for national nutrition survey-Peru Analysis of survey data- <b>Swaziland</b>	Assisted in development of survey methods-Ecuador Data analysis of nutrition survey and report preparation with final survey results-Swaziland
1985	Discussion at workshop to improve overall nutritional status of population- <b>Swaziland</b>	Consultation for rapid nutritional status evaluation- <b>Burkina Faso</b> Consultation to review survey protocol- <b>Ecuador</b>	Data analysis seminar in-country-Peru Workshop to present survey results- <b>Swaziland</b> Training in anthropometric analysis presented to USAID staff members-Peru	Completion of survey report <b>Swaziland</b> Assisted in sampling alternatives and methodologic considerations in nutrition survey- <b>Ecuador</b> Development of software package to analyze anthropometric data on PC comparison of international growth references <b>Atlanta</b>
1986	Consultation for a nutritional surveillance course for nutrition directors- <b>Ivory Coast</b>		Consultation for a nutritional surveillance course for AID nutrition directors of Francophone countries- <b>Ivory Coast</b>	Data analysis of National Nutrition Survey-Peru

Table 2. Activities Undertaken by the Cornell Nutritional Surveillance Program  
Project No. 931-1064  
between 1984 and 1987

YEAR	TECHNICAL ASSISTANCE IN-DEPTH SURVEILLANCE	TECHNICAL ASSISTANCE SHORT-TERM	TRAINING	INTERNATIONAL REGIONAL WORKSHOPS	PUBLICATIONS & INFORMATION DISSEMINATION
1984	Implementation of surveillance system-Kenya	Initial assessment- <b>Lesotho</b> Preliminary analysis of nutrition survey <b>Botswana</b>	Regional training course in data management and analysis-Kenya	Nutrition Surveillance Workshop for East Africa-Kenya	See CNSP Publications List
1985	Long-term support initiated-Malawi	Evaluation of growth monitoring program- <b>Zimbabwe</b> Analysis of data <b>Zimbabwe</b>	10 week course on Food and Nutritional Surveillance- <b>Chile</b> Data management and analysis course- Kenya	Symposium on opportunities for strengthening training in analysis of 1985 survey- <b>Mauritius</b> Participation in USAID/AOCCSN workshop on food aid	See CNSP Publications List
1986	Comparison of growth charts- <b>Lesotho</b> Development of Nutritional Surveillance System at the regional level- <b>Malawi</b> Assistance in analysis of survey data and design of timely warning system- <b>Botswana</b>	Assist with processing of anthropometric data- <b>Lesotho</b> Assistance in processing survey data- <b>Zimbabwe</b> Consultation with World Food Program <b>Botswana</b>	Short course with UNICEF Social Statistics Program- <b>Malawi</b> Participation in workshop on Food Nutrition Policy- <b>Indonesia</b>	Attendance at SOEC/WFC- <b>Brussels</b> Participation in workshop on Food and Nutrition Policy- <b>Indonesia</b>	See CNSP Publications List
1987	Development of Nutritional Surveillance Systems- <b>Indonesia</b> Development of system at regional level- <b>Malawi</b>	Initial assessment visit- <b>Rwanda</b> Assessment of nutritional surveillance system- <b>Chile</b>	Evaluation of training course- <b>Mauritius</b> INIA training course <b>Chile</b>	Attendance of World Food Council meet.on food security- <b>Rome</b> Workshop on structural adjustment and nutrition- <b>Ithaca</b>	See CNSP Publications List

## **2.0 CENTERS FOR DISEASE CONTROL: ACTIVITIES AND ACCOMPLISHMENTS**

Project activities have been undertaken by the Centers for Disease Control in three areas: 1) technical assistance, 2) training, and 3) research. Approximately ninety percent of the CDC budget was budgeted for technical assistance; the resources allocated to assistance with surveys were more than twice those for surveillance.

### **2.1 CDC Technical Assistance Activities**

The methodological strategy for nutrition surveys employed by CDC centered around nutritional anthropometry in children as the primary indicator variable. CDC, with its primary orientation towards health, naturally focused on the health-sector correlates of nutritional anthropometry and concomitant measures that it considered important for the surveys. The typical *modus operandi* was that CDC provided technical assistance in questionnaire design, organization of the survey, measures to be collected, and general oversight. Other institutions provided other inputs.

Since 1977, throughout the life of the project, national nutritional status surveys were completed with technical assistance from CDC staff in 17 countries: Nepal, Sri Lanka, Liberia, Lesotho, Togo, Egypt, Sierra Leone, Cameroon, Haiti, Yemen, Kenya, Bolivia, Morocco, El Salvador, and most recently Swaziland, Peru, and Ecuador. In each case, the government made a substantial commitment to the survey by providing personnel, logistics, and supporting services. Support for the surveys was funded by the project, the AID Regional Bureaus, and/or USAID Missions. Other organizations that collaborated in the surveys included: the Peace Corps, CARE, UNICEF, Catholic Relief Services (CRS), the World Bank, the Food and Agriculture Organization of the United Nations (FAO), the World Health Organization (WHO), the Pan American Health Organization (PAHO), and the World Food Program (WFP).

Often requests for assistance with nutrition surveys originated outside of the Office of Nutrition, e.g., in AID Mission offices, the Food for Peace and Voluntary Assistance Office, or the Office of Disaster Assistance. In some cases, the Research Services Support Agreement (RSSA) with CDC was used as seed money to initiate interest and assist in an initial assessment of the country's needs and then

Participating Agencies Services Agreements (PASA) or Mission funds were used to undertake the work (as in Peru and Swaziland).

In all of the countries that were assisted by the project, the data and the survey results from the nutrition surveys were most useful when the commitment of decisionmakers was high. For example, in Sri Lanka the nutrition survey led to identification of Vitamin A and protein deficiencies that resulted in intervention mechanisms being undertaken through UNICEF. In the case of Swaziland, the results of the survey led to greater interest in infant feeding practices and, subsequently, to participation of USAID staff and the Swazi government in a weaning foods project. On the other hand, in Togo the mid-level government personnel apparently did not have sufficient interest and/or political clout to motivate decisionmakers to use survey results to bring about nutritional interventions.

In each country, personnel directly involved with the nutrition survey were made more aware of nutritional issues and specifically of the nutritional status and related characteristics of their populations. The extent, location, and types of malnutrition in the country was identified and potential means of ameliorating such conditions accurately discussed.

In addition, country personnel directly involved in nutrition surveys made significant progress in understanding the operation and implementation of surveys. In some countries an increase in high-level support for nutrition can be documented; such is the case for Swaziland. Most of the surveys conducted involved the cooperation and support of more than one governmental agency. To the extent that more agencies were involved, awareness appears to have been enhanced. Success in the nutrition survey in Swaziland probably can be attributed not only to the high degree of commitment by country officials and to the months of in-country assistance by highly competent personnel from CDC, but also to the interaction of personnel working together in the Ministries of Planning, Agriculture, and Health.

Results of the nutrition survey often led to greater participation of other donor agencies. For example, in Swaziland UNICEF created a manual that incorporated the survey results disseminated by the government into a simpler more readable document summarizing the nutritional status of the Swazi population. A review version of the Swazi manual is being distributed in Africa by UNICEF; when other data become

available, the manual will be reproduced with appropriate measurements of malnutrition in other countries. Greater awareness by the international community also has resulted in increased funding to solve problems of malnutrition and food crisis in countries.

One important accomplishment from the project activities funded under the cooperative agreements has been the creation and maintenance of a scientific capacity at CDC and CNSP, as well as at UCLA. This capacity provides a nucleus of resources available to USAID missions, the World Bank, and UN organizations for scientific advice and technical assistance on nutrition surveys and surveillance. In the case of CDC, the experience in Peru illustrates the catalytic role of the technical capacity that was supported by the cooperative agreement.

In 1983 a USAID/Peru study emphasized the chronicity and high prevalence of malnutrition in Peru. (Franklin et al., 1983). The nutrition problem was attributed to decades of economic and ecological crises that aggravated the marginal long-term conditions of the majority of households and their members. The study was limited to an analysis of available data, including a review of several sets of published data on malnutrition dating to the early 1950s. As such it left open major questions regarding the current status of malnutrition in Peru. Available evidence suggested that there was a serious problem of chronic malnutrition, particularly but not exclusively in the highlands. There was, therefore, a need to develop current and complete information regarding anthropometric indicators of malnutrition and their correlates. At the time, there was also a debate as to the correct interpretation of the anthropometric data; the issue centered on a claim that the Peruvian population was naturally short and, therefore, that the prevalence of chronic malnutrition was grossly overstated, particularly in the 1972 ENCA data. There was an important need for a scientific institution to be the arbiter of the nutritional measures to be used in any future assessment of malnutrition in Peru. This role was admirably fulfilled by the CDC. The CDC was unassailable, from a scientific point of view, in stating what measures were to be used for making an assessment of the prevalence and distribution of malnutrition in Peru.

The USAID/Peru Health Officer very clearly saw the need to have a scientifically prestigious organization at the center of the effort to assess the nutritional situation in Peru. USAID/Peru entered into a Participating Agencies Services Agreement (PASA) with CDC to make the core staff from the nutrition surveys project the technical scientific focal point for the National Health and Nutrition Survey (Encuesta Nacional de Nutricion y Salud, ENNSA). Around this hub of technical expertise, the Government of Peru inserted other activities supported by USAID and other donors. These efforts included USAID-funded assistance in survey design, data processing, and analysis by Sigma One Corporation, the State University of New York at Stony Brook, and PAHO. Additionally, other donors such as PAHO, the World Bank, and the German Foundation for Scientific Cooperation Overseas (GTZ) provided resources and technical expertise. The CDC was the critical ingredient in attracting these organizations and served as an essential ingredient for maintaining the momentum of the survey.

An additional reason for the high degree of success in Peru was the prestige of the Director General of the Instituto Nacional de Estadística (INE). Her personal enthusiasm and support helped the group of external technical assistance persons work well with each other and with the various technical organizations within Peru including the National Institute of Statistics (INE), the Ministry of Health, the universities, and the National School for Advance Studies in Management (ESAN).

The contribution of the CDC in Peru was crucial. The results of their work led to increased awareness of Peru's malnutrition problems, their nature and probable causes, and even to some possible courses of action. The fact that direct action has not been taken yet to address the widespread and longstanding problems of malnutrition is related to the debt crisis and the relationships of government with the international donor community and the very severe budgetary constraints under which Peru is operating. The results of the survey made politicians and the donor community more aware of the problem. In fact, in 1985, during Peru's Presidential campaign, the extent of malnutrition in Peru became a campaign issue. Poverty and the extent of malnutrition continue to be

political issues, and the data and reports produced from the nutrition survey permit policy dialogues and political debates to be carried out on a sound scientific basis instead of on mere speculation. The ENNSA data from 1984 and the validation of much of the earlier data, as well as a number of related social and economic studies, have placed Peru's current nutritional problems in their long-term historical perspective.

In most of the countries that have been assisted, the timeliness of survey information has been a problem. In most of the countries assisted by the CDC, some preliminary results of the nutrition surveys were published within a year of the survey. In most cases, the survey results were summarized in report form in the country. Swaziland is an exception because the report was prepared at CDC headquarters with assistance from the Swazi survey director. The government of Peru published the final results of the 1984 survey in early 1986, but preliminary results were available as early as 1985, and various research groups had clean tapes by late 1985. In Ecuador, the 1985 survey results are still in a preliminary stage. Country political support of surveys can be pushed to the limit if analytical results are not available to decisionmakers for implementation of necessary actions on a timely and less costly basis.

One purpose of the surveys was to collect data to serve as baseline information to facilitate and expedite the development of effective nutritional surveillance systems. In this aspect there has been less success, usually because the scenario was to see the survey as an end in and of itself rather than as a base from which to build a surveillance system. There are, of course, a few exceptions: Egypt and Swaziland; in Ecuador, the CDC staff feel that there is still a good chance that a surveillance system will be implemented. Regarding Ecuador, the nutrition surveillance efforts are not going forward because there exists competition between government entities in anticipation of a change of government after the elections in May of 1988.

The governments that have received assistance from project resources need encouragement and resources to move from the survey stage to development and implementation of surveillance systems. This is not to say that national surveys necessarily need to precede surveillance. At times, gaps that exist in current data sources can be filled by "focused" surveys geared to specific at-risk populations such

as young children and/or women of reproductive age, at a considerably lower cost than a national survey. In some countries data already exists that can be used for baseline information prior to design of a surveillance system.

In the area of nutritional surveillance, the CDC staff have provided technical assistance primarily through participation in seminars and workshops. For example, in 1984, the staff participated in a PAHO/INCAP seminar in surveillance activities for Central America. Similarly in 1985 the CDC staff participated in a workshop on the overall improvement of nutritional status of the Swazi population. In 1986, the CDC provided consultation in the Ivory Coast on a nutritional surveillance course for AID nutrition directors from Francophone Africa.

In summary, the Nutrition Division of CDC is to be commended for its wise management of personnel and funds to support developing countries in need of assistance on relatively short notice on a project-by-project basis. Since the completion of the RSSA in late 1986, CDC staff have been supported by the United Nations Commission on Refugees, and the U.S. State Department program for refugees, in estimating the impact of the drought and migration on the malnourished populations in Africa.

## **2.2 CDC Training Activities**

The training given by the CDC staff was generally in the form of short courses in the Atlanta headquarters and training sessions in various countries. The staff also participated in regional workshops related to nutritional surveillance. For example, the CDC staff, in cooperation with USAID and Cornell, conducted a workshop on nutritional surveillance at the Asian Nutrition Congress in 1984. In Peru, in 1985, two medical epidemiologists participated in a data analysis seminar for Ministry of Health officials and PAHO representatives. In Swaziland in 1985, another medical epidemiologist presented the results of the Swaziland National Nutrition survey and the strategies for the improvement of nutritional status in the Swazi population.

Training usually was given to country personnel who were analyzing the survey data. At times, USAID staff also were included in the training courses both overseas and in the U.S. In Abidjan in 1986, CDC participated in the design of a nutritional surveillance course for AID nutrition directors from Francophone countries. In 1985,

training was provided in Atlanta for a USAID/Peru contractor who was assisting the Ministry of Health in analysis of the nutrition survey data.

Throughout 1987, the CDC continued to offer epidemiology training on how to analyze nutrition surveys and how to conduct surveys and surveillance. This training was provided to Caribbean epidemiologists in Haiti, to participants from 20 Francophone African countries in a workshop sponsored by USAID/Tulane University, and to health workers in refugee camps in Somalia. The 1987 efforts were not funded with project resources since the RSSA was completed in December 1986. The CDC staff are to be commended for their contribution to training in nutrition surveys, assessments, and surveillance techniques. The need for additional efforts in training is an integral part of the future areas for investment.

### **2.3 CDC Research Activities**

The published work of the CDC staff has made significant contributions to the stock of knowledge regarding the methods for conducting national nutrition surveys. In addition to refinement of data collection methods, standardization of growth charts, measurement techniques, and standardization of data analysis techniques, the staff has developed methods to adjust for the potential biases in measurements due to sampling problems or misstatement of age. The standardization of survey methodologies has resulted in the reduction in time required to conduct nationwide nutritional status surveys.

Standardization of sampling techniques (e.g., cluster sampling within and among rural villages) and standardization of measurement techniques for nutritional status have advanced nutritional research to the point that international and trans-cultural comparisons of nutritional status are now possible. Through the work of CDC, CNSP and other researchers, these comparisons have led to an improved understanding of what is being measured by many of the anthropometric indicators. Much of the earlier debate in the 1970s over the use of weight-for-age, height-for-age, weight-for-height measurements has been resolved, or at least the questions and issues have been examined more thoroughly.

On the other hand, the project has not advanced the "state-of-the-art" in collection of food consumption data. One objective stated in the project paper was

the development of rapid, simple, and low-cost procedures for determining family food consumption and individual dietary intake. Dietary intake surveys were conducted in only five of the seventeen countries assisted by the project: Cameroon, Egypt, Haiti, Sierra Leone, and Yemen. Different techniques for collection of dietary data were used in some countries and no one method of collection was found to be preferred in terms of simplicity, ease of application, or accuracy. This was due in part to the complexity of measurements based on individual recall, and in part to the fact that the collection of food consumption data was not recommended unless requested by the countries. The extremes of data collection measures vary from individual weighing of the food about to be consumed to a simple checklist of items consumed in the past two weeks (as was applied in Swaziland by CDC). Other researchers have used food diaries, shopping lists, and recall methods that may be less costly than the "weighed" method and more accurate than a "check-list". The ideal method which is simple, rapid, and low cost is still being debated among the nutrition community. The project objective of advancing the "state-of-the-art" in the collection of food consumption data may have been overly ambitious; however, it is vital that food consumption data not be omitted from future surveys.

The work of CDC staff in the data collection and data analysis from nutrition surveys, has, on numerous occasions, resulted in a further understanding of specific nutritional problems in individual countries. Knowledge has increased regarding some of the specific problems of illness-nutritional status relationships, (for example, sanitation, diarrhea, and infant/child nutritional status in Swaziland and the identification of at-risk populations and refinement of feeding policies to conserve food for the most vulnerable populations in Yemen and Egypt). Over the ten year period of the project, as well as through the work of other researchers, significant knowledge of these and other nutrition topics has resulted. In addition, CDC has become a repository for nutrition survey data from various countries.

CDC has been instrumental in developing a software package for analysis of anthropometric measurements. This package is available for mainframe and personal computers. The program uses height, weight and age data to generate percentages of standard references and Z-scores for weight for height, weight for age, and height for age indicators. The version for the personal computer is particularly useful for work in developing countries that do not have access to a large computer but do have analytical capacity on smaller machines.

### **3.0 CORNELL NUTRITIONAL SURVEILLANCE PROJECT: ACTIVITIES AND ACCOMPLISHMENTS**

The Cornell Nutritional Surveillance Project has undertaken project activities in five areas:

- . in-depth assistance to individual countries;
- . short-term consultations;
- . training,
- . international workshops, and
- . dissemination of information, with concentration in recent years in the results of the technical assistance efforts.

The principal line item in the AID funding for CNSP was for assistance in nutritional surveillance activities; in-depth assistance accounted for approximately sixty percent of the total direct costs, whereas short-term assistance represented 18 percent of the budget. Funding for training and international/regional workshops accounted for twenty percent of the direct costs in the AID share of the agreement. The remaining two percent of the AID-supported budget was allocated to publications and dissemination of information.

#### **3.1 CNSP In-depth Technical Assistance in Nutritional Surveillance Activities**

Nutritional surveillance systems can be categorized by their primary purposes:<sup>1</sup>

- . long-term health and development planning;
- . program management and evaluation; and
- . for timely warning and intervention to prevent critical deterioration in food consumption.

A review of the documentation indicates that several countries are attempting to implement and operate some form of a nutritional surveillance system: Bangladesh, Bhutan, Botswana, Chile, Colombia, Costa Rica, Cuba, El Salvador, Guatemala, India, Indonesia, Kenya, Lesotho, Malawi, Mauritius, Nepal, Pakistan, Panama, Papua New Guinea, Philippines, Sri Lanka, Swaziland, Thailand, Venezuela, Vietnam, and Zimbabwe. Many of these countries were assisted by CNSP with

<sup>1</sup>More recently nutrition survey and surveillance data has been used for political advocacy and problem identification.

project resources, notably, Botswana, Costa Rica, Indonesia, Kenya, Lesotho, Malawi, Sri Lanka, Swaziland, and Zimbabwe. (See Table 2.)

Examination of existing surveillance systems reveals considerable diversity in the extent of development, degree of operation, levels of political commitment by decisionmakers, and the countries' ability to respond in a timely manner to food crises. In some countries the system was designed for long-term planning and program management (as in the case of Malawi and Kenya), and in other cases the system was designed for timely warning purposes, (as in Botswana and Indonesia). The efforts in East and Southern Africa have been undertaken under the Joint Programme with UNICEF.

As stated earlier, the principal result of the cooperative agreement with the Office of Nutrition relates to Cornell's role as a "scientific center for excellence" from which governmental institutions, USAID Missions, the World Bank, UN organizations and other donor agencies (such as Catholic Relief Services) have been able to receive technical advice and expertise. CNSP's involvement in Indonesia is an example of project activities funded under the cooperative agreement serving as a "core" resource to particular countries. (See also Appendix IV.)

In **Indonesia** in the late 1970s, Cornell faculty assisted the government with the development of the Food and Nutritional Surveillance System. Indonesia's commitment to surveillance activities was fertile ground for the AID/CNSP agreement. CNSP provided resident advisors from 1979 through 1985, during which time the Timely Warning and Intervention System (TWIS) was designed, tested, and implemented in three provinces.

TWIS aims to detect impending food consumption shortages in districts (provincial subdivisions) with histories of food shortages and to take well-defined measures to avoid the problem. The TWIS package consists of:

simple indicators,

monitoring by a district technical team (drawn from the Ministries of Health, Agriculture, Social Welfare and Manpower, the Food Logistics Bureau, local University and District Chief's Staff); and

specific interventions.

TWIS has proven very popular with district chiefs who find it an important, decisionmaking tool, a good model for management, and a means for promoting intersectoral cooperation. There are now 37 TWIS operating in nine provinces, and there are plans to expand to 12 provinces by 1990.

Beginning in 1984, the Government of Indonesia, with CNSP assistance, began developing the Nutritional Status Monitoring System (NSMS). Several pilot projects in support of this effort were undertaken with USAID/Indonesia funding (Development Studies Projects I and II). NSMS provides the following:

- . inclusion of anthropometry in the National Socioeconomic Surveys (SUSENAS) conducted yearly on a census based sample;
- . anthropometric surveys of preschool children by Community Health Center personnel; and
- . analysis of village characteristics affecting nutritional status to determine priorities for program activities and monitoring.

As further evidence of growing international support for Indonesia's surveillance system, a World Bank loan, "Second Nutrition and Community Health Project," will provide over 10 million dollars to further develop nutritional surveillance. 37 percent will be for expansion of the TWIS; 42 percent for nutrition monitoring and assessment research projects; 10 percent for policy and program studies; and the remaining funds for nutrition information (processing, formatting, and dissemination).

The Timely Warning Information Systems (TWIS) experience in Indonesia, carried out by the local authorities with the direct assistance of CNSP, should be considered a successful program. It has been reproduced effectively in other provinces and regions of the same country. Most of the basic questions have been answered. However, it is not certain whether the same TWIS will prove effective in other countries because of the nature of the hunger problem, the feasibility of collecting appropriate data, of using them to prevent a crisis, and of delegating authority at the local level to provide jobs and food in a timely manner. These are some issues pending that will require further research.

In the case of East and Southern Africa, CNSP has worked with UNICEF country and regional offices under a joint UNICEF/CNSP Nutritional Surveillance project. The so-called Joint Programme has been operating since 1982, when CNSP assigned a permanent staff member to the UNICEF East Africa Regional Office in Nairobi, in order to provide linkage to the scientific resources of Cornell for support of UNICEF's activities in surveys and surveillance. The Joint Programme has been built upon the prior work of the UNICEF Regional Office, particularly the Office of the Regional Statistical Advisor. Recently there has been greater participation by the individual UNICEF country programs. The Joint Programme for Eastern and Southern Africa has provided financial and technical resources for a number of workshops on nutritional surveillance, for different types of training, particularly three regional training workshops, technical assistance in problem identification, and project preparation as well as varying degrees of continuing technical assistance to the countries for the implementation of national nutritional surveillance systems.

The strategy has been directed at building national capability in the collection, analysis, and use of information related to nutritional status and its determinants as functions of national resource allocations, national policies and planning, and the performance of the health, agricultural, and other sectors in a given country. Prior to 1982, UNICEF had worked for over six years in providing technical and financial support to governments in the practical aspects of collecting, analyzing, and using data for purposes of planning, monitoring, and evaluation of development programs that affect the situation of children and women.

Under the Joint Programme, long-term country programs have been undertaken in Botswana, Kenya, Lesotho, and Malawi. A large number of short-term technical assistance activities have been undertaken in support of ongoing programs or in the problem identification and project preparation stages. The following summarizes the prototypical long-term activities undertaken under the Joint Programme for East and Southern Africa:

Since 1982 in **Botswana**, inputs of the Joint Programme have ranged from short-term technical assistance to longer-term country programming and research activities. For example, a major evaluation of the clinic-based nutritional surveillance system was carried in 1983; the findings resulted in major improvements in the methods for data collection,

analysis, and presentation. Assistance was also given in integrating the nutritional data with data from agriculture, meteorology, and market information; the integrated database was developed to be used as the monitoring system for drought preparedness and for managing the country's national food security plan. Work undertaken on the country's early warning system for drought also has been published in the scientific literature. Other major Joint Programme inputs have included assisting in the analysis of the national nutrition survey.

Since 1982 in **Kenya**, the Central Bureau of Statistics has been assisted in national nutrition surveys through field assistance, data analysis, and report writing. CNSP assisted in the analysis of the four surveys conducted between 1977 and 1982. Several articles on the findings of these analyses have been co-authored with Government counter-parts and published in the scientific literature. The fifth national nutrition survey has just been conducted (October 1987) with Joint Programme support. However, there has been little progress towards the development of a surveillance system.

In 1985 in **Lesotho**, at the request of the Government and the Catholic Relief Services, the Joint Programme undertook a 16-month research effort to investigate the practical aspects of child growth monitoring. The study focused specifically on the issues of child growth and the effects of growth monitoring on maternal child care knowledge. Methods for training health workers in growth monitoring were also investigated. The Ministry of Health and UNICEF are now working together to amalgamate the findings of the study in order to develop uniform child growth monitoring and clinic-based nutritional surveillance systems.

Since late 1984 in **Malawi**, long-term technical assistance through the Joint Programme has been provided to the University of Malawi's Centre for Social Research. Work has been done to develop a local level food and nutrition information system to monitor child nutritional status and factors that affect it, particularly those related to agriculture. This work included an analysis of the 1980/81 national nutritional survey that

revealed important findings of the social, economic, and agricultural determinants of child malnutrition. Child malnutrition and mortality levels are alarmingly high in Malawi, a country internationally known for its good performance in the agricultural sector. The data have served to increase the awareness within the country of the magnitudes of these nutritional problems. (See also Appendix V.)

The need for a national nutritional surveillance system for Malawi is now widely recognized, and the contributions of the project to the formulation of responses to the recent cassava mealy bug disaster are acknowledged. However, there are a number of critical operational issues that must be resolved before a nationwide system can be implemented; concerns center on the intensity of the data collection efforts and the distraction of personnel from their normal duties. Apparently more work needs to be undertaken on a pilot basis to simplify methods and refine the operational procedures so that they may be sustainable within the available resources and institutions.

In general, project resources have been used principally in the data processing aspects of nutrition surveys. The apparent strategy has been to promote awareness among decisionmakers by publishing the information on the extent and distribution of nutritional problems. As such, much of the effort has concentrated on nationwide surveys to serve as baseline data for nutritional surveillance systems, perhaps at the expense of developing national surveillance systems. Considerable knowledge has been gained about the best methods and processes for conducting nutritional surveys and for incorporating nutrition modules in other national surveys. In most cases, there has been an increased awareness of malnutrition and of the need to direct action against its causes. The project documents suggest that development of functioning surveillance systems took a backseat to collection of baseline data. Perhaps one possible alternative would have been to use available secondary data from ministries of Health, Agriculture, Education, Planning, etc. as a basis for development and operation of a surveillance systems without first going through the survey process of collection of baseline data.

The Cooperative Agreement called for efforts towards attaining higher levels of awareness among government officials and high-level policymakers. The project team

also had a responsibility to encourage and foster the development, operation, and institutionalization of nutritional surveillance systems in countries. An effective nutritional surveillance system, in most countries, appears to require the support of either the Ministry of Health or the Ministry of Agriculture. The Ministry of Education and Central Planning Agencies are also important supportive ministries/agencies. Governments that have the supportive involvement and cooperation of these four ministries/agencies usually have more successful nutritional surveillance systems (as in Indonesia) than governments that do not. The CNSP staff have consistently worked to encourage involvement of the Ministries of Health, Agriculture, and Education, as well as Planning Agencies.

It would appear, however, that more than the hard work and commitment of the project team members is required to establish effective surveillance systems. In the African cases, the impediments towards establishing sustainable surveillance systems are many. Of these impediments, perhaps the largest arises from the political sensitivity of reporting the extent and distribution of nutritional problems. In most of the countries of the region, issues related to poverty and food adequacy are highly sensitive. It is, therefore, difficult to obtain political and financial support for continuous monitoring of such problems, particularly if foreign institutions are involved.

Such political problems are aggravated by the relatively weak institutions that would have operational responsibility for nutritional surveillance systems. Well-trained personnel are scarce and mobile; therefore, establishing cadres for the system is very difficult. Since most countries operate under severe budgetary constraints, "new" efforts like nutritional surveillance must compete with established civil service functions that are difficult to reduce in exchange for measurement and monitoring activities. At the local level, personnel are already committed to their standard operations and frequently nutritional surveillance activities are viewed as unnecessary distractions, except for occasional survey type efforts.

Therefore, the challenge for nutritional surveillance appears to center on the development of simple methods that can be readily incorporated into existing reporting and operational procedures, so that they may be executed by indigenous personnel with domestic resources and with little involvement from outside agencies.

This challenge has not yet been met in Africa, in many other low-income countries. The exceptions are Indonesia, Costa Rica, and Chile.

### **3.2 CNSP Short-Term Technical Assistance Activities**

CNSP staff, working under the Joint Programme, also have provided assistance in the design and implementation of surveillance systems through short-term consultation in Rwanda, Zimbabwe, Swaziland, Lesotho, Botswana, and Chile. These efforts are described below:

In **Rwanda**, an initial assessment of the child nutrition problem in Rwanda was conducted by CNSP staff in 1987. Rwanda is a country in which little or no form of nutritional surveillance has been undertaken. Currently the design of a system is being contemplated by USAID, international donors, government representatives, and CNSP staff with funding from USAID/Rwanda.

In **Zimbabwe** in 1986, CNSP supported the Nutrition Unit and the Central Statistics Office in the processing and data analyses from the 1984 National Nutrition Survey. Six government staff members received training in processing and analyzing nutrition data on a microcomputer. In 1984 and 1985, the CNSP staff assisted the Ministry of Health officials of Zimbabwe in the design and evaluation of the government's growth monitoring program.

For **Swaziland** in 1985, the CNSP staff participated in the interpretation and presentation of data from the Swaziland National Nutrition Survey. The staff also attended the national workshop in June of 1985 to present the survey's final results and implications.

In **Lesotho** in 1986, a CNSP staff member participated in training and data management activities to process growth chart data on a microcomputer. At the same time as CNSP staff assisted government personnel in Lesotho with the design of growth monitoring charts, they lay the groundwork for addressing the larger issues of surveillance. This was an example of the adeptness of Cornell staff and faculty in providing

short-term assistance to a country without losing the "long-term vision" needed to develop an operational surveillance system.

In Botswana, the CNSP staff assisted in the preliminary analyses of the national nutrition survey. The staff also consulted with personnel from the World Food Program regarding the nutritional situation of the country.

In Chile in 1987, CNSP supported the personnel of the Ministry of Health and the Instituto Nacional de Tecnologia Alimentaria (INTA) of the University of Chile in the assessment of nutritional surveillance systems.

### **3.3 CNSP Training Activities and Manuals**

Training objectives of the agreement with CNSP included many kinds of training activities as well as production of training manuals. Over the past five years, approximately one fifth of the direct costs in CNSP's budget were allocated to training activities, including activities at Cornell, in-country workshops and short courses, international or regional workshops, and conferences. Personnel in governmental positions in planning, analysis and data management received training in operations and analysis of data from nutritional surveys and surveillance systems. The training provided by CNSP emphasized nutrition surveys and nutritional surveillance from a broad multisectoral perspective. In addition to formal courses, CNSP staff provided in-service training as a continuing effort of both long-term and short-term technical assistance activities.

Approximately half of the training funds were to provide short training courses in the United States. Over the years the course was refined, and three six-week regional courses were held to train senior level professional staff. These courses were conducted in joint collaboration with UNICEF courses in Nairobi in 1984, in Malawi in 1986, and most recently in Mauritius in 1987.

The course syllabus for the Mauritius course included the identification of:

nutrition problems in Africa and elsewhere: their causes and consequences with emphasis on East and Southern African countries;

**developing and/or strengthening national nutritional surveillance systems to provide policy and planning information:**

- . **identification of the key questions, institutions, and clients;**
- . **data collection methods, clinical and survey approaches;**
- . **data processing and analysis;**
- . **identification, uses, and limitations of secondary data sources;**
- . **interpretation and presentation of analyzed data for decisionmakers;**
- . **organizational and institutional issues;**

**the use of nutritional surveillance data to:**

- . **design, monitor, and evaluate projects;**
- . **provide timely warning of adverse nutritional effects from droughts or other events;**
- . **design rapid assessment surveys;**
- . **provide timely data analysis and transfer of information to policymakers and households; and**
- . **provide information for the design or modification of:**
  - . **public health intervention,**
  - . **food price and subsidy policies,**
  - . **agricultural research and technology,**
  - . **transformation of semi-subsistence agriculture,**
  - . **macro-economic adjustments,**
  - . **seasonality in food production,**
  - . **food supplementation schemes, and**
  - . **effective use of food aid.**

In recent years, the CNSP staff have also participated in regional training courses in nutritional surveillance design and methods. In 1985, a five-week training course in data management and analysis of nutritional data with microcomputers was held in Nairobi. Sponsored in collaboration with the University of Nairobi, the course was attended by fourteen participants from seven countries in East and Southern Africa. In 1985, CNSP staff participated in a ten-week food and nutritional surveillance course for Latin America and the Caribbean, co-sponsored with the Instituto de Nutricion y Tecnologia Alimentaria (INTA) of the Universidad de Chile in Santiago, Chile. This course was attended by 32 participants from 15 countries. The Pan American Health Organization and the United Nations University assisted in providing fellowships for course participants. As a follow-up to the 1985 course,

CNSP staff were invited to participate in a nutritional surveillance workshop at INTA in the fall of 1987.

The training courses need further development, particularly on matters of focus. Some of the participants who were interviewed for this review complained that there was too much material directed at too many diversely-prepared participants. In seeking breath of coverage and multisectoral participation, the workshops are at risk of treating topics in a superficial manner or conversely at too high a level for most participants. It was suggested that:

- . multidisciplinary and inter-country collaboration be promoted through shorter workshops;
- . longer training workshops be focused on particular skills and problems; and
- . the participants form more homogeneous groups in terms of profession and experience.

CNSP also has provided formal degree training to a small number of personnel from developing countries, though support for formal degree education was not paid through the cooperative agreement. This training has increased awareness of nutritional surveillance, as well as knowledge of nutrition in developing countries. For example, recently a visitor from Chile completed a six-month training program at Cornell and returned to Chile to assist in the development of a national surveillance system; his training at Cornell should lessen the need for further short-term assistance from Cornell faculty and CNSP staff.

In addition to offering training courses, CNSP staff participated actively in regional workshops in Colombia in 1981, Kenya in 1982, Thailand in 1983, Botswana in 1983, Mauritius in 1985, and Chile in 1987. The meetings in Kenya were cosponsored by the UNICEF East Africa Regional Office; Cornell published the proceedings from the workshop in Kenya as "Report on Workshop on Social and Nutritional Surveillance in Eastern and Southern Africa". The meetings in Bangkok were co-sponsored by UNICEF/East Asia and Pakistan Regional office, and the WHO South/East Asia Regional Office; Cornell published working papers from the Regional Workshop on "Nutritional Surveillance for Asian Countries". In Botswana, the workshop presented the results of the evaluation of the clinic-based nutritional surveillance system with neighboring countries. At Cornell, CNSP sponsored a workshop on the effect of macroeconomic policies on nutrition in 1987.

A secondary objective of the project was to produce training materials for survey/surveillance theory and practice; the materials were to explain what to measure, when and how to measure, how to codify and manage data, how to analyze nutrition data, and how to produce appropriate reports for end-users. These materials were to be jointly produced by CDC, CNSP and AID. Manuals covering basic field surveys were to consist of four volumes:

1. Overview Planning and Organization
2. Training Field Workers
3. Sample Selection
4. Data Analysis and Presentation.

Volume 1 of the series has been completed and is a very thorough guide to the design of a survey, organization of field operations, and sample analyses. Volume 2 has undergone numerous drafts by CDC personnel and is still in draft form. Volume 3, the manual on sample selection, was presented as a Cornell Working Paper (Edmonston, 1985). Volume 4 has been prepared in draft form as a working paper by Test (1986) and is still under revision. A sizeable effort has been undertaken to finalize these training manuals. The investment made to date in training resources should not be wasted. Some group (whether it be CDC, CNSP, AID, or an independent entity) should complete these training manuals for use by country personnel and donor agency staffs, who would be greatly assisted by them. Furthermore, these training manuals will standardize further the process of conducting nutrition surveys and performing data analysis.

### **3.4 CNSP Research and Methodology Development Activities**

The first major research activity undertaken by CNSP was the production of a book (published in 1984 by WHO) that reviewed existing nutritional surveillance systems in the world, as well as a state-of-the-art data collection, data analysis, and interpretation of results. This document is known popularly as the "Green Book".

Results of research conducted by faculty members and graduate students of the Division of Nutritional Sciences, in collaboration with CNSP, have been distributed in the form of chapters in books, scientific articles, WHO and UNICEF reports, proceedings from international workshops, and a working paper series. The working paper series has included the following broad topics:

- . analytical methods for analyzing nutritional data;
- . comparison of nutritional indicators;
- . results from analyses of nutritional data;
- . defining data needs in a surveillance system;
- . determinants of child feeding practices;
- . intra-family food distribution;
- . sampling biases and errors in estimation; and
- . monitoring and evaluation of nutrition and feeding programs.

The majority of the working papers have dealt with methodology for defining a surveillance system and indicators for measuring malnutrition. The publications in journals have included topics covering methodology, specific results of analyses, and summary results. The quantity of documents that have been produced by the project is very large. The documents generally deal with development of methods and specific results, rather than documents for general use, such as training manuals.

The evidence from the review of the reports, publications, and other technical documents suggests that there has been some agreement reached on the meaning of anthropometric measures and other forms of analytical standardization (sampling techniques, anthropometric standards), all of which have some bearing on surveillance. However, the evolutionary development of nutritional surveillance systems within each country appears to reflect the individual characteristics of each nation. As could be expected, adjoining nations in similar geographical, climatic, and agricultural regions of the world are the most likely to develop and employ similar surveillance systems. For example, one CNSP document stated that "nearby countries, most notably Zimbabwe and Zambia [have modeled] their nutritional surveillance systems after Botswana's".

It is unreasonable to expect that, aside from standardization of survey methods and measurement techniques, the predictive data elements of all surveillance systems worldwide will be similar. The recommended approach of the CNSP to development of a surveillance system, wherein the information needs of different levels of decisionmakers is taken into consideration, is a format which represents a type of standardization of the process of developing a surveillance system. Nevertheless, at some level of disaggregation, each country will likely develop and operate a somewhat unique system. Most countries and ministries within a given country are

likely to develop different systems to address different decisionmaking needs and national/ministerial policy concerns. Even within an individual country the development of regional nutritional surveillance systems will probably involve some unique characteristics reflecting variations within the same nation in crops, weather, dietary patterns, etc. from region to region.

In general, the research results that have been disseminated have answered questions such as:

- . how do we accurately measure malnutrition?
- . what proportion of a population is malnourished? and
- . where are the malnourished populations in a particular country?

Fewer papers have concentrated on why the populations are malnourished, i.e. the causal factors related to malnutrition.

The maternal and child health amendment to the cooperative agreement was primarily an increase in the research component of the project. The funds enabled faculty from Cornell and other universities to conduct research in infant feeding practices and issues related to low birthweight in infants. Unlike the other research components of the project, this research effort did not stem from short-term technical assistance efforts nor did the work result in implementation of better procedures to determine maternal and child health indicators of wellbeing in developing countries.

Under the amendment, three reviews of the literature were prepared and published in the form of working papers. A Cornell International Monograph Series was produced entitled, "Determinants of Young Child Feeding and Their Implications for Nutritional Surveillance". Two applied-research projects were conducted to investigate the benefits from nutritional supplementation and the effect of low birthweight on neonatal mortality. Extensive analyses in infant feeding and weaning practices also were undertaken using resources from the amendment.

Review of the available documentation suggests that a substantial level of effort has been incurred in the research component of the CNSP Cooperative Agreement. Relative to the budgetary allocations, these research efforts may have been overemphasized in comparison to the technical assistance efforts.

### 3.5 Assessment of the Accomplishments of CNSP

As the result of the foregoing review of the CNSP activities and documentation, a number of operational and substantive issues have been identified. **Operational** concerns have arisen regarding the relationship of the CNSP to the countries, AID, USAID Missions, and other donors including the current proposals for the global Interagency Nutrition Surveillance Programme (INSP). **Substantive** issues include:

- . the relationship of surveys and other baseline studies as precursors to the establishment of national surveillance systems;
- . the relative inattention that has been given to food consumption issues, in light of the fact that one of the three main purposes for the nutritional surveillance systems was "to provide timely warning for the implementation of interventions to prevent extreme reductions in food consumption"; and
- . the lack of development of rapid, simple, and low-cost procedures for assessing the magnitude and distribution of malnutrition in populations, determining dietary patterns and food intake, and providing early warning as precursors to timely interventions; the lack of such procedures is central to the relative lack of success in implementing sustainable nutritional surveillance systems in developing countries.

CNSP, working in combination with UNICEF and other donors, has done an exceptionally good job in the areas of advocacy and promoting awareness of the malnutrition problems of low-income countries. Undoubtedly, the CNSP efforts have contributed to improved assessment capabilities for nutritional problems in developing countries. The CNSP efforts, through the various collaborative arrangements, have led to nascent efforts towards establishing surveillance activities in various countries, and further technical and financial support from the international donor community will be required to cause these early efforts to result in well established and effective national nutritional surveillance systems.

#### **Operational Issues**

One of the most important obstacles to the establishment or implementation of national nutritional surveillance systems in developing countries is the political sensitivity to the continuing monitoring of nutritional status and its correlates (food consumption, incomes, employment, health, education, services, etc.) Results can constitute a visible evaluation of the policies and programs of each particular country, and not surprisingly, many countries are jealous about the involvement of international and bilateral groups in the establishments of such systems. Closely

related to this political sensitivity is the question of national, institutional, and professional pride that frequently can interfere with even the best intentions regarding collaborative work on development problems. It is apparent that Cornell has done an exceptionally good job of addressing these concerns in general, and that CNSP has been helped in this effort by being a part of a prestigious university with a sound international reputation. Efforts such as the Joint Programme with UNICEF in East and Southern Africa undoubtedly also have been a great help in these matters.

Given these professional and political sensitivities, national surveillance systems need to be operated by local personnel with occasional inputs from external groups. More work needs to be done in developing the simple low-cost methods and proving the usefulness and effectiveness for the three broad purposes for which nutritional surveillance systems are to be implemented (i.e., planning, program management and evaluation, and timely warning). In addition to refining the methods, work needs to be done on refining the technical assistance approach. The UNICEF/CNSP Joint Programme in East and Southern Africa presents a good model for such a low key technical assistance approach; resources can be provided at problem identification levels and then assistance can be given in finding external donor financial resources to support the implementation of nutritional surveillance. Such efforts can help solve the political impediments to nutritional surveillance.

Also very important is the question of the appropriate relationship between the centrally-funded activities to the donor community, including as a special case, the role of the USAID missions. One of the surprising findings during this review was the lack of integration between USAID Missions and the CNSP activities funded through the Cooperative Agreement. In the case of Africa, the Joint Programme facilitated the work with the countries, but there appears to be a systematic exclusion of the USAID missions. What was not clear to the reviewers was whether this weak collaborative linkage with the USAID missions was in response to USAIDs' desires or a conscious strategy of the UNICEF/CNSP personnel. In general, there was great diversity in the attitude of the individual USAIDs to the CNSP activities; in some cases there was enthusiastic support, in other cases something closer to benign neglect, and in yet others, patent antagonism. The reviewers were unable to determine the cause of this diversity of opinion, but as a matter of speculation it would appear that the attitudes of the USAIDs towards the CNSP efforts may have

been, to a large extent, a function of the relevance that the CNSP activities had to the ongoing country programs of the particular USAIDs.

This problem is not unique to the CNSP nutritional surveillance Cooperative Agreement, but it is a problem faced by almost all of the projects funded centrally out of the Bureau for Science and Technology. Those projects offering services of immediate relevance to the USAID programs tend to be viewed as good projects, and those projects that are more distal to the immediate program of the USAIDs tend to be viewed as undesirable. If a centrally-funded activity for nutritional surveillance is going to succeed, agreements have to be more specific about the relationship of the centrally-funded activities to the specific USAIDs.

Steps to ensure the relevance of the centrally-funded programs to the USAIDs should include the provision of enough budgetary resources in the centrally-funded budget to provide "seed money" for the early stages of advocacy through information and diagnosis. This seed money should be sufficient to maintain some level of activity in a country through the project identification and design cycle for the Agency. At early stages of work, the "seed money" could be channeled through the Interagency Programme; at more advanced stages, through centrally-funded contracts. While individual USAIDs may be willing to allocate funds from ongoing projects or even from their project development and support funds, adequate central funding must be provided for preliminary efforts in many countries and for selected investments in a few countries until particular USAIDs are able to provide funding from their own program resources. For this to come about, the Office of Nutrition need to do a much better job of advocacy within AID, its bureaus, and USAID missions.

### **Substantive Issues**

An area of concern for a possible future project in nutritional surveillance is the issue of comparative advantage for a research-based organization such as Cornell University, and specifically CNSP. The question centers on what activities should be undertaken with a Cornell University base and what activities should be undertaken in the regions and countries. (See Appendix VI for notes on activities for future involvement proposed by the director of CNSP.)

There is a need to document clearly the lessons learned thus far, to evolve a set of principles relating to the causal relationships between nutritional outcomes and its determinants. While the state of knowledge in this area has experienced a virtual boom in the last ten years, there still is a need to document scientifically the relationships that can be monitored within a national nutritional surveillance system as well as to specify appropriate indicators for these various relationships. Also further research is needed to establish useful and operational proxies for more complex indicators.

Presently there is a lot of pressure within the donor community, particularly within AID and the USAIDs, to implement rapid appraisal techniques, based on readily-available indicators. This is a highly desirable goal, but there is inadequate documentation and analysis to demonstrate the feasibility of generalizable rapid assessment techniques. The use of readily-available indicators to do effective nutritional surveillance for program management and evaluation and particularly for timely warning purposes has not been demonstrated.

It has been shown that readily-available information can be analyzed to detect generally robust relationships that are useful for policy analysis and planning purposes. It is less clear what information is essential for program management and evaluation, or what types of information can be used for timely warning and intervention programs, particularly in the African context. These questions should be areas for priority research, using the experiences and the databases generated by the past efforts. Funding should be provided for such analysis, for rigorous scientific analyses of the past experience, and for pilot demonstration projects in a number of countries. One product of such a research and analyses exercise could be the publication and promulgation of a revised version of the "Green Book", with practical guidelines on what indicators can be used for what kind of problems in what types of policy and environmental settings. While the existing methods may have ready applicability in some countries, it is likely that the countries with the most pressing poverty and nutritional problems will also have the least developed infrastructure (institutional and human) and, therefore need assistance in developing and using simpler methods.

Another major substantive issue relates to the nature of the technical assistance to be offered. As was stated above, sufficient central funding should be provided

for preliminary screening of large number of countries and for short-term technical assistance through the project identification and project development stages in selected countries where USAIDs or other donor agencies are committed to supporting long-term efforts for the establishment of nutritional surveillance systems. In addition, further clarification is needed on the role of CNSP or similar centrally-funded activity, in terms of short-term versus long-term technical assistance. The needs of different countries vary. Some want and need long-term technical assistance whereas others would want highly targeted assistance on a periodic basis. Questions arise about how much of these two types of technical assistance should be funded out of central funds, and how much should be provided from the individual missions and other donors.

Clarification is also needed on the training program for the nutritional surveillance efforts. Undoubtedly, some additional degree training is required, for some countries on the baccalaureate level, and for others at masters and Ph.D levels. However, this university-based training needs to be complemented with a great deal of on-the-job training for specific skills and problem areas such as statistics, food policy, nutritional assessment, etc. Development of a number of specific modules targeted for homogeneous groups from specific skilled areas is needed. In addition, a cadre of technical assistance persons that specialize in on-the-job training and who can provide short-term backstopping to individual country personnel is also necessary for future development.

Finally, since food production and consumption are visible and proximal causes and consequences of malnutrition and poverty, the relative weakness of both the nutritional surveillance and surveys components of the project regarding food consumption issues needs to be corrected. Apparently, the relative inattention to food consumption issues arose because senior CDC and CNSP leadership believed that food consumption or dietary intake data cannot be used to diagnose individual nutritional status. Undoubtedly that is correct; but it is now well established that relatively simple measures (such as household food disappearance from recall information) can be used to establish important relationships between income, environmental, and socioeconomic variables. (See Franklin and Harrell, 1985 and Franklin, Harrell, and Leonard, 1987 for examples.) These measures can detect the gross magnitudes and general directions in which household food utilization is likely to change. Gross measures of household food disappearance are not useful for

detecting intra-household food distribution and similar issues, but they can be highly useful for policy analysis and planning and even for program management and evaluation purposes. As has been found by the FAO Crop Monitoring and Early Warning project, slight decreases in household food availability when widespread over population groups can lead to substantial declines in the weights of children and therefore be detectable by anthropometric measurements. Any further funding for nutritional surveillance should place food consumption and food policy issues at a central place in new project activities.

## 4.0 CONCLUSIONS

Overall the project was highly successful in implementing a large number of surveys throughout the world. These have been very useful in documenting the prevalence of nutritional status throughout the world, and the data have been used in many countries for a number of policy and programmatic purposes. The project generally has not been successful in having surveys provide a baseline on which surveillance systems were implemented. This may be the result of having two different contractors with an arbitrary division of labor. On the other hand, each of the contractors had a responsibility to promote the establishment of surveillance systems. It would appear, therefore, that there is a need to develop more effective means for motivating country decisionmakers towards the use of the available information.

The project has made significant contributions to nutrition planning, to policy analysis and planning issues in health, agricultural, and economic planning, and to bringing nutritional considerations to the forefront of development issues. The project has been generally less successful in applying methods for program management and evaluation and for timely warning and intervention systems, particularly in preventing extreme reductions of food consumption. Therefore, it can be said that the project has made a significant impact, and that developing country needs, regarding baseline information, have been well served. However, the rate of progress towards the implementation of national nutritional surveillance project has been unsatisfactory both in terms of actual implementation and in terms of the development of methods that are useful within the resources available in most developing countries.

CDC was highly successful in planning and implementing surveys, in assisting with maintaining scientific standards for the assessment of nutritional status, and in training country personnel. The CDC work was considerably weak in food consumption and their contribution towards nutritional surveillance was meager. There is, however, a possibility that the design of the project prevented a more integrated approach to the linkage between survey-based baseline data and surveillance methodology.

CNSP has done an outstanding job of providing comprehensive assistance to governments in efforts directed at establishing nutritional surveillance systems. It has done an even better job of providing short-term technical assistance and training, in carrying out regional workshops, and in publishing materials. The concept of Cornell as a center of scientific excellence was well exploited and implemented through CNSP in-depth cooperative efforts leading to the establishment and design of nutritional surveillance systems. However, CNSP efforts in establishing sustainable surveillance systems have been weak, though the collaborations with Indonesia and with UNICEF in East and Southern Africa are exemplary and a model to be built upon. The UNICEF/CNSP Joint Programme was an outstanding application of the concept of a "core center of scientific excellence", in support of individual country programs of the donor agencies. It is important to understand how this model has worked so that it can be institutionalized and promulgated in other regions of the world and can be made more effective within East and Southern Africa.

## 5.0 RECOMMENDATIONS

The current project has made an initial thrust in assisting in the collection of survey data and design of nutritional surveillance systems. It is now time to design a program for nutritional surveillance that will capitalize on the initial investment which has been made in the past ten years and emphasize the operation and implementation of surveillance systems.

The Agency and particularly the Office of Nutrition needs to provide continuity of assistance in nutrition related projects particularly as projects lead from data collection to surveillance. For example, it would be worthwhile to follow up on what has happened in some, if not all, of the countries that CDC assisted in nutrition survey work. It also is important that the Office of Nutrition coordinate with the other Bureau Offices and the USAID Missions to inform them of the status, scope, and accomplishments of nutritional surveillance projects. Through increased publicity, the regional offices can encourage their Missions to call upon the core-funded project for assistance in surveillance and surveys.

There is an urgent need for "networking" between all organizations involved in the development of nutritional databases and/or surveillance systems (both within and outside AID). For example, with regard to timely warning systems, there should be an investigation of the division of labor between the Famine and Early Warning Systems (FEWS) project funded by the Bureau for Africa and the Nutrition Surveys and Surveillance Project. Under the FEWS project, Tulane University, USDA, and Price Williams and Associates were contracted to assemble, analyze, and report on conditions that could lead to famine in Sub-Saharan Africa. The reports are used to assist decision-makers to plan timely actions to avert nutritional emergencies; these efforts have included the preparation of detailed estimates of populations at risk, assistance to governments in developing early warning systems, as well as assembly of data from multiple secondary sources. Though the substantive focus and regional focus of the FEWS project are different from the Nutrition Surveys and Surveillance Project, there are enough similarities in purpose that clarification is needed on the respective roles and possible collaborative activities. AID needs to incorporate the similar phases of the work and particularly the experience gained from each project into a unified position with regard to minimum data requirements for nutritional

surveillance systems, determination of populations at risk, and the design and operation of surveillance systems.

It also is vital to coordinate nutritional surveillance activities within the USAID missions. The degree of support, financial and otherwise, received from USAID nutrition and health officers was vital to the successful efforts of the CDC and CNSP. Where USAID participation was not enthusiastic, it appears that the degree of success was lower. In addition to coordination within the Agency, it is essential to the success of nutritional surveillance activities that the "networking" with international organizations continue to be strengthened. CNSP has taken a large step in this direction through its continued collaboration with UNICEF, the World Bank, the World Food Program, the United Nations Administrative Committee on Coordination-Subcommittee on Nutrition (ACC/SCN), and FAO.

More specifically, there needs to be clarification of the relationship between the AID-funded nutritional surveillance activities, and the global Interagency Nutrition Surveillance Programme (INSP) sponsored by UNICEF, FOA, WHO, and the SCN Secretariat. There will be a tendency to consider the purposes of centrally-funded AID efforts and the INSP as similar. A careful review of the CNSP field activities and materials (including the Green Book) clearly points to essential differences in the purposes of the AID/S&T-funded activities and the global surveillances. The national nutritional surveillance systems provide information primarily for use by the countries regarding policy analysis, planning, program management and evaluation, and timely warning for domestic interventions to prevent food shortages. On the other hand, the INSP intends to provide information to the donor agencies as to the status of nutrition in individual countries. INSP also intends to assist many countries in the implementation of effective nutritional surveillance systems. While it was not the purview of this review to clarify these issues, it is important that the relationship be made clear between future nutritional surveillance funded by AID and the INSP. This report concludes with some suggestions by Dr. Abraham Horwitz on the relationship of AID-funded activities to the INSP.

A similar but less critical issue is the relationship of nutritional surveillance work to the FAO early warning and crop monitoring activities. Rather than focusing on identifying areas of competition and possible incompatibility, AID needs to exploit

the genuine opportunities for collaboration by providing funding to centrally-funded activities that seek these areas of collaboration with the other international donors, and with the other AID-funded projects.

Specifically it is recommended:

- . that core support be maintained for one or more centers of scientific excellence for the surveys and surveillance project;
- . that there be a greater focus on food security at the household level as part of a contribution on early warning systems, and policy analyses;
- . that nutritional anthropometry be used as a means for corroborating the information developed through other more readily obtainable measures;
- . that AID/Washington provide a greater role for project management by AID personnel, either from the Bureaus or the Missions;
- . that the Office of Nutrition provide sufficient resources for the travel for its project managers in order for them to actively participate in the nutritional surveillance decision making activities;
- . that the staff of the Office of Nutrition coordinate the networking of short term and long term technical assistance and institution building

Finally, if AID/Washington decides to contribute to the Interagency Nutrition Surveillance Programme (INSP), these resources should be incremental to the surveillance activities at the national level and not a substitute for them. In fact, without continued investment in national level nutritional surveillance activities, it is questionable that the data furnished to the global nutritional surveillance activities would be of the requisite coverage and of acceptable statistical and scientific validity. The following represents an approach towards linking AID-sponsored nutritional surveillance activities to the INSP.

INSP, sponsored by UNICEF, FAO, WHO, and the SCN Secretariat, is starting a working program for 1988 and 1989 that includes technical assistance to selected countries including the People's Republic of China as well as workshops in most regions of the world. Funds from the governments of Switzerland and Holland are available. The U.N. agencies have agreed upon a management system. The SCN Secretariat is committed to putting information together from approximately 30 countries by July 1988.

INSP will support national surveillance systems as well as regional centers that will develop country programs and assist with training, research, and advisory

services. As the state-of-the-art does not have all the answers for an effective nutrition information system, an institutional mechanism is needed to strengthen the INSP and the regional centers. CNSP, as a center of excellence for a network of US institutions including CDC, could have this responsibility. Therefore, it is recommended that AID continue its support of nutritional surveillance and help maintain centers of excellence such as CNSP and CDC.

The initial focus of INSP was assessment of short-term changes in malnutrition for advocacy. While this is still a useful activity, the highest priority of the Programme is the cooperation with governments for the organization and development of nutrition surveillance systems. The United Nations and bilateral agencies are well placed to provide technical and financial assistance to these activities, particularly in those countries where such issues are politically sensitive.

The role of a center of excellence and its network of institutions is to be concerned with advanced thinking, training, research, and dissemination of information.

Basic training should be developed, whenever possible, in every country that is willing to create or extend a nutrition surveillance system. Because a large number of countries lack essential human resources, the regional centers should prepare the needed cadre of professionals. Preferably this should be done in association with the AID-supported network of institutions. A good example is the course sponsored by Cornell and the Institute of Nutrition and Food Technology of the University of Chile. Besides joint courses, linkage should include staff exchanges in both directions, joint research projects, and dissemination of information.

In addition, the need for advanced training will be increasingly apparent as the INSP grows in the developing world. If such training is not readily available, there will be even greater risk than at present that nutrition surveillance systems will become stagnant, will accumulate data, will be poorly managed, and will not analyze the data and get it to decisionmakers in a timely way.

The AID-supported network of institutions can effectively provide advanced training on nutritional surveillance. The objective of the advanced training should be to strengthen professional capacities for each national system. Short courses could

focus on specific subjects such as data management and analysis, and planning and evaluation of nutrition-related policies and programs. Long-term training, leading to Masters degrees or doctorates, would include research on relevant subjects for nutrition surveillance in developing countries. Consideration should be given to the following themes for long-term training and graduate student research:

- identifying constraints of ongoing surveillance systems and the processes to overcome them for an effective operation;
- determining real requirements and uses of information for decisions such as for: policy formulation; program planning, monitoring and evaluation; early warning of hunger crisis; and/or nutrition advocacy;
- deciding on the most cost-effective approach to nutritional surveillance, namely, from decisions to information, or from information to decisions. The latter approach is generally followed at present, with highly questionable results reflected in the poor use of the data by governmental authorities. The former should be explored because it has the distinct advantage of involving the decisionmakers early in the process by establishing specific objectives (directly or indirectly related to nutrition), feasible actions to reach them, and designing the information algorithms on the bases of the decisions;
- analyses of the nutrition outcomes and/or impact of intervention programs in health, education, agriculture, economics, and labor. In this category belong studies on food prices, food security, economic adjustment, fiscal and monetary policies, and others;
- improving quality control of data collection, management, analysis, and use;
- improving the validity and other characteristics of biologic, agricultural, and economic indicators, both for describing or predicting the results of social and economic development programs.

The basic issue for research in nutritional surveillance is whether better information leads to better decisions and to more effective programs for improving the nutritional status of the people in developing countries.

Two other activities should be ascribed to the network of institutions: dissemination and exchange of information and extension. Countries included in INSP will be users, as well as providers, of updated literature on nutritional surveillance and information on ongoing systems, as they reflect on better policies and effective interventions for specific problems.

Extension activities should involve close long-term collaborative links with institutions in developing countries. Joint activities in training, research, and the provision of technical cooperation should be developed. The overall goal should be the strengthening of national capabilities in nutritional surveillance, with selected

institutions becoming self-sufficient. The application of tested knowledge, and the discovery of new knowledge relevant to the causes and characteristics of undernutrition and malnutrition, are basic objectives of this association.

Technology transfer from abroad should not be a major goal of technical cooperation with developing countries. Because of the variety of local conditions regarding the nature of malnutrition and undernutrition, the quality and quantity of human resources and environmental patterns, the need for adapting, not adopting, methods for effective surveillance systems through applied research is paramount. These studies should be developed at the country-level by national investigators having as advisors (that is, true collaborators) international consultants when needed. The goal should always be that they become, in the long run, self-sufficient to advance knowledge and experience in nutritional surveillance.

## **APPENDIX I: LIST OF DOCUMENTS REVIEWED**

## DOCUMENTS REVIEWED

Agency for International Development (AID). "Child Survival: A Report to Congress on the AID Program". AID, Washington, DC.

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CDC, AID/RSSA Quarterly Review - 10/83-12/83. CDC, 2/16/84.

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**USAID. "Project Paper Revision No. 2, Nutrition: Surveys & Surveillance Project (931-1274)". AID, Washington, DC.**

**APPENDIX II: LISTS OF PERSONS INTERVIEWED**

## PERSONS INTERVIEWED IN THE UNITED STATES AND ROME

### Cornell University:

Dr. Per Pinstруп-Andersen	Director, CNSP
Dr. Jean-Pierre Habicht*	Jamison Professor of Epidemiology
Ms. Eve Husain	Administrator, CNSP
Dr. Kathy Rasmussen	Director, Maternal/Child Health Amendment

### Centers for Disease Control/Center for Health Promotion and Education/Division of Nutrition:

Dr. Frederick Trowbridge	Director, Division of Nutrition
Dr. Nancy Binkin	Medical Epidemiologist
Dr. Philip Nieburg	Medical Epidemiologist
Dr. Richard Peck	Public Health Advisor
Mr. Gordon Robbins	Deputy Director
Dr. Mary Serdula	Medical Epidemiologist
Dr. David Williamson	Epidemiologist

### Agency for International Development:

Dr. Frances Davidson	Project Officer, Office of Nutrition
Ms. Neen Alrutз*	Nutrition Advisor, Africa Bureau
Mr. David Eckerson*	USAID/Haiti, (former Nutrition Advisor, Africa)
Ms. Paula Feeney	Chief, LAC Bureau/Health and Nutrition
Ms. Julie Klement*	Nutrition Advisor, LAC Bureau
Mr. Gary Merritt	Africa Bureau (formerly at USAID/Kenya)
Ms. Karen Nurick*	Advisor, Asia Bureau
Dr. Nancy Pielemeier*	Nutrition Advisor, PPC
Ms. Hope Sukin	Food for Peace and Voluntary Assistance Office
Mr. William Trayfors	FEWS Project Director, Africa Bureau

**Other Donor Agencies:**

<b>Dr. John Mason</b>	<b>Secretariat, ACC/SCN (Former Director, CNSP)</b>
<b>Ms. Beverly Carlson</b>	<b>Senior Project Officer, Food and Nutritional Surveillance; UNICEF</b>
<b>Mr. Alan Kelly</b>	<b>ACC/SCN</b>

**Other Agencies/Firms:**

<b>Dr. John Haaga</b>	<b>Rand Corporation (Former Deputy Director, CNSP)</b>
<b>Dr. Judith McGuire*</b>	<b>National Center for Food and Agricultural Policy (RFF). (Former Nutrition Advisor AID/PPC)</b>
<b>Dr. Jose Obdulio Mora</b>	<b>Advisor to AID/S&amp;T/N</b>
<b>Dr. Pauline Peters*</b>	<b>Harvard University (co-principal investigator of nutrition project in Malawi funded by AID/PPC)</b>

**\*interviewed by telephone**

## PERSONS INTERVIEWED DURING AFRICAN SITE VISITS

### Kenya:

Mr. David Alnwick  
Regional Advisor for East and Southern Africa  
UNICEF/Kenya

Ms. Jeannie Clarke  
Administrative Assistant  
CNSP/UNICEF/Kenya

### Malawi:

Mr. Kenneth Williams  
Country Representative  
UNICEF/Malawi

Ms. Victoria Quinn  
Regional CNSP/UNICEF Programme Coordinator  
CNSP/Malawi

Ms. Mabel Chiligo  
Food Security and Nutrition Unit  
Economic Planning Department  
Office of the President  
Malawi

Mr. Charles Gurney  
Health Officer  
USAID/Malawi

Mr. B. S. Moyo  
Chairman  
Nutritional Surveillance Commission  
Mzuzu Agricultural Development District  
Malawi

Mr. Louis Msukwa  
Director  
Centre for Social Research  
University of Malawi, Zomba

Dr. David Pelletier  
Research Associate  
CNSP/Malawi

Mr. Richard Shortlidge  
Assistant Director  
USAID/Malawi

### Zimbabwe:

Dr. Per Pinstrup-Andersen  
Director, CNSP  
Interviewed in Harare, Zimbabwe

Ms. Julia Tagweyeri  
Chief Nutrition Division  
Ministry of Health/Zimbabwe

Ms. Rufaro Madzima  
Chief Nutritionist  
Ministry of Health/Zimbabwe

## PERSONS INTERVIEWED DURING INDONESIAN SITE VISIT

Joy Riggs-Perla	USAID/Indonesia
B. Winardi	Integrated Task-Force Child Survival, MOH, Jakarta
Sonya Rahardjo	USAID Advisor to Integrated Task Force, MOH, Jakarta
Tarwotjo	Director of Nutrition, MOH, Jakarta
Frederik Maspaitella	Sub-Director of Nutrition Surveillance, MOH, Jakarta
Dr. Darwin Karyadi	Director of the Center for Research and Development in Nutrition, (CRDN), Bogor
Djumadias Abunain	CRDN Staff, Bogor
Dr. Suhardjo	Agriculture Faculty, Bogor Agriculture University, (IPB)
Djiteng Roedjito	Community Nutrition and Family Resources Department, IPB, Bogor
Mrs. Soekirman	Director of Nutrition Academy, MOH, Jakarta
Idrus Jus'at	Nutritional Surveillance Staff, Nutrition Academy, MOH, Jakarta
Dr. Agus Sutanto	Director of CDC and Community Health, MOH, NTB
Erlan Tarlan	Nutrition Section, Community Health, MOH, NTB
Provincial TWIS Staff	NTB
Dr. Semendra	Chief of CDC and Community Health, MOH, Bali
Dr. Ida Ayu Sulasmi	Nutrition Section, Community Health, MOH, Bali
Provincial TWIS Staff	Bali
Dr. Wirawan	Dept. Public Health, University of Udayana, Bali
Dr. Gunung	Dept. Public Health, University of Udayana, Bali
Dr. Mark Brooks	World Bank
Dr. Gurrucci	School of Public Health, University of Indonesia, Depok
Dr. Manny Vogoulopolus	Health Division, USAID/Indonesia
Dr. Sam Hari	Nutrition Section, UNICEF/Indonesia

**APPENDIX III: PUBLICATIONS LISTS: CNSP AND CDC**

**CORNELL NUTRITIONAL  
SURVEILLANCE PROGRAM**

**LIST OF PUBLICATIONS**

**DECEMBER 1987**



**Cornell Nutritional Surveillance Program  
Division of Nutritional Sciences  
Savage Hall, Cornell University  
Ithaca, New York 14853 USA  
Phone: (607) 255-8093  
Telex: WUI 6713054**

- B1** Mason, J.B., J-P. Habicht, H. Tabatabai and V. Vulverde (1984). *Nutritional Surveillance*. WHO, Geneva, Switzerland.  
**PLEASE ORDER B1 DIRECTLY FROM WHO PUBLICATION CENTERS.**  
(See page 15)
- B2** Jansen, A., E. Horelli and V. Quinn (1987). *Nutrition in Kenya: a Historical Review*. UNICEF/ESARO, P.O. Box 44145, Nairobi, Kenya.  
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- C2** Mason, J.B. and J-P. Habicht (1981). Nutritional Surveillance. In A.E. Harper and G.K. Davis (Eds.), *Progress in Clinical and Biological Research, Vol. 77: Nutrition in Health and Disease and International Development*. Alun R. Liss, Inc., New York, pp. 539-547.
- C3** Martorell, R., J-P. Habicht and R.E. Klein (1982). Anthropometric Indicators of Change in Nutritional Status in Malnourished Populations. In B.A. Underwood (Ed.), *Proceedings Methodologies for Human Population Studies in Nutrition Related to Health*. NIH Publication #82-2462, U.S. Government Printing Office, pp. 96-110.
- C4** Habicht, J-P. and J.B. Mason (1983). Nutritional Surveillance: Principles and Practice. In D.S. McLaren (Ed.), *Nutrition in the Community*. John Wiley and Sons, Ltd., London, England, Chapter 12, pp 217-244.
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## **APPENDIX IV: SITE VISIT REPORT - INDONESIA**

**REVIEW OF NUTRITION SURVEYS AND SURVEILLANCE PROJECT**  
**Site Visit Report - Indonesia**  
**November 9 - 21, 1987**  
**David P. Nelson**

The Government of Indonesia has demonstrated its commitment to improved nutrition since the early 1970s, by explicitly incorporating nutritional objectives for several multisectoral policies and programs in successive Five Year Plans. Nutritional surveillance is regarded by the Ministry of Health and National Planning Board as a strategy to support these objectives at all operational levels. "In 1978, the Government of Indonesia proposed the development of a National Nutritional Surveillance System (later called the Food and Nutrition Surveillance System). The National Institute of Health Research and Development in the Ministry of Health led this early work, through the Center for Research and Development in Nutrition. USAID supported this initiative and has funded development work and the implementation of pilot projects to establish a feasible methodology for some of the components. Cornell University has provided technical assistance through the Cornell Nutritional Surveillance Program (CNSP)".<sup>1</sup>

In Indonesia, government commitment to nutritional surveillance has provided fertile ground for the AID-CNSP Cooperative Agreement which has the objective of "developing theoretical and operational concepts for the design, development, management and evaluation of surveillance systems".<sup>2</sup> CNSP provided an "in-depth country program" with resident advisors from 1979 through 1985 during which time the pioneering Timely Warning and Intervention System (TWIS) was designed, tested and implemented in three provinces. The TWIS aims to detect impending food consumption shortages in districts (provincial subdivisions) with histories of food shortages and to take well defined measures to avoid the problem. The TWIS package consisting of:

- . simple indicators,
- . monitored by a district technical team (drawn from the Ministries of Health, Agriculture, Social Welfare and Manpower, the Food Logistics Bureau, local University and District Chief's Staff)
- . that can undertake specific interventions

<sup>1</sup> "The Indonesian Food and Nutrition Surveillance System: A Review of the Development, Current Status and Future Directions", G.C. Marks & J. D. Haas. April 28, 1987, CNSP.

<sup>2</sup> "Cooperative Agreement. Nutrition: Survey and Surveillance Project." No. 931-1064 dated Dec. 8, 1980. Attachment A. Program Description.

has proven very popular with district chiefs who find it an important, decision-making tool, a good model for management and a means for promoting inter-sectoral cooperation. There are now 37 TWIS operating in nine provinces with plans to expand to 12 provinces by 1990.

In spite of the relative complexity of TWIS and local peculiarities that make it necessary to custom-design each implementation in new districts, the provincial level TWIS-support teams have been able to establish new systems rather quickly, using the various manuals, guides, and forms developed with CNSP assistance by the Center for Research and Development in Nutrition. Since operational costs are low and are borne by the districts, TWIS is not dependent on the national budget, which has further enhanced its acceptance and expansion. The complete package and local financing are important lessons, both for nutritional surveillance activities in other countries and for their extension within Indonesia.

Beginning in 1984, the Government of Indonesia, with CNSP assistance, began developing the Nutrition Status Monitoring System (NSMS). Several pilot projects were undertaken with USAID/Indonesia funding (Development Studies Projects I and II), in support of this effort:

- . inclusion of anthropometry in the National Socioeconomic Surveys (SUSENAS) conducted yearly on a census sample;
- . anthropometric surveys of preschool children by Community Health Center Personnel; and
- . analysis of village characteristics affecting nutritional status to determine priorities for program activities and monitoring.

Also during this period, the Ministry of Health created a Sub-directorate for Nutrition Surveillance and prepared a five-year Master Plan to guide TWIS expansion and NSMS implementation. In 1986, a national Workshop on Food and Nutrition Policy Studies held at Cipanas defined 23 "priority studies" relating to:

- . Current and Future Nutrition Problems
- . Assessment of Existing Nutrition and Nutrition-Related Programs
- . Nutrition Surveillance, Monitoring and Information System
- . Research Priority on Food and Nutrition Policy Analysis

The participation of 39 persons from 15 institutions (both national and international

including Cornell University) demonstrated the "broad base of support for nutrition surveillance at the national level".<sup>3</sup>

As further evidence of support for nutritional surveillance, a new World Bank loan "Second Nutrition and Community Health Project" will provide \$10.3 million to further develop nutritional surveillance: \$3.9 million for TWIS expansion, \$4.4 million for nutrition monitoring and assessment research projects, \$1.1 million for policy and program studies, \$0.9 million for nutrition information (processing, formatting and dissemination). It will also fund \$13.7 million for nutrition manpower development.<sup>4</sup>

In April 1987, short-term consultants from CNSP reviewed the status of nutritional surveillance, arriving at several key conclusions and recommendations.<sup>5</sup> Most are aimed at achieving the actual, practical demonstration of the NSMS at the provincial/local level: the development of provincial capacity for information management and analysis and definition of longer-term interventions/program adjustments based on surveillance results. This will be necessary in order to "sell" NSMS to provincial and district decisionmakers and assure local financing since it is evident that operational costs cannot be borne by the national nutrition program budget. This was a key lesson from TWIS and needs to be reinforced at this time.

These observations were confirmed in conversations with provincial and district TWIS nutritional surveillance teams in Lombok, NTB (where the first TWIS was implemented), and Bali. Staff were highly knowledgeable about TWIS theory and operation and could discuss nutrition status indicators and some theoretical implications of NSMS. However, they had no idea or intention of actually applying indicators to manage specific programs. I suspect that further nutritional status data collection without clear applications will lead to disillusionment and ultimately abandonment of

<sup>3</sup> "The Indonesian Food and Nutrition Surveillance System: A Review of the Development, Current Status and Future Directions", G.C. Marks & J. D. Haas. April 28, 1987, CNSP.

<sup>4</sup> "Loan Agreement (Second Nutrition and Community Health Project) between the Republic of Indonesia and IBRD". December 19, 1985, World Bank, Jakarta.

<sup>5</sup> Haas, J. and Marks, G. *op.cit.*

NSMS at district and provincial levels. As Wilson *et al* said about TWIS in 1981,<sup>6</sup> "the Indonesia-Cornell team has achieved one remarkable feat - the diversion of data at the lower levels of government to the political decisionmakers at those levels" and this must be the objective of the NSMS. The observation made by that evaluation team regarding the TWIS model is fully appropriate for NSMS today: "the [Government/CNSP] 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"<sup>7</sup> whereas the evaluators viewed the test as operation of the full warning-intervention system. It is not clear that the Nutrition Surveillance Sub-directorate considers this as a current priority - it appears more concerned with financing national-level implementation and nutrition status studies than with completing a program management package that would be attractive at provincial and local levels.

### **Protocol Assumptions**

Concerning the assumptions enunciated in the "Protocol for the Review of Project: Nutrition Surveys and Surveillance", these were all apparently valid in the Indonesian context. Two points merit discussion however.

First, the Project has operated under the assumption that the "ideal" mode would be a nutrition survey undertaken with Centers for Disease Control (CDC) assistance followed by implementation of a nutrition surveillance system assisted by CNSP. Indonesia never performed a national nutrition survey *per se* but rather worked over the past ten years to establish a successful surveillance system. Other countries that have undertaken surveys usually have not implemented a monitoring system. My own personal observation is that a national survey is so lengthy and exhausting as to foreclose any but the most concerted efforts to establish a surveillance system. For example, Ecuador began its National Nutrition Survey in 1983 with CDC (and other international) assistance. The field work was completed in 1986 and the first, published report will be available in 1988. The wealth of data collected will undoubtedly absorb the limited capacity of planners for secondary analysis during coming years while a hoped-for surveillance system is postponed.

<sup>6</sup> "An Evaluation of the Indonesian National Nutritional Surveillance System," Interim In-progress Evaluation. Dean Wilson, Roy Miller, Bruce Currey, Soekirman. February 9, 1981, Community Systems Foundation.

<sup>7</sup> Ibid.

The second point refers to the Project's orientation toward cooperating government personnel. While central staff of the Ministry of Health and the Bogor Agriculture University have been strengthened, the provinces largely await Jakarta's initiatives to undertake nutritional surveillance. CNSP has allowed most of its efforts to be channeled through the Ministry of Health in Jakarta. A more direct approach to provincial institutions, especially universities, could have advanced nutritional surveillance in these very diverse, outlying areas. This might have been achieved by increasing the number of graduate students drawn from the provinces, by establishing a literature dissemination network and by assuring that visiting consultants deliver at least one seminar in a provincial university per trip. This would tend to establish a receptive network for nutritional surveillance prior to initiation of field work rather than undertaking training as a merely necessary, implementation activity in few, pilot provinces.

With regard to the hypotheses postulated in the Protocol for Review, most of them seem to be supported in Indonesia with the following observations:

- . National-level information on nutrition status and program coverage is available to central-level planners in the Government of India, UN agencies, and USAID/Indonesia in Jakarta and Bogor. District-level TWIS information is available at the district and provincial levels.
- . Nutrition is a national development topic, and nutrition status is becoming recognized as an indicator of socioeconomic development. The President and media cite nutritional objectives and outcomes (see attachments).
- . Formal teaching of nutrition in schools is disappointing since the limited health curriculum has not kept pace with advancements in the area and is not teaching appropriate child-rearing (including feeding) practices to future mothers. The nutrition curriculum in universities tends to the traditional-biochemical and clinical rather than epidemiological and behavioral.
- . There have been many actions attributable to nutritional surveillance findings including: the Cipanas Workshop, the DSP-funded studies, the World Bank loan, the establishment of six new provincial Nutrition Academies, the expansion of the Nutrition Improvement Program (UPGK) to many more villages, and increased funding for nutrition (local, national and international).
- . While nutritional surveillance definitions by Ministry of Health, USAID, UNICEF and World Bank are mostly similar, the "systems approach" advocated by Community Systems Foundation is not understood or appreciated by most. This leads to an emphasis on indicators at the expense of interventions, the collection of data without prior reference to its use and, as a result, an incomplete NSMS package that cannot be "sold" to managers.
- . In general, most nutritional surveillance data are available in magnetic format though several datasets are being analyzed outside the country. Analyses are generally available in report form and apparently circulated, at least to the local nutrition community.

- At least five ministries and the Family Planning Bureau participate actively in nutritional surveillance.
- There are very knowledgeable, trained people at central and local levels. However, see commentary above, under "Assumptions".
- Training materials, guides, and manuals are available in the local language. However, very little formal teaching of nutritional surveillance occurs at the university level -either theory or practice.

One of the recommendations of the 1985 Project Review was that CNSP and CDC promote "the development of a network of institutions for research, training, and technical cooperation, including development of a roster of potential consultants, so that the limited supply of skilled experts is used efficiently."<sup>8</sup> I could find no evidence in Indonesia that this recommendation had been acted upon: no one knew of a roster and several people complained of not knowing what is going on in nutrition surveillance beyond their institution. However, the outstanding performance of Indonesian institutions and the experience of Indonesian professionals would make them prime candidates for the network and roster. It would also seem desirable to increase the number of U.S. "centers of excellence" to overcome the severe shortage of manpower in nutritional surveillance noted in the 1985 Review. One possibility might be to utilize the University of Hawaii (Asian focus with emphasis in primary health care) and the University of Puerto Rico (Latin American focus with public health management emphasis).

One of the most obvious lessons learned in Indonesia is that nutritional surveillance systems must be affordable and useful to local managers in order to achieve "institutionalization". The TWIS is the best example but recent experience with the Nutrition Module incorporated into the annual socioeconomic surveys conducted by the Central Statistics Bureau on a census sample is promising. This relatively affordable, routine monitoring technique could be perfected for implementation around the world. This should be considered for any future surveillance project.

There is a tendency to interpret "nutrition" too narrowly as, for example in the 1985 Review quotation, "Nutritional surveillance is the process of watching over nutrition in order to make decisions that will lead to improvement in the nutritional

<sup>8</sup> "Nutrition: Surveys and Surveillance Project", Report by the Review Panel for the Office of Health, USAID. January, 1985.

status of populations."<sup>9</sup> The connotation is that of anthropometric measures of nutritional status; and indeed, there is a tendency to view nutrition in Indonesia through nutritional status. This seems to lead to a preoccupation with health and growth indicators such as "research on early warning signs of undernutrition",<sup>10</sup> that may not be the most effective way of "watching over nutrition" as was demonstrated by the most important TWIS indicators: planting and harvest shortfalls and consumption shifts in key, sentinel households.

While USAID/Indonesia continues to promote better nutrition through the Nutrition Improvement Program (UPGK), its role as nutrition advocate, as called for on page 8 of the 1985 Review, is weak. Indeed, AID does not have any nutrition advisors in field missions so that advocacy will have to be built into whatever nutrition or surveillance projects AID undertakes in the future.

It is currently the intent of the Government of Indonesia to implement several Food and Nutrition Policy Analysis Units around the country modeled on the one at Bogor Agriculture University. However, it seems to me that these units do not have sufficient resources or know-how. The principle limitations appear to be in access to the literature and "state-of-the-art" and in experience with analytical methodologies. With reference to the latter, a future surveillance project might promote the development and dissemination of software packages to help in policy analyses. One such package, PICNIC, developed for USDA, allows analysts to observe the effects of income or food-price changes on per capita calorie consumption by income level. CASP is a useful front-end package but does not provide tools that are becoming popular for secondary analysis such as path analysis or multiple correlations for detecting characteristics of population groups most likely to have malnourished members. Another area that might be explored is the systematization of qualitative research techniques and analyses with the goal of making a package more widely available to potential social marketers. Most of the above state-of-the-art technologies are only available to developing countries via consultant practitioners.

<sup>9</sup> Ibid. p.8.

<sup>10</sup> Ibid. p.12.

## **Conclusions**

The AID-CNSP cooperative agreement has shown impressive results in Indonesia: an operating nutritional surveillance system; widespread government, international, and donor support; numerous publications including reports, manuals, and proceedings; trained personnel at all levels; and national nutrition awareness (indeed, people talk of the "nutrition movement"). Indonesia is probably the world leader in nutritional surveillance and should be a resource for international technical assistance in the future. Not only Cornell but also Bogor Agriculture University can be considered "centers of excellence" in nutritional surveillance, certainly a positive if unexpected result of the Project.

Cornell and the Government of Indonesia recognize that the evolution of nutritional surveillance during the past eight years is not yet complete - the nutrition status monitoring system has not completed its full cycle - but officials and technicians at all levels are working toward that end. Additional AID support might accelerate this process but it will occur in any event. Nevertheless USAID/Indonesia has played an important role in nutritional surveillance development, providing technical assistance from outside CNSP and funding for studies that otherwise might not have been undertaken. This role could usefully be continued in the future, especially to improve the management and nutrition targeting of the Nutrition Improvement Program (UPGK).

## **Interviews**

**Joy Riggs-Perla, USAID/Indonesia, Nov. 10, 8:30 a.m.**

**B. Winardi, Integrated Task-Force Child Survival, Ministry of Health (MOH), Jakarta, Nov 11, 8:30 a.m.**

**Sonya Rahardjo, USAID Advisor to Integrated Task Force, MOH, Jakarta, Nov. 11.**

**Tarwotjo, Director of Nutrition, MOH, Jakarta, Nov. 11, 11:00 a.m.**

**Frederik Maspaitella, Sub-Director of Nutrition Surveillance, MOH, Jakarta, Nov. 11, noon.**

**Dr. Darwin Karyadi, Director of the Center for Research and Development in Nutrition (CRDN), National Institute of Health Research and Development, Bogor, Nov. 12, 2:00 p.m.**

**Djumadias Abunain, Staff, CRDN, Bogor, Nov. 12, 2:00 p.m.**

**Dr. Suhardjo, Agriculture Faculty, Bogor Agriculture University (IPB), Bogor, Nov. 12, 2:00 p.m.**

**Djiteng Roedjito, Community Nutrition and Family Resources Department, Agriculture Faculty, IPB, Bogor, Nov. 12, 2:00 p.m.**

**Mrs. Soekirman, Director of Nutrition Academy, MOH, Jakarta, Nov. 13, 2:30 p.m.**

**Idrus Jus'at, Nutritional Surveillance Staff, Nutrition Academy, MOH, Jakarta, Nov. 13, 2:30 p.m.**

**Dr. Agus Sutanto, Director of CDC and Community Health, MOH, NTB, Nov. 16, 11:00 a.m.**

**Erlan Tarlan, Nutrition Section, Community Health, MOH, NTB, Nov.16, 11:00 a.m.**

**Provincial TWIS Staff, NTB, Nov. 16, 11:00 a.m.**

**Dr. Semendra, Chief of CDC and Community Health, MOH, Bali, Nov. 17, 9:00 a.m.**

**Dr. Ida Ayu Sulasmi, Nutrition Section, Community Health, MOH, Bali, Nov. 17, 9:00 a.m.**

**Provincial TWIS Staff, Bali, Nov. 17, 11:00 a.m.**

**Dr. Wirawan, Dept. Public Health, University of Udayana, Bali, Nov. 17, noon.**

**Dr. Gunung, Dept. Public Health, University of Udayana, Bali, Nov. 17, noon.**

**Dr. Mark Brooks, World Bank, LIPPO Building, Jakarta, Nov. 18, 9:00 a.m.**

**Dr. Gurrucci, School of Public Health, University of Indonesia, Depok, RI, Nov. 19, 9:00 a.m.**

**Dr. Manny Vogoulopolus, Health Division, USAID/Indonesia, Nov. 19, 11:00 a.m.**

**Dr. Sam Hari, Nutrition Section, UNICEF/Indonesia, Nov. 20, 12:40 p.m.**

## **Documents Reviewed at Site**

1. Two reference lists of nutrition bibliography, including nutritional surveillance and Nutrition Planning, USAID/Indonesia.
2. "Toward a Nutrition Status Surveillance System", David Sahn. April 11, 1983.
3. Memo of conversation with Mr. Soekirman. January 11, 1984.
4. Development Studies Project Proposal: "Development of Procedures to Expand and Support the TWIS for Periodic Food Consumption Shortages". December 31, 1984, USAID.
5. Proposal for Development Studies Project to support analysis of National Nutritional Blindness Prevalence Study 1977-1978. May 4, 1984, USAID.
6. "An Evaluation of the Indonesian National Nutritional Surveillance System," Interim In-progress Evaluation. Dean Wilson, Roy Miller, Bruce Currey, Soekirman. February 9, 1981, Community Systems Foundation.
7. Notes on "Review of Indonesian FNSS", Dr. Sayogyo. February 11, 1987.  
Comments on same by D. Abunain. February 12, 1987.
8. "An Evaluation of the Indonesian National Nutrition Surveillance System" Second Interim In-Progress Evaluation, Dean Wilson, Bruce Currey, Abraham Horwitz, Roy Miller, Alberto Pradilla, Harold Rice, Rudolf Sinaga. February 25, 1982, Community Systems Foundation.
9. "Consultant's Report on Assessment of Nutritional Status in Indonesia", Jere Haas. June 11, 1984, CNSP.
10. "Report on the Workshop on Food and Nutrition Policy Studies" Cipinas. October 6-10, 1986, MOH, Jakarta, RI.
11. "Loan Agreement (Second Nutrition and Community Health Project) between the Republic of Indonesia and IBRD". December 19, 1985, World Bank, Jakarta.
12. Appraisals of the "Review of Nutrition Surveillance in Indonesia" (Haas & Marks) by Prof. Darwin Karyadi, Tarwotjo, Prof. Sayogyo, Dr. Soetedjo, Djumadia Abunain. February, 1987, USAID/Indonesia.
13. "The Indonesian Food and Nutrition Surveillance System: A Review of the Development, Current Status and Future Directions", G.C. Marks & J. D. Haas. April 28, 1987, CNSP.
14. "Master Plan for the Food and Nutrition Surveillance System (FNSS) Covering the Period of 1984 through 1990", FNSS Planning Subcommittee, Directorate of Nutrition, MOH, Jakarta.
15. "KB-Gizi. An Indonesian Integrated Family Planning, Nutrition and Health Program", BKKBN, Univ. of Udayana, Brawijay and Airlangga, and Community Systems Foundation. 1985.

16. **"Nutritional Status of Children under Three", Central Statistics Bureau, Jakarta. May 1987 (SUSENAS 85/86).**
17. **Various manuals and reports on TWIS from Nutrition Surveillance Sub-directorate, MOH. 1986 and 1987.**
18. **"Nutritional Status of Under Fives in the Sub-Districts of West Sumatra, Central Java and South Sulawesi", Nutritional Surveillance Sub-Directorate, MOH. Jakarta, 1987.**

FRIDAY NOVEMBER 20, 1987

## Infant mortality rate in Indonesia still high

**MEDAN**—Chairman of the National Family Planning Coordinating Board (BKKBN) Haryono Suyono has said that although the infant mortality rate (IMR) in Indonesia has decreased to between 80 and 70 per 1,000 live births, it is still considered high.

It means that some 400,000 babies die every year, or 1,100 every day, he told a meeting of the Indonesian Medical Association (IDI) here Wednesday.

Haryono further said the rate of mothers' deaths due to complications of delivery reached about 20 to 25 per 1,000 births.

He quoted a World Bank

report that some 500,000 mothers die every year, or no less than 1,370 every day, with 99 per cent of the deaths occurring in the developing countries including Indonesia.

In the developing nations, according to him, the maternal deaths due to the risk of pregnancy is 1 in 30 mothers, while in the advanced countries

1 in 1,000.

About 15 million children are estimated to die this year in the developing countries, two third of them will be those under one year old, and the rest the under fives.

Most of the deaths are due to respiratory diseases, diarrhoea, and malnutrition.

Touching on the national family planning program, he disclosed that some 17 million eligible couples (PUS) have become active acceptors, or about 65 per cent of the total PUS in this country. [Ani/02]

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## 208.000 tons of rice lost to drought

**D**rought has cost Indonesia 208,745 tons of rice but it has not imperiled the country's production target of 27.3 million tons. Agriculture Minister Achmad Affandi said.

Indonesia needs to produce at least 27 million tons of rice to keep it self-sufficient in the staple this year.

Affandi said the drought has hit 149,100 hectares of rice fields in eastern Indonesia causing harvest failure on around 61,000 hectares.

Shortage of clean water as a result of the drought has also caused an outbreak of cholera in some parts of the country. At least 25 people have been reported dead because of drought-related diseases over the past three months.

"The scene of destruction could spread to wider areas if rain does not fall soon," an official of the agriculture ministry has said.

Newspapers have reported riverbeds drying up, causing irrigation problems in rice growing areas, and timber processing industries could not ferry their logs downstream to their factories because rivers are too shallow.

The meteorology office said Indonesia is suffering from a cyclical dry spell caused by the equatorial El Niño current that caused stormy rains in the eastern Pacific leaving the western basin dry.

President Suharto has told the Agriculture Ministry to consider cloud-seeding especially in rice growing areas on the island of Java.

Indonesia, which produced 26.78 million tons of milled rice last year, reached self sufficiency in rice in 1984.

msia "Economic Highlights of Indonesia  
INDONESIA, Oct-Nov 1987

# No food shortage, despite prolonged drought

By Our Reporter

The state-subsidized logistics agency, Bulog, has assured MPs that the public should not worry about food shortage, especially rice, although drought has hit the country this year.

Arrangements on food supply mechanism have been carried out in consideration problems which might be caused by drought said Sukriya Atmaja, Bulog deputy chief, replying question from MPs of Commission VII in a hearing held at the Parliament, Friday.

M. Muhamadiyah Hadji, SH of the Golkar faction presided over the hearing attended by Bustani Arifin, the Cooperatives Minister and Bulog chief. The hearing is to be continued on Monday.

Sukriya Armaja said special Market Operations (MOs) have

been conducted in provinces that face "sensitivity" in food and purchasing power problem due to the drought and selling prices were adjusted in line with the people's purchasing power in those respective places.

East and West Nusatenggara (NTT and NTB) are two of the country's provinces that suffered prolonged drought.

Bulog predicted that by March 31, 1988 it will have a stock of rice totalling 1,160,000 tons, comprising the stock per Nov. 1, 1987 plus Feb.—March 88 from procurement and repayment by a neighbouring country (Philippines) and minus the 1987-88 distribution.

Sukriya said, the Social Ministry could also distribute its stock now stored in Bulog-owned warehouses to help the

people who are really unable to buy rice as the result of natural disasters.

To cope with shortages in rice in markets in other provinces Bulog has set the prices of rice varying from Rp 390 to Rp 400/kg, he said, adding that during October and September the amount of MOs conducted in 17 provinces totalled 12,81 and 6,845 tons respectively.

Sukriya said it is too difficult to make a prognose on rice procurement in the 1988/89 purchase, because of uncertainty of rain falls and the factor of farmers productivity he told the MPs.

However, he predicted the price of dry paddy in the next buying season in 1988/89 would be around Rp210/kg and Rp135/kg for fertilizer, type TST.

Sukriya Atmaja was optimistic that rice procurement the next year would be "good" if the estimates could be implemented properly. He hoped the procurement would reach 1.5 million tons, which would be enough for one year. [

THREE MEN KILLED IN MAFIA-STYLE  
SHOOTING IN NORTHERN ITALY

*"Economic Highlights of Indonesia  
Oct-Nov 1987*

## INDONESIA

### **Drought may force sugar import**

**A** prolonged drought in Indonesia the worst in five years, has damaged 210,000 hectares of farmland and may force the country to import sugar in 1989, Agriculture Minister Achmad Affandi said.

Affandi said sugar production for 1987 would drop by at least 100,000 tons. He said about 10 percent of Indonesia's 240,000 hectares of sugar farms are expected to fail because of the drought that has hit the main food-producing island of Java.

Planting for the 1989 season had just started when the drought hit and the crop is in trouble because many of the seedlings have died.

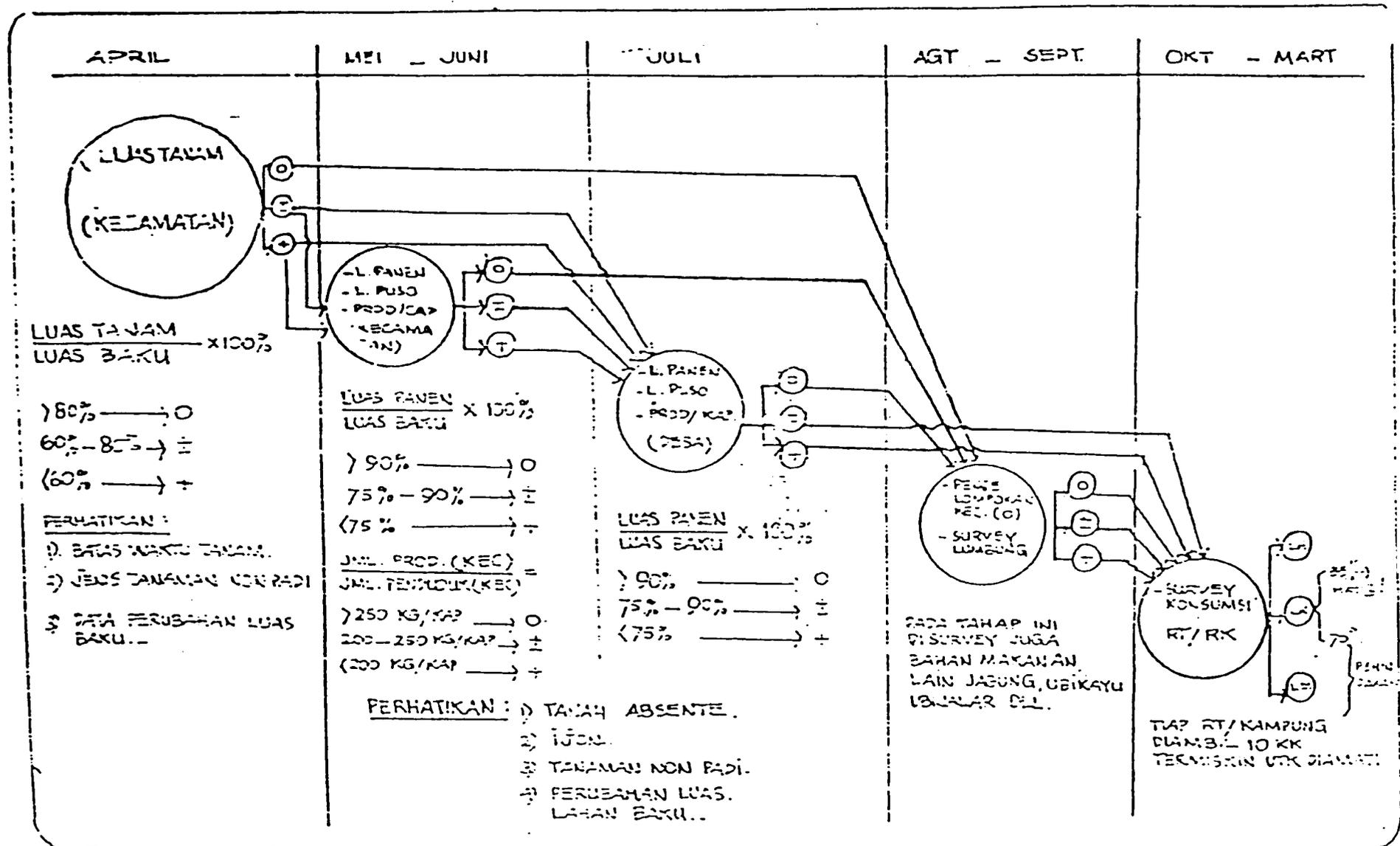
"We cannot perform magic on these plants. Maybe we will be forced to import in 1989," Affandi said.

Stocks by Dec. 31 are expected to rise to one million tons and therefore he did not see any reasons why Indonesia would have to import sugar in 1988.

Indonesia imported 162,500 tons of sugar in 1986 to bolster depleted stocks.

He said Indonesia is revising downward its sugar production estimate for 1987 by 4.5 percent, to 2.1 million tons from 2.2 million tons.

Indonesia produced 2.02 million tons of sugar last year, according to an official report.



INTERVENSI LAPANGAN/KESEMPATAN KERJA : PEMBONGKARAN TANAH, PROJEK<sup>2</sup>, PADAT KERJA -

- M.O. PINJAMAN PANGAN -

PERANTIAN SISWA

**L A P O R A N**  
**SISTIM KEWASPADAAN PANGAN DAN GIZI**

Periode : .....

Kecamatan : .....

Kabupaten : .....

1. Lokasi Pengamatan: Desa : .....

Banjar : .....

2. Hasil-hasil pengamatan

NO.	Uraian	Nilai mutlak	Bobot maksimum	Bobot tertimbang
50.	1. Konsumsi Perkapita			
	1.1. Kalori			
	Standar kecukupan	..... kalori	35	
	konsumsi riil	..... kalori		
25	1.2. Protein			
	standar kecukupan	..... gr	15	
	Konsumsi riil	..... gr		
	2. <i>Income</i> Pendapatan/kapita			
	Standar Hidup Minimum	Rp. ....	25	
	Pendapatan riil	Rp. ....		
15	3. Produksi Equivalent <i>Rice</i> Beras			
	3.1. Produksi Sub Round.			
	- Produksi SR Pengamatan	..... ton		
	- Produksi SR Tertinggi	..... ton	10	
	- Produksi SR Terendah	..... ton		
	3.2. Produksi Sisa Sub Round			
- Prod.Sisa SR Pengamatan	..... ton			
- Prod.Sisa SR Tertinggi	..... ton	5		
- Prod.Sisa SR Terendah	..... ton			
10	4. Status Gizi <i>25</i> Balita <i>wt/age</i>	x	10	
	Jumlah	x	100	

Dari tabel diatas, Desa .....

**APPENDIX V: SITE VISIT REPORT - AFRICA**

**REVIEW OF NUTRITION SURVEYS AND SURVEILLANCE PROJECT**  
**Site Visit Report - Malawi, Zimbabwe, Kenya**  
**February 11-21, 1988**  
**David L. Franklin**

On February 11 and 12, I visited UNICEF/Malawi in Lilongwe as a guest of Mr. Ken Williams, the UNICEF/Malawi representative, and Ms. Victoria Quinn, Cornell's Regional UNICEF/CNSP Programme Coordinator. On February 12, I met with Ms. Mabel Chiligo from the Food Security and Nutrition Unit of the Office of the President, and with Mr. Louis Msukwa, Director of the Centre for Social Research of the University of Malawi.

On February 13, I flew to Mzuzu to visit with Dr. David Pelletier, a CNSP Research Associate. Through his good offices I met several members of the Inter-ministerial Committee for Nutritional Surveillance in the Mzuzu Agricultural Development District (ADD), including its chairman, Mr. Moyo. On February 15, I traveled back to Lilongwe by land with Mr. Moyo. On February 16, I met with Mr. Charles Gurney, the USAID/Malawi Health Officer, and with Mr. Richard Shortlidge, the Assistant Director for USAID/Malawi.

On February 16th, I traveled with Ms. Quinn to Harare, Zimbabwe, where we met with Dr. Per Pinstруп-Andersen, Director of CNSP. Through him I met with Ms. Julia Tagweyeri and Ms. Rufaro Madzima of the Ministry of Health of Zimbabwe. On February 19, I met in Nairobi with Mr. David Alnwick, UNICEF Regional Advisor for East and Southern Africa.

This report consists of major points discussed in these meetings and is presented chronologically.

### Malawi

During my visit on February 11 at UNICEF/Malawi, I met with Mr. Ken Williams and Ms. Victoria Quinn, both of whom recently have begun work in Malawi after years of being stationed in Nairobi. Mr. Williams presented a thorough history of the activities in nutritional surveillance dating to the late 1970s when he was the Statistical Advisor to UNICEF in Nairobi. At that time, he began a number of activities related to building nutrition components into various sectoral surveys in the countries of the region. By 1982, some work was underway in nutritional

surveillance by CNSP; John Mason, then Director of CNSP, suggested that some joint activities be undertaken. As a consequence, Ms. Quinn, who had recently completed a Masters in Nutrition at Cornell, was named as CNSP Representative to Nairobi.

Many of the points made by Mr. Williams and Ms. Quinn were illustrated with examples from work underway in Malawi. Nutritional surveillance activities began in Malawi when Mr. Williams persuaded the National Statistics Office and the Ministry of Agriculture to include a "nutrition module" in the 1984 National Survey of Agriculture; UNICEF supported the analysis of survey data by the Centre for Social Research at the University of Malawi. The general feeling has been that Malawi is a very prosperous country among the very poor countries of East and Southern Africa. For example, the USAID Fiscal Year 1988 Congressional Presentation stated that Malawi, with its open market policies, has been an exception to the food crises and other problems suffered by other countries of the region in the last ten to fifteen years.

The news from the 1984 survey was not as good as the Government of Malawi and certain members of the donor community wanted to believe. Maps, developed in collaboration with the Centre for Social Research through UNICEF support, indicated the high prevalence of chronic malnutrition for each of the agricultural districts in Malawi. The results of the survey were the first concrete evidence of these conditions in Malawi and were very controversial at the time of publication.

The publication of these maps illustrates important characteristics of what has transpired in the region. The personal leadership, courage, and entrepreneurship of Mr. Williams have been instrumental in what has been achieved. Nevertheless, Mr. Williams was very emphatic that the information could not have been developed and the maps would not have been published without the scientific and technical backing provided by CNSP to UNICEF's inputs.

Subsequent to the publication of the maps, Malawi and the rest of the region were hit by the 1984 drought. Recently, the cassava-producing regions have been infected by the cassava mealybug; this insect pest is devastating the crop in regions such as Nkata Bay in northern Malawi, which is almost entirely dependent on cassava as the main staple. With the onslaught of this insect, subsistence households dependent on cassava for their food have been in a very acute situation regarding food consumption inadequacy.

These recent events and the presentation of the survey data have helped bring nutritional issues to the forefront. The issue of food security is a hot issue politically. In mid-February, Malawi newspapers announced that Malawi will have a surplus of maize. However, my impressions from driving through the principal maize producing region were that fully a third of the area has been planted late; unless the rains extend for at least two more months, there is a high likelihood that serious shortfall in maize production could occur. If that were to happen, it would mean that anywhere from 10 to 20 percent of the marketed surplus of maize and an equivalent amount of the domestic consumption of maize would not be forthcoming. Yet the President, Mr. Hastings Banda, in his tour of Malawi inspecting the crops, kept on saying how well agriculture was doing. (It should be noted that in late February 1988, AID approved a shipment of 28,500 tons of corn to Malawi to offset the influx of .5 million refugees. AID also provided 27,600 tons of emergency food to Malawi in November 1987.) These contrasts highlight the highly politicized nature of nutritional issues in Africa and in other countries. Political resistance to recognizing and measuring malnutrition, let alone to tracking it in a surveillance system, is one of the major obstacles to the implementation of nutritional surveillance systems in these countries.

Among the many topics discussed with Mr. Williams and Ms. Quinn during this first meeting was the confusion that exists between nutritional surveillance and other nutritional activities (such as the weight monitoring efforts under the Child Survival Strategy, FEWS, the Crop Monitoring and Early Warning Systems promulgated by FAO, and the global nutritional surveillance system that is being proposed and promoted by John Mason and Alan Kelly through the United Nations ACC/SCN). In the context of the problems with the nomenclature for nutritional surveillance, Mr. Williams emphasized that the focus in Malawi was evolving to be food security at the household level. Through the work that has been done by the UNICEF/CNSP Joint Programme in collaboration with the Centre for Social Research and the Mzuzu ADD, they hope to promote the development of a food consumption strategy for Malawi.

According to Ms. Quinn, nutritional surveillance includes a focus on household food security and the programs and policies that affect food security. Ms. Quinn was very enthusiastic about the possibility that Cornell, under their new project on the Impact of Structural Adjustment Programs, would undertake a study to analyze the impact of economic liberalization on nutrition in Malawi. She observed that the removal of a subsidy on fertilizers has negatively affected the agricultural sector in general and in the maize-producing sector in particular. In addition, the devaluation

of the Malawi currency has made the costs of non-food consumer items very high relative to the very meager wages that can be earned by all households, urban and rural. Any positive price effects that have risen on the product side, (increased prices for cash crops or increased prices for hybrid maize) have been captured totally by the larger farmers and the estate farmers. This has forced the subsistence farmers to offer their labor for sale at very low wages.

The principal nutritional problem in Malawi is one of chronic undernutrition aggravated by drought and pest problems that reduce the available household supplies and by economic crises that lower the real earnings of the rural labor workers. From my casual observation on the roads, in what I was told was one of the most prosperous regions of Malawi, it is obvious that people are very poor; they are dressed in tatters and live in grass thatched huts made of wattle. Ms. Quinn insisted that many households already have run out of food and that it will be two to three months before the present harvest is available.

I was impressed with the admirable way that Mr. Williams and Ms. Quinn have channeled their energies and brought together the resources of UNICEF and Cornell to promote nutritional issues effectively under very difficult situations. In addition, in his particular position, Mr. Williams has been able to direct a substantial amount of UNICEF resources to the activity. I commended Mr. Williams and Ms. Quinn on their personal efforts, and stressed to them my concern for the creation of institutional arrangements with incentives for similar efforts so that projects would not have to depend on such high personal motivation.

In concluding our meetings, Mr. Williams expressed concern that the ACC/SCN proposal for "global nutritional surveillance" was going to detract attention from the very important "grass roots" work that is needed in the countries. Since there is considerable amount of confusion as to the definition of nutritional surveillance, it is possible that UNICEF/New York will commit its resources to support the ACC/SCN proposal to the detriment of the grass roots work. Under the ACC/SCN proposal, individual countries would have small grants to provide reports to the ACC/SCN Secretariat at FAO in Rome. However, there would be no funds for the policy and program advocacy work for which the data can be used, and certainly none for program monitoring and implementation use of nutritional surveillance data for community and district level surveillance.

On February 12th, I met with Ms. Mabel Chiligo of the Food Security and Nutrition Unit at the Economic Planning Department (EPD) at the Office of the President and with Mr. Louis Msukwa, the Director for the Centre for Social Research at the University of Malawi in Zomba. These are two very different people. Ms. Chiligo is a determined bureaucrat, and Mr. Msukwa appears to be a very committed social scientist, trying to bring his work to bear on the basic problems of poverty in this country.

The Food Security and Nutrition Unit at EPD is being assisted by Dr. Chris Jones and Dr. Guillermo Herrera of Harvard University through Harvard's Institute for International Development (HIID). Ms. Chiligo was trained at the Masters level at Cornell and returned to the Nutrition Unit in the Ministry of Agriculture. There she was very frustrated because she and another nutritionist were shunted off to do home economics work and not any work related to nutrition or food policy. More recently, the visibility of the survey data and maps have aided in her promotion to the Secretariat of the Office of the President.

Ms. Chiligo feels that Nutritional Surveillance for Malawi should consist of information being fed up through the respective ministries, with each ministry analyzing its own reports and providing spot and longer-term analyses at EPD's request. She stated that Malawi needs technical assistance to increase analytical capability of the personnel in the nutrition units within each of the ministries; policy work can be done on a short-term basis by organizations such as the Harvard group.

A somewhat more substantive meeting was held with Mr. Msukwa, the Director of the Centre for Social Research of the University of Malawi in Zomba. Mr. Msukwa has worked with Mr. Williams since the latter was Statistics Advisor for East and Southern Africa for UNICEF. It was Mr. Msukwa who had been courageous enough to publish the maps of nutritional status and keep going the debate on the nutritional situation in Malawi.

According to Mr. Msukwa, the trade liberalization effort (including the liberalization of the maize market) and the devaluation of the Malawi currency have had an adverse impact on the distribution of income. This decreases the possibilities for poor rural households to satisfy their nutritional requirements. To illustrate the extreme poverty in Malawi, he cited recent policy reforms to protect the domestic textile industry that prohibit charitable groups from bringing used clothing into Malawi; in the past, the donations of used clothing from Europe and the United

States were sold at modest prices by charitable organizations in Malawi, enabling people to dress themselves adequately at moderate prices. Now except in the major cities, most people I saw were in tatters; very few men had shoes and it was not uncommon to see civil servants and other people with tennis shoes without laces. Mr. Moyo also emphasized the difficulty for obtaining clothing on our ride back from Mzuzu.

Mr. Msukwa discussed training needs for nutritional surveillance in the country. It is clear that Malawi needs a lot of hands-on long-term technical assistance at various levels within the system. It is also clear that it would require a major effort on the part of any technical assistance group to implement the kind of nutritional surveillance system that has been conceptualized. Technical advisors are needed at each of the agricultural development districts, and at each key ministry. Minimum technical assistance staffing would be five expatriates with the skills and attitudes of Dr. Pelletier. It is difficult to conceive that this kind of effort could be sponsored out of the core budget for Cornell and other donors; other bilateral donors would have to provide their resources for implementing such a system. Considerable design effort and negotiation and promotion would have to take place before such an intense level of technical assistance even would be considered by the Government (for political reasons) or by the donors (given the many other needs in Malawi).

The February 13th meetings with Dr. David Pelletier, CNSP Research Associate in Mzuzu, were long and wide-ranging, including a thorough review of what nutritional surveillance is and what it ought to be and lengthy discussions on the merits of collecting anthropometric data. We discussed the relationship between specific nutritional surveillance indicators that can be obtained from existing reporting systems, vis a vis the prescriptions of the "Green Book" (Nutritional Surveillance, WHO, 1984). The general conclusions were that: anthropometry is not a leading indicator but rather a lagging indicator; it is not very sensitive to acute situations; probably there are more sensitive indicators; given the multiple causes of weight loss and subsequent stunting, concomitant information about the performance of the Agricultural and Health Sectors would be necessary in order to diagnose the causes of any problem or situation.

Dr. Pelletier has evolved the belief that the principal use of nutritional surveillance information is in immediate feedback for the adjustment of field level programs, such as the maize production program of the Ministry of Agriculture. His view led to a discussion of whether this is truly nutritional surveillance or the

purview of monitoring and evaluation activities within the programs. There is a monitoring and evaluation unit in the maize program which is in its fourth or fifth round of funding by the World Bank.

Dr. Pelletier also felt that nutritional surveillance information should affect program planning and policy at the district and higher levels. Here again I questioned what, if anything, is unique about nutritional surveillance that could not be accomplished by just creating an awareness for nutritional issues, within the standard monitoring and evaluation processes and within the standard program planning and policy analysis activities.

Throughout this trip I have had recurring doubts that nutritional surveillance exists as a differentiable entity. This set of doubts was heightened by a debate that evolved at Dr. Pelletier's house; several members of the nutritional surveillance committee of the Mzuzu ADD and I discussed the question of who is to do the nutritional surveillance work, and what are the planned nutritional surveillance activities. Mr. Moyo from the Ministry of Agriculture was concerned that nutritional surveillance activities were detracting from the standard responsibilities of the agricultural extension workers and their assistants, and that there was going to be great resistance on the part of the directors of the agricultural development districts to implement nutritional surveillance concepts.

Therefore, we discussed at great length what nutritional surveillance insight could be deduced from the standard reporting systems, both from the operational activities of the agricultural extension workers and from the monitoring and evaluation unit. We also discussed the possibility that those reporting systems and other readily available information could be collated and analyzed for specific nutritional surveillance information. There was wide skepticism among the physicians, the agricultural economists, and the agronomists that any one indicator readily could be interpreted to indicate reliably a worsening nutritional situation; indicators like the increases or decreases on the sales of fertilizers or seeds, could generate as many false positives as false negatives). Dr. Pelletier emphasized the need to collect and report qualitative information based on the observations of the field workers.

It is very clear that nutritional surveillance as an applied field for program execution and monitoring, and even for "feeding grass roots level information" for policy, is still at a very early stage of development. More research needs to be

done as to what constitutes nutritional surveillance and how it is best accomplished. That is, there is not yet a method for nutritional surveillance that has wide applicability or that is based on sound principles and sound methods for measurement and analysis.

From these discussions came the thought that Cornell needs to be funded to digest the experiences of the existing nutritional surveillance efforts. A new version of the "Green Book" should be developed that highlights the principles from the various experiences. Also the whole question of training requires a lot of attention. I recommend we allocate specific sections in our final report to the training requirements of developing countries.

### Zimbabwe

Based on consultations between Ms. Quinn and Dr. Pinstруп-Andersen, I traveled on February 16th with Ms. Quinn to meet with Dr. Pinstруп-Andersen in Harare, Zimbabwe. Dr. Pinstруп-Andersen was participating in an International Food Security Workshop for Kellogg Fellows and was on his way to visit Lesotho with Ms. Quinn. During meetings the 16th and 17th, we discussed the accomplishments of the CNSP and the joint UNICEF/CNSP programme in East and Southern Africa. We also discussed the areas in which Cornell has comparative advantage to assist in nutritional surveillance activities in developing countries: notable among them are research, dissemination of research results, and technical assistance.

Through Dr. Pinstруп-Andersen's good offices, I also met with Ms. Julia Tagweyeri, Chief of the Nutrition Division within the Ministry of Health in Zimbabwe, and with Ms. Rufaro Madzima, Chief Nutritionist of the Ministry of Health. We discussed Cornell's past participation in short-term assistance and their visions of the needs of the future. They felt that the Ministry of Health needed assistance on a short-term basis for selected projects. They did not think that they needed in-depth long-term assistance but rather the ability to call on CNSP as needed for consultation.

Since Ms. Madzima had participated in the UNICEF/CNSP training course in Mauritius in 1987, we discussed the training component of the project. She felt that the course covered too much material and that the diverse backgrounds of the participants did not allow a compact and selective syllabus.

## **Kenya**

On February 19, I visited in Nairobi with Mr. David Alnwick, Project Advisor for East and Southern Africa for UNICEF. Mr. Alnwick has been responsible for all nutritional surveillance activities in Kenya since 1985. We discussed activities undertaken by UNICEF and Cornell in Kenya in recent years and CNSP's advantage in technical assistance in nutritional surveillance.

Mr. Alnwick expressed enthusiasm for continued nutritional surveillance and nutrition surveys activities in Africa. He recommended that perhaps AID not restrict itself to a single center of excellence. Rather AID resources might be used to identify and prequalify a number of U.S. institutions both in the public and private sector (i.e., several universities and perhaps some contract research firms), that are capable of providing technical assistance to developing countries in various regions of the world. USAIDs and other donors in a particular country then could call on the institution with comparative advantages in the substantive areas and prior country experience. Such a strategy suggests that specific cooperative agreements with one or two institutions in the U.S. may not be the most appropriate funding vehicle for the core-funded projects; rather, what could be established in a vehicle closer to indefinite quantities contracts or several central contracts with the opportunity for mission "buy-ins".

## **Persons Interviewed**

### **Kenya:**

**Mr. David Alnwick**                      **Regional Advisor for East and Southern Africa  
UNICEF/Kenya**

**Ms. Jeannie Clarke**                      **Administrative Assistant  
CNSP/UNICEF/Kenya**

### **Malawi:**

**Mr. Kenneth Williams**                      **Country Representative  
UNICEF/Malawi**

**Ms. Victoria Quinn**                      **Regional CNSP/UNICEF Programme Coordinator  
CNSP/Malawi**

**Ms. Mabel Chiligo**                      **Food Security and Nutrition Unit  
Economic Planning Department  
Office of the President  
Malawi**

**Mr. Charles Gurney**                      **Health Officer  
USAID/Malawi**

**Mr. B. S. Moyo**                      **Chairman  
Nutritional Surveillance Commission  
Mzuzu Agricultural Development District  
Malawi**

**Mr. Louis Msukwa**                      **Director  
Centre for Social Research  
University of Malawi, Zomba**

**Dr. David Pelletier**                      **Research Associate  
CNSP/Malawi**

**Mr. Richard Shortlidge**                      **Assistant Director  
USAID/Malawi**

### **Zimbabwe:**

**Dr. Per Pinstруп-Andersen**                      **Director, CNSP  
Interviewed in Harare, Zimbabwe**

**Ms. Julia Tagweyeri**                      **Chief Nutrition Division  
Ministry of Health/Zimbabwe**

**Ms. Rufaro Madzima**                      **Chief Nutritionist  
Ministry of Health/Zimbabwe**

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**World tobacco chief on visit**

by a Staff Reporter  
THE Chairman of the International Flue-Cured Tobacco Growers' Association (IFCTGA), Mr. Larry Wooten, has said that his organisation is currently working out new guiding principles and philosophies to make the global group more viable.

Mr. Wooten, who comes from North Carolina, USA, made the remarks at a dinner the Tobacco Association of Malawi (Tam) organised in his honour at the Capital Hotel in Lilongwe on Thursday.

The chairman is currently visiting some of his organisation's member countries, including Malawi.

Founded in 1983, IFCTGA has six founding members. These are Brazil, Canada, Argentina, Malawi, USA and Zimbabwe. Its headquarters is in Raleigh, North Carolina.

Addressing the association's councillors at the dinner, Mr. Wooten said that relevant and effective guiding strategies are the only best tools with which to attract more membership.

Speaking earlier, the chairman of Tam, Mr. H.B. Ntata, assured Mr. Wooten that the Malawi association strongly supported the ideals of the international grouping. He pledged that, on its part, it would do everything possible to make it stronger.



Partly cloudy to cloudy and hot, with isolated to scattered thunderstorms during the weekend.

For weather review and detailed forecast, see page 9



His Excellency the Life President bidding farewell to Bishop Nathaniel Aipa of the Anglican Church, one of the dignitaries who saw the Malawi leader off at Zomba Airfield yesterday. Introducing the dignitaries to the Ngwazi is the deputy Southern Region Party chairman, Mr. Stanford Demba. (Picture by Dick Mlaxia, Malawi News)

**'DAYS OF POVERTY, STARVATION OVER'**

**HIS EXCELLENCY the Life President yesterday reiterated that days of dire poverty and starvation, as was the case before this country attained independence, were over.**

The Ngwazi was addressing mammoth crowds in both Zomba and Lilongwe, when he flew from the former to the present capital cities respectively, to continue his current nation-wide crop inspection tour.

Both at the rousing send-off in Zomba and the hero's welcome in Lilongwe, the Malawi leader was entertained to traditional dances before addressing his people.

"The days of starvation and dire poverty are over. No question of starvation any more in this country," the Life President declared in Zomba.

He said that this was underlined by the fact that during his just-ended crop inspection tour in the Southern Region, he had seen beautiful crops in

by a Staff Reporter

Blantyre, Zomba and Machinga districts, adding that if rains continued falling well, there would be a bumper harvest.

The Life President, who is Mchikumbwe Number One in the country, predicted to see a similar promising crop situation as he later extends his crop inspection tour to Central and Northern regions.

He pointed out that the nation-wide boom in agriculture sharply contrasted with the thinking of the former director of agriculture in the colonial days, Mr. Kettlewell, who had condemned many parts of the country as unsuitable for agriculture.

"Now look at that maize over there — beautiful maize," the Ngwazi stated, pointing to a nearby maize field, a random example of how the Malawi leader's modern methods of agriculture have yielded fruits. He said Mr. Kettlewell's attitude of condemning the soil wholesale had shown that the former

agriculture director was, himself, no good for agriculture.

Commenting on salutations by the deputy Southern Re-

gion Party chairman, Mr. Stanford Demba, and the Zomba District Party chairman, Mr. Steven Malefula, over the nation's gratitude for all the Ngwazi has done in

Continued on page 2

**Kamuzu Academy has West German guests**

by a Staff Reporter

A GROUP of West German youths, accompanied by six parents, arrived in the country on Thursday to pay a return visit to the Kamuzu Academy in Kasungu.

During the visit, the students from Wilhelm-Gymnasium of Munich will present some Shakespeare plays, German folk songs and dances and classical music — which they will perform together with students from the Academy.

In addition, the group will visit some German-aided development projects in the country and various other places of interest in a programme that will also take the visitors to Zomba, Blantyre and Mulanje.

Students from the Kamuzu Academy

visited the Federal Republic of Germany in 1985 and 1986. But this is the first time that a students' group from West Germany had paid a return visit.

The Wilhelm-Gymnasium runs similar youth-exchange programmes with a fellow grammar school in the United States of America and another one in Scotland.

The entourage to Malawi was welcomed at Kamuzu International Airport by the German Ambassador to Malawi, Dr. Theodora van Rossum, and the headmaster of Kamuzu Academy, Mr. Michael J. Maloney.

Welcoming the group to Malawi, Dr. van Rossum stressed that such visits afforded the young boys and girls an opportunity to know each other's culture and broaden their general knowledge.

The team leader, Dr. Theodor Korner said the group has in addition brought along some German foodstuffs which one of the parents would prepare to give the Malawi students a taste of a Bavarian dinner.

**Church quarrel draws frowns**

THE district Party chairman in Rumphl, Mr. Haswell Gumbo, on Thursday warned that the Party and the Government would not allow any church causing confusion and disturbing the prevailing peace and calm, law and order in the country.

Speaking to leaders of African Church and African International Church at Rumphl, who are locked in a dispute over ownership of their churches, Mr. Gumbo appealed to them to settle their differences amicably.

He told the leaders that the Government and the Party would not allow any church to cause conflicts among people and asked them to foster unity and co-operation in their churches.

Mr. Gumbo said that churches in this country were working in partnership with the Government and that they had a duty to perform in preaching peace, unity and love among the communities.

He hailed His Excellency the Life President for the freedom of worship the country was enjoying.

"Conflicts among churches bring confusion among people and cause social unrest," the district Party chairman warned.

He said it was sad to learn that the African International Church referred the issue to the High Court in Blantyre and traditional courts in Rumphl for settlement. (Malawi News Agency)

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# Ngwazi in Lilongwe Malawi in Aids fight

Continued from page 1

moulding Malawi into a thriving nation, the Malawi leader expressed happiness that his people appreciated all he has done since coming back home from abroad in 1958.

He stated that even former administrators in the colonial government were amazed to see or learn about the tremendous development in post-independent Malawi. Visitors from Ghana, the first country to have attained independence in Africa, and Uganda — one of the highly regarded nations on the African continent — were among those impressed by the development in Malawi, a nation now said to have caught up with the leaders in development.

In Lilongwe, at a mass rally venue in Area 9, the Life President said he was happy to have seen beautiful crops

and rainfall signs as he drove from the old airport to the meeting.

Explaining that continued rainfall, up to at least April 15 (by which time all crops will have matured properly), was vital for a good harvest, the Mchikumbwe Number One said he had been worried on his first day to his crop inspection tour on Friday last week when he found the ground dry in Zomba District.

He said he was happy when, a few days later, so much rain fell that after a visit to Machingo on Monday this week, heavy rainfall prevented him from proceeding on a scheduled visit to Mangochi later that day.

He then urged his people to thank God for providing rain in this country and also to plead with God to continue providing the rains until at least the middle of April.

MALAWI does not see how any particular country could be reported to have a higher incidence of the killer disease Aids (Acquired Immune Deficiency Syndrome) because there are a lot of factors that have to be taken into account before coming up with such a conclusion, the country's Chief of Health Services has said.

He was speaking on Thursday night to a BBC (British Broadcasting Corporation) correspondent Jannet Anderson in an interview carried on BBC radio.

The Malawi Chief of Health Services was commenting on a report made by the South African Minister of Health, Mr. Willie

van Nickerk, to newsmen in Cape Town on Monday this week that Malawi was one of the high risk countries in this part of Africa for Aids.

Mr. Nickerk announced during the press briefing that South Africa will deport up to 1,000 black migrant workers who were carrying the deadly Aids virus and that most of those affected were from Malawi. He said the others were from Zimbabwe, Zambia and Uganda.

On why there were more Malawian migrant mine workers with Aids in South Africa than from other countries, the Chief of Health Service said: "I think there is not very much we all know in general about the problem of Aids. There are certain aspects of it that we cannot explain."

## SCIENTIFIC

"I cannot explain to you why any particular country at the moment should have higher incidences of Aids than others. I think there are a lot of factors that have to be taken into account and in this particular situation, I do not have all the facts with me to give

you a reasonable scientific answer on that question."

The senior health official explained that at present, the actual number of Aids sufferers in Malawi, like in many other countries, was not known. He said for a long time, the country did not have the scientific capability to screen for the Aids virus let alone to do confirmatory tests.

"We, therefore, are not able to give you an indication of exactly how many Aids sufferers there may be in Malawi," he added.

Asked whether Malawi's health services would cope if up to a thousand Malawians were repatriated from South Africa, the Chief of Health Services said that the country had limited resources.

"It would definitely be an added strain on our already limited resources but we would have to see the best we can do about them," he added.

The Chief of Health Services said Malawi would, however, be concerned whether the mine workers had the Aids infection before they left the country or afterwards. "I am saying this because they do

not take their families when they go to work in the mines, so the possibility of contracting the Aids infection while they had already left Malawi certainly does exist," he stated.

The senior health official stated that if the Malawian mine workers came back home, the Government would be interested in following them up very carefully from the public health point of view and within the country's limited resources.

"We would follow their families or other contacts and do the best that we can for them," he added. The Chief of Health Services also said that Malawi would co-operate with other countries, including South Africa, in combating the Aids problem.

Of late, the Malawi Government has intensified its efforts of educating the public about Aids and how to avoid contracting it through the media and public meetings. The problem of Aids is a matter of international concern. Its spread knows no boundary and it does not discriminate on the basis of nationality. (Malawi News Agency)

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- Instrumentation of research barns, computer analysis of data and development of instrumentation for growers.
- Investigation of the process of tobacco curing.
- Preparation and dissemination of research based information to growers and other interested parties.
- Care and maintenance of research and extension equipment.

### POST B

Qualifications: Diploma in Engineering (Electrical and Electronic specialisation) or City and Guilds Technical Certificate Parts 1 and 2.

### Duties

- Construction, testing and installation of electronic instrumentation.
- Maintenance of electronic, computer and photocopier equipment.
- Assistance with research and extension duties.

All applications should be addressed to:

The General Manager  
Malawi Tobacco Research Authority  
P.O. Box 418  
Lilongwe

To reach him not later than 19th February, 1988.

# MASIKU ONYOZA ULIMI ADAPITA

**MTSOGOLERI** Wamuyaya wa dziko lino, Ngwazi Dr. H. Kamuzu Banda, Lachisanu sabata yathayi, adanena kuti iye ndi wokondwa kwambiri kuti mbewu zikuoneka bwino kwambiri m'dziko muno kusonyeza kuti anthu akolola zochulukira, malingana ndi mmene adaoonera mbewu za anthu ake ena m'maboma a Blantyre ndi Zomba.

Ngwazi idalankhula izi ku chinamundi cha anthu chomwe chidasankhona kwa Govala, m'boma la Zomba, itatha kuyendera mbewu m'munda ya anthu ake, kudzanso m'munda waoungwe la Chitukuko Cha Amari m'Malawi (CCAM) m'deralo, ndi munda wamphunzitsi wamkulu pa sukulu yapamwamba ya Yunivesite ya Malawi ku Zomba'ku, poyamba pa ulendo wake wa chaka chino woyendera mbewu za anthu ake m'dziko muno.

Prezidenti Wamuyaya yemwe poyamba adamusangalatsa ndi magule a makolo athu atatha kuyendera mbewu, adafotokozza kuti iye ndi wokondwa kuti masiku ano anthu ophunzira, monga mphunzitsi wamkulu pasukulu yapamwamba ya Yunivesite, nawonso akukhala ndi chidwi pa nichito ya ulimi.

Iye adakumbutsa chikhomuchochi kuti pamene anafika m'dziko muno m'chaka cha 1958, anthu omwe ankatu ndi ophunzira, ankanyoza nichito ya ulimi m'dziko muno.

Ngwazi idati malingana ndi mbewu zochititsa kaso zomwe iyo idaoona m'munda ya anthu ake, ndi m'munda wabungwe la CCAM, kudzanso m'munda wa mphunzitsiyu m'boma la Zomba, m'dziko muno sinukhala vutu lupere-wera chakudya chaka chino.

Prezidenti Wamuyaya adathokoza anthu ake chifukwa cholimbikira kulima m'munda yao.

Iye adanena kuti zimene ankanena atsamunda kuti anthu adzavutika ndi njala iye ataphwanyika chitangana cha Rhodesia ndi Nyasaland, masiku ano zidatutisikiratu poyera chifukwa chakuti m'dziko muno anthu akukhala ndi chakudya chambiri ndiponso akuvula zovala zooneka bwino kusiyana ndi kale iye asadabwera.

Prezidenti Wamuyaya adapitiriza kunena kuti masiku ano azungu omwe adali ndi maudindo m'Boma la atsamunda, amati akabwera kuno ku Malawi, amadzadabwa kwini.

## Akolola zochulukira mvula ikapitiriza kugwa bwino

**MKULU** woyang'anira bungwe la nichito zaulimi m'dera la chitukuko cha ulimi ku Mzuzu Agricultural Development Division (Mzaddi) lomwe likukhudzanso maboma a Mzimba, Rumphu ndi Nkhata Bay, wanena kuti ngakhale kuti mvula idayamba kugwa mocheo wa m'deralo, pali chitsimikizo chokwanira kuti anthu kumaneka akolola zochulukira chaka chino.

Mkuluyo adalankhula izi pa msonkhano wa mamembala a komiti woyang'anira nichito zachitukuko m'chigawo chakumpoto, womwe udachitikira kuofesi yamkulu woyang'anira nichito za Boma m'chigawocho posached-wapa.

Iye adafotokozza kuti m'deralo mvula ikugwa bwino kwambiri, ndipo adati ngati ipitiriza kugwa monga mmene ikuchitira padakali pano, ndiye kuti anthu m'deralo akolola zinthu zambiri m'munda yao.

Mkuluyo adati anthu adalima chimanga chambiri chamakono m'munda yokwanira 14,

000 hectares poyerekeza ndi chaka chathachi pomwe anthuwo adalima chimanga m'munda yokula mahakitala 10,000 ukha.

"Tiri ndi chitsimikizo kuti anthu m'deralo akolola chimanga cholemera matani 125,000, ndiponso kuti chimanga chomwe anthuwo adzagulitsa kumisika ya Admarc ndi kwa anthu ena a bizinesi chidzakanirira matani 38,000, chomwe chidzagulitsa ndi matani akwanira 14,000 poyerekeza ndi chimanga chomwe anthuwo adagulitsa chaka chathachi," adatero mkuluyo pofotokozera nithumwi pa msonkhano.

Iye adapitiriza kufotokozza kuti anthu m'deralo alimanso nyemba zambiri.

Koma mkuluyo adanena kuti anthuwo adzagulitsa mtedza wochepa kumisika ya Admarc chaka chino kuyerekeza ndi chaka chathachi, chifukwa chakuti mvula idagwa bwino panthawi yomwe anthuwo amabzala mtedzawo.

Iye adanenanso kuti nichito yowokera fodya wauti ndi wa Oriental iri mkati m'deralo.

Panthawi yomwe adali pa udindowu, Kettlewell ankzena kuti mdera ambiri m'dziko muno sadaali oyenera panthawo ya ulimi.

Polankhula moyambirira, wapampando wa Chipani m'chigawo chakummwera, a Edward Bwanali ndi wapampando wa Chipani m'boma la Zomba, a Steven Malefuta, adathokoza Ngwazi chifukwa chophunzitsa anthu ake ulimi wamakono, ndiponso chifukwa cholabadira miyoyo ya anthu ake m'dziko muno.

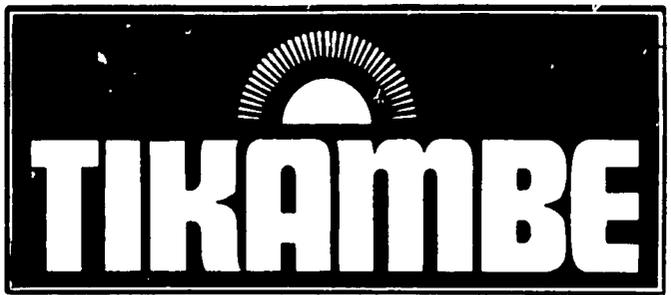
Iwo adafotokozza kuti ngati mvula ipitiriza kugwa bwino monga mmene ikuchitirama, ndiye kuti anthu akolola chakudya chambiri.

Pvamba penipeni wulendo wake woyendera mbewu za anthu ake chaka chino, Prezidenti Wamuyaya adayendera munda ya amai omwe amuna ao amagwira nichito ku nyumba yake ya Sanjika mu mzinda wa Blantyre.

Paulendowo, Ngwazi adasonyeza munda wachimanga chochititsa kaso wokula mahakitala anayi ndi theka, kudzanso munda yambata ndi nyemba.

Prezidenti Wamuyaya adayenderanso uvuni wa njerwa womwe ana a anthu ogwira nichito kunyumba ya Sanjika adamanga ndi malangizo ochokera kwa makolo ao, powaphunzitsa nichito zamanja.

Prezidenti Wamuyaya ataona uvuniwo adanena moyamikira kunena kuti ndi koyenera kuti ana azipita kusukulu kukaphunzira, komanso adati ndi chinthu chofunikanso kuti anawo azidziwanso nichito zamanja powonjezera uzuzu za kusukulu.



## Nkhani za Chichewa sabata iliyonse

Chigawo cha Malawi News



Prezidenti Wamuyaya akumeka mosangalala kwambiri pamodzi ndi banja la mimodzi wa matenanti (alimi) amene akulima fo'ya wa Bale pa eseti ya Kachulu kwa Govala m'boma la Zomba, poyamba pa ulendo wake wa chaka chino woyendera mbewu ndi kuona anthu ake m'dziko muno. (Chithunzi: Malawi News)

## Ngwazi ichita chidwi ndi mbeu za anthu ake

**PREZIDENTI** Wamuyaya, yemwe akuyendera mbewu ndi kuona anthu ake m'dziko muno, Lolemba sabata lino, adayendera eseti ya Namanga ndi kuona munda ya anthu ake m'boma la Machinga komwe adaoona mbewu monga chimanga ndi fodya zochititsa kaso kwambiri.

Ngwazi inkayembekezeka kukafikanso ku eseti ya Mgodi m'bomalo, ndi kukayendera munda ya anthu ake m'boma la Mangochi, komwe sadipitilize ulendowo chifukwa cha mvula yomwe idagwa mowirikiza patikululo.

Malingana ndi dongosolo la ulendowo, pomwe adakonzera poyamba, Prezidenti Wamuyaya ankayembekezeka kukayendera

eseti ya Mgodi ndi kupitanso ku Chitwa m'boma la Mangochi.

Ngwazi idalika ku Namanga panthawo pa kota pasiti 11 m'mawa, pomwe mvula inali kugwa kwambiri.

Koma ngakhale mvulayo inkagwa moyirikiza, Prezidenti Wamuyaya, yemwe ndi wakumbi Nambala Wani, atafika pa eseti iye adatuluka m'galimoto yake yamtunduwu. Kombi ndi kuyendera mbewu pa esetiyo.

Poyambirira, Ngwazi idasima pa munda wabungwe la Chitukuko Cha Amari m'Malawi pa esetiyo.

"Chimanga chabwino kwambiri," adatero Prezidenti Wamuyaya moyamikira chimanga chomwe ndi choonekadi mochititsa kwambiri.

Atatha kuona chimangachoko, Prezidenti Wamuyaya adayenderanso munda wa fodya wa P. Yohane, womwe ndi m'modzi wa matenanti amene ali ndi fodya wosilira pa esetiyo.

Kenaka Prezidenti Wamuyaya adatero m'galimoto lake pamunda wamakono atatu ndi kuyendera munda wachimanga wa mai Bwanali Saidi pafupi ndi esetiyo.

Atafika pamundawo, Prezidenti Wamuyaya adayamikiranso chimangachoko kuti chikukula bwino, ndiponso kuti mayi akuchisamala bwino kwambiri.

Kumalo onsewo, Ngwazi imapita n'katikati mwa mundawo ndi kuvamikira mbewu pomwe mvula imapitirira kugwa.

Kenaka Prezidenti Wamuyaya adabwera kupita kunyumba yake ya Boma ku Zomba, atatha kuyendera mindayo.

## Makhothi sadzalekelera anthu ozembetsa katundu wa malonda

**MAJESITIRETI** wozanga milandu m'khoti mu mzinda wa Blantyre, wanena kuti makhothi m'dziko muno sadzalekelera anthu omwe amafuna kupeza phindu m'njira zomwe ndi zobwezera chitukuko cha dziko lino m'mbuyo.

Majesitiretiyo adalankhula izi posached-wapa pamene amagamula milandu wa munthu wina mu mzindawo, yemwe adapezeka ndi milandu wozembetsa katundu kuchokera m'dziko la Tanzania ndi kumagulisira katunduyo m'dziko muno popanda chilolezo cha Boma.

Munthuyo amagwira nichito ya bizinesi ndipo dzina lake ndi Latty Lington Kuntola.

Iyeu adamulamula kuti alipire ndalama zokwanira K3,980 kapena kukhala m'ndende zaka ziwiri ngati atalephera kulipira ndalama

mazo, chifukwa chopezekeza ndi milandu iwiri.

Pa milandu woyamba, Kuntola adamulamula kuti alipire ndalama zokwanira K1,980 kapena kukhala m'ndende chaka chimodzi ngati atalephera kupezekeza ndalama zokwanira chifukwa chakuti iyeu amazembetsa katundu m'dziko la Tanzania ndi kumabwera naye kuno ku Malawi.

Pa milandu wachiwiri, Kuntola adamulamula kuti aspezeke ndalama zokwanira K2,000 kapena kukhala m'ndende chaka chimodzi chifukwa chakuti iyeu ankagulisira zinthuwo m'dziko muno popanda chilolezo cha Boma, komwe ndi kulakwira malamulo a dziko lino.

Iye adavomera muanu yonseyo.

Pogamula milanduwo, Majesitiretiyo adati m'chidwewe wogulitsa zinthu m'njira yozembetsa katundu wa malonda kuchokera kumakono akunja ndi woipa kwambiri, chifukwa chakuti Boma ulipeza ndalama za kasitomu pazinthuwo.

Pozanga milanduwo, waimira Boma pa milanduwo adafotokozza kuti pa mwezi wa November chaka cha 1986, Kuntola adazembetsa walezi za magalimoto zisanu ndi imodzi pamodzi ndi masipitala a ndalama 39,500 shillings za dziko la Tanzania kuchokera ku Tanzania.

Iye adanena kuti Kuntola adamugwira atafika mu mzinda wa Blantyre ndiponso atagulisira zinthuwo kwa mwenye wina mu mzindawo

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PRICE 25c

# Crop inspection tour continues Ngwazi leaves for the Centre

**THE DEPUTY** Group General Manager of Auction Holdings Limited, Mr. G. Msonthi, has advised burley tobacco estate owners and managers to bring their tobacco for sale at Limbe Auction Floors according to approved delivery quotas.

Mr. Msonthi gave the advice on Wednesday during a field day held at Mainunje Estate of Mr. E. Bakili Muluzi in Chief Kawinga's area in Machinga District.

He said the Tobacco Control Commission had agreed that farmers start bringing in their tobacco according to the given quotas from the first week of sales at the auction floors unlike in the past when quotas were brought in the middle of the season.

He therefore appealed to tobacco growers to adhere to the quota delivery arrangements in force, ensuring that they did not miss turns and days of sales.

He warned that any grower missing his tobacco sale days for more than two consecutive weeks would not be allowed to accumulate such days and would therefore lose them.

He added that due to transport problems a week's delay of a delivery quota would still be allowed for sale on accumulation basis.

Mr. Msonthi discouraged the use of plastic straws and the inclusion of plastic pieces when packing tobacco bales.

Auction Holdings also advised growers to seek explanations from auction floors officials on any tobacco returned.

The field day was attended by officials from the Tobacco Association of Malawi (TAM), the Tobacco Control Commission (TCM) and estate extension service officials.

**Look out for a free 1988 colour calendar in 'Malawi News' copy tomorrow. Trust Industries Limited have given readers this special bonus. Hurry, the number of copies is limited!**

**HIS EXCELLENCY** the Life President today leaves the Southern Region for the Centre with a rousing send-off and a grand welcome by his people when he flies from Zomba to Lilongwe to continue his 1988 country-wide crop inspection tour.

Reports from Zomba and Lilongwe say that already thousands of people have started arriving for the departure and arrival ceremonies.

Meanwhile, a spokesman from the Southern Regional Party office in Blantyre has said the Life President is expected to depart from the State Aerodrome at 9.30 a.m.

On arrival at the aerodrome, the Ngwazi will be met by the deputy regional Party chairman in the South, Mr Stanford Demba, and Mbumba from districts of the Southern Region.

The Life President will then be entertained to traditional dances before bidding farewell

from  
**Malawi News Agency**

to his people.

The reports add that the airport and the Presidential route have been gaily decorated with national bunting to add pomp to the function.

In the Centre, all is set in Lilongwe for the arrival ceremony.

According to an official programme released by the regional Party office in the Capital City, the Life President is expected at Lilongwe Old Airport at 12 noon and will be met by the regional Party chairman for the Centre, Mr B.L.R. Kapichira Banda.

The Ngwazi will then inspect a guard of honour to be mounted by the Second Battalion of the Malawi Rifles from Kamuzu Barracks.

Thereafter dignitaries from the Central Region will be presented to the Ngwazi by the regional Party chairman.

The Life President will then drive to Area 9 near Civo Stadium where he will be entertained to traditional dances before addressing his people.

The venue of the mass rally and the route to be taken by the Ngwazi as well as other streets in the City have also been gaily decorated with national colours.

## Friends of Livingstonia secure K60,000 for rehabilitation work

**Times Reporter**

**THE ASSOCIATION** of the Friends of Livingstonia has secured a K60,000 grant from the Beit Trust Foundation in Zimbabwe for rehabilitation work at Livingstonia Mission in the North, it was learnt in Lilongwe this week.

The association's newly-elected secretary, Mr O.T. Mkandawire, said that the funds would be used to rehabilitate and restore the mission's Technical College building and for the construction of a new dining hall and kitchen at the college.

Livingstonia Mission was established on October 12, 1884 by Dr Rev Robert Laws at Mumbwe Hill, popularly known as 'Khondowe' within the Nyika Plateau range in Kumpira District.

It has day and night secondary schools, a hospital, the technical college, a primary school and mission offices.

Most of these buildings are very old. It was therefore the aim of former students and people interested in historical sites to

rescue the mission from an apparent eminent desolation. This, according to the secretary, prompted the formation of the association.

He explained that the association was instituted to generate and provide financial support for the conservation and restoration of the buildings, amenities and services, and in the process, to give support to, and encourage the furtherance of the original aims and aspirations of the Livingstonia Mission.

According to the secretary, the Association of Friends of Livingstonia was established on May 5, 1983 at a meeting held at the Queen Elizabeth Central Hospital in Blantyre which was attended by 12 founding members.

With His Excellency the Life President as patron the association's extra-governmental finance, on starting its work and held its first general meeting on January 12 this year in Mzimba.

"We are pleased to announce that the Beit Trust Foundation has pledged some K60,000 towards our cause," Mr Mkandawire stated.

Malawi

# British Envoy visits Medi

Times Reporter

THE BRITISH High Commissioner in Malawi Dr. Denis Osborne, has commended the Malawi government for its efforts in developing and promoting small enterprises in the country.

The British Envoy made the commendation during his recent visit to the Malawian Entrepreneurs Development Institute (Medi) as part of his familiarisation tour of some establishments in the country, according to a press release from Medi.

The press release said a senior official from the Ministry of Labour told the Envoy at Medi that

the Malawi government was very grateful for the aid it receives from the United Kingdom.

The press release said the principal of Medi Mr. Y.P. Nyirongo, briefed the High Commissioner and his wife on the activities and achievements of the institute, which aims at producing graduates who are job-creators and not job-seekers.

A major component of the curriculum, the principal said, was how to conduct market research in order to ascertain the commercial viability of the candidates' business ideas.

While on training, he

added, the candidates are encouraged to practice business in the Medi marketing centre in order to earn as they learn and consolidate their business ideas.

So far the institute has succeeded in placing more than a hundred graduates into businesses which have generated a substantial amount of employment opportunities, the press release pointed out.

During the tour of the campus the Envoy was very impressed with the enthusiasm and skill of the candidate entrepreneurs in making and selling their products.



A one week second training workshop on management of research for development opened at Parliament Building in Zomba on Monday. The workshop was funded by the European Economic Community and Malawi government. The opening was officiated by the principal secretary for Media Services and Public Affairs in the OPC (seated second left) while the EEC was represented by its agricultural adviser, Mr. P.A. Gallagher (seated second right). (Photo by Steve Mwaanga, Information Department)

## Crispy snack dries on market

Times Reporter

THE production of potato crisps in the country has been crippled by the seasonal shortage of potatoes.

At this time of the year potatoes are scarce and very expensive which forces the industry to remain at a stand-still. Mr. K.J. Amin, the managing director of Universal Industries said this week.

"We have been forced to close the business temporarily, but are still maintaining the operators on their routine work of producing cassava crisps," he said.

For several weeks now lovers of this crispy snack have been almost overturning shelves in shops in search of this product but in vain.

Mr. Amin said production of cassava crisps was not as high as is normal for say, potato crisps, because of the "poor storage quality which the cassava tubers have."

## Free maize 'only for the needy'

THE regional Party chairman in the Centre, Mr. B.R.L. Kapichira Banda, has appealed to members of the District Development

Committee in Nkhosakota to assist the DDC chairman in distributing maize to the needy.

Mr. Kapichira Banda was addressing an emergency DDC meeting in the district council hall on Wednesday afternoon.

At the meeting, the regional administrator in the centre briefed members on the distribution of maize donated by the French government.

The regional Party chairman told DDC members to help the DDC chairman in identifying the people who need the food in the district.

He said for the exercise to achieve maximum success, there was need for Party and government officials to ensure that the food was distributed to those who had no food.

He asked those who had money to continue buying maize from Admarc.

Mr. Kapichira Banda

said the people of Nkhosakota should show their gratitude to the Life President for the free food by working hard in their gardens now that there were provisions to avert food shortage in the district.

He advised the DDC members to address meetings in their areas and to weed their crops in time to ensure bumper crop yields.

The regional Party chairman discouraged people from complacency after receiving the free maize. He said they should not think that the donors would give them free maize and other food stuffs every year.

He said the free maize should spur them to work extra hard in their fields so that they have their own food and even surplus for sale.

Mr. Kapichira Banda also advised people to grow a variety of food crops. —Malawi News Agency

## Driver carelessly 'brakes' into prison grounds

NASSA Gulamu, 25, an employee of Sama Transport Company in Salima has been sentenced in Nkhosakota to 45 months imprisonment with hard labour for causing death through careless and dangerous driving and for driving an uninsured and unlicensed car under the influence of alcohol in May last year.

The prosecution told the court that on May 30 last year, Nassa caused the death of Patrick Chinyozi who was a passenger in his car, which overturned into a drain near Super Star Restaurant at Nkhosakota town.

The court also learnt that the accused was excessively drunk at the time of the accident and drove the vehicle at a very high speed.

In mitigation, Gulamu who pleaded guilty to the four charges said he regretted having committed the offences.

Passing judgement the Nkhosakota

magistrate sentenced Gulamu to 24 months jail without an option of fine for the first count of careless and dangerous driving of a motor-vehicle, and fined him K100 or in default nine months jail for the second count of using an uninsured car.

He was fined K186 or in default three months jail for the third count of using an unlicensed vehicle and K100 or nine months jail in default for the fourth count of driving a vehicle under the influence of liquor.

The magistrate further ordered that Gulamu be disqualified from holding a driving licence for a period of 24 months.

Gulamu did not pay any of the fines in the court and was therefore sentenced to jail for a total of 45 months. —Malawi News Agency



The appetite builder

## Nali peri-peri Sauce

The mild one "KODYA NDI ANA" even kids can eat it,



The sauce is produced by Nali Ltd. makers of Africa's hottest peri-peri Sauce. The "ABALE SAMALANI" which is available in PTC, Kandodo and all the leading shops in Malawi.

**Agriculture**

**Biological pest control**

PRODUCTION of cassava throughout Africa is threatened by two pests but chemical control of these pests is not practical, as it requires frequent application of costly and highly toxic pesticides. This renders the approach environmentally unsound for use on this subsistence crop.

The two pests, the cassava mealy bug and the cassava green mite, both of which were introduced accidentally and separately, from the South America in the early 1970s, have since spread and have affected all 28 cassava-growing countries in Africa.

However, not all hope is lost because the pest as an integrated approach has been found effective which combines classical biological control with improved agronomic practices and the use of health planting materials.

According to findings from the Mount Makuli agricultural research station in Lusaka, Zambia, classical biological control involves the use of natural enemies of an introduced pest brought from the pest's own area of origin. The know-how is based on research findings from South America where neither cassava green mite nor cassava mealy bug are serious pests because both are kept in check by a variety of natural enemies. Following careful study to ensure that these natural enemies attack only the target pest and cause no harmful side effects, they are introduced to Africa where they are able to control the pests.

Relatively small numbers of natural enemies are introduced initially but these increase naturally.

As the pest is reduced to a harmless level, the numbers of natural enemies also fall to a low level. The first impact of the natural enemies may be seen as early as one year after their releases.

Following their establishment, natural enemies remain in a natural balance, permanently controlling the pest, unless this balance is upset by such factors as inappropriate pesticide use.

According to researchers in Zambia, classical biological control is permanent, cost effective and environmentally sound; this approach has been successfully used throughout the world for many years to control a wide variety of harmful pests. —AP/Feature

**Potato diplomacy on Bonn's market place**

WEST GERMANY'S Foreign Minister, Hans-Dietrich Genscher (left in the picture above) and the American ambassador in Bonn, Richard Burt, (right of Genscher) engaged in a little "potato diplomacy" on Bonn's market place.

They threw the whole weight of West German-American friendship into the scales. They let themselves be weighed against "Ackergold" potatoes.

Together they were exactly 187.5 kilogrammes in potatoes — who threw the most weight into the scales was diplomatically not mentioned.

Genscher owed the bilateral state of tension to the American ambassador, who, with the "potato handshake" on the potato scales fulfilled a lost bet in the popular television show "Do you bet?" —DaD



Federal Foreign Minister Hans-Dietrich Genscher (left) was put on the potato scales in Bonn's marketplace. The reason was that the American ambassador to Bonn, Richard Burt, lost a bet made on television. The two weighed in at almost 187 kilogrammes of potatoes. The proceeds of the event were donated to the West German Cardiac Centre. —Potato, Unid-Depo

**Ivorians finally accept threat of deforestation**

IN THE TROPICAL forest of the Ivory Coast, loggers and farmers have been turning trees into cash for most of the century.

The process has given this country one of the highest living standards in Africa.

But the huge trees are vanishing fast. The country once boasted more than 15 million hectares (58,000 square miles) of unspoiled natural forest, almost half its area.

But only about one-tenth of that vast, moist parasol remains and experts say it is being hacked down at a rate of 300,000 hectares (1,200 square miles) a year.

Annual replantings cover just 5,000 hectares (20 square miles). The government has declared 1988 'year of the forest'.

But it may be too late to turn the destructive tide and too difficult to change the ways of smallholders wielding machetes and matches in their tradit-

ional slash-and-burn farming.

Francois Kakou Ngbra, whose family owns about 30 hectares (75 acres) of cocoa plantation near this village 60 miles (100 km) north of Abidjan, is one of thousands of farmers who have long practised the traditional method of growing crops in cleared forest areas.

**CLIMATE CHANGE**

As his mother and father hacked away at forest undergrowth clearing the way to plant new cocoa trees, productive land was becoming very difficult to find, soil was becoming increasingly dry and sandy and the climate changing, he told Reuter.

"We haven't had a good harvest here since 1978 when the rains failed. That tree is one-and-a-half years old and should be starting to produce, but look at it," he said.

"We don't know why the trees are not produc-

ing. Many are dying before they produce anything at all, perhaps because of insects, perhaps because of the weather," he added.

"In this country it is not raining as it once did. The forests are disappearing and we are getting this dry harmattan wind blowing from the Sahara which 10 years ago did not come so far south," Ngbra said.

Environmentalists are uncertain if deforestation has had a significant effect on weather patterns, but they say the process may be increasing evaporation, reducing rainfall and speeding up topsoil erosion.

Bernard Dupuy at the tropical forestry centre in Abidjan said that rainfall had been reduced by between 20 and 30 per cent over the past 20 years.

"We cannot say if that is because of deforestation, but if a forest disappears it is likely to have a negative effect on water supplies."



**MUSLIM ASSOCIATION IN MALAWI**

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Tenders to be offered should be in sealed envelopes addressed to:

**The Executive Secretary  
Muslim Association in Malawi  
P.O. Box 497.  
Blantyre.**

and to be titled 'TENDER ON CARS'

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TUESDAY 16 FEBRUARY, 1988

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## Klm centre set up for animal health research

A KI MILLION collaboration project between Malawi's Department of Animal Health and Industry and the Centre for Tropical Veterinary Medicine (CTVM) of the University of Edinburgh in Britain has been launched in Lilongwe.

This was announced in Lilongwe yesterday by the Chief Veterinary Officer.

He said that the project, known as the Malawi-Centre for Tropical Veterinary Medicine Collaboration Project, started operating last November.

It is headed by a project manager, Dr. Martyn Edelsien, a veterinary epidemiologist seconded from CTVM for a period of three years.

The project, he said, is based at the Central Veterinary Investigations Laboratory in Lilongwe and will run for an initial period of three years.

# Employment outside no longer necessary

**HIS EXCELLENCY** the Life President has expressed happiness that the majority of his people no longer go outside the country to seek employment for they make more money from agriculture here than from working abroad.

The Life President said this yesterday at Ntakataka in the area of Chief Kachindamoto in Dedza District after inspecting crops in the gardens of his people to continue his nation-wide crop inspection tour.

Addressing a mammoth crowd after being entertained to a variety of traditional dances, the Ngwazi reiterated that from what he had seen in Blantyre, Zomba, Machinga and Dedza districts during his visit "there can be no question of starvation and dire poverty in the country."

He pointed out that many people nowadays go outside the country simply for adventure.

He said that it was a waste of time for the people of this country to

by  
 a Staff  
 Reporter

go outside the country for employment when they could earn more money from farming.

The Life President said that from what he had seen in the districts visited so far, his people will not only have enough food but they will have also a surplus for sale to Admarc for money to buy decent clothes and build better houses for themselves.

He reiterated that his people must have three essential things in their lives: food, decent clothes and houses that do not leak when it is raining.

He said that for his people to have these three basic necessities they must

work hard in the fields to produce plenty of every crop both for food and for sale.

Turning to Kettlewell, the former director of agriculture during the colonial days, the Life President said that the man was wrong to condemn agriculture on grounds that every district was not good for farming.

"Now look at the maize," the Ngwazi said, pointing at beautiful and healthy maize.

He said that it was not the districts that were not good for agriculture, but rather Kettlewell himself was not good for it.

Kettlewell knew agriculture only in books and not practically, the Ngwazi added.

The Life President therefore thanked his people throughout the country for listening to his appeal for hard work in the fields as demonstrated by the healthy and beautiful maize he had seen so far during the tour.

Speaking earlier, the district Party chairman in Dedza, Mr. Mlombwa Phiri, and the regional Party chairman in the Centre, Mr. Kapichira Banda, said that although the rains had come late in many parts of the region,

people have grown plenty of crops in response to the Ngwazi's appeal for hard work in the fields.

The two leaders paid tribute to the Ngwazi for raising the living standards of the people.

## Red Cross chief calls on Ngwazi

THE president of the Geneva-based International Committee of the Red Cross (ICRC), Dr. Cornelio Sommaruga, yesterday called on His Excellency the Life President to brief him on his organisation's work in Southern Africa in particular and the world in general.

Dr. Sommaruga, who arrived in the country on Sunday for a two-day official visit, said he was honoured to meet and brief the Life President on the objectives of his visit here and to discuss humanitarian issues faced by the region.

"During my audience with the Life President I underlined the admiration we have for the Malawi people and the Malawi authorities for the efforts made in caring for so many displaced Mozambicans," he said.

The ICRC chief also sought advice from the Life President on how best his organisation could reach a sort of humanitarian pact in the region in order to be able to assist all victims of the conflict within Mozambique, he said.

He added that he also took the opportunity to discuss with the Ngwazi ICRC's world-wide activities, particularly protection and assistance issues as covered in the Geneva Convention of 1949.

The convention, adhered to by 165 states in the world including Malawi, lays out the best humanitarian way to treat all victims of conflicts like war and other disasters.

"I also recalled to the Life President the importance we, and many other countries in the world, attach to two additional protocols to the Geneva Convention and that they would be ratified by as many countries as possible, including Malawi," Dr. Sommaruga said.

He said at present 70 countries, 26 of them in Africa, have ratified the protocols.

The ICRC chief has already been to Tanzania and Zambia and will go to Mozambique and Zimbabwe to complete his mission.

He leaves for Mozambique today. — News Agency

## Ifad to provide K2.9m for Africa's agricultural training programme

Times Reporter

THE INTERNATIONAL Fund for Agricultural Development (Ifad) is to provide technical assistance worth K2.9 million for the third phase of an on-going Agricultural Management Training Programme for Africa (AMTA).

According to a press release from the United Nations Development Programme (UNDP) local offices in Lilongwe, the agreement was signed early this month in Rome between Ifad's president, Idriss Jazairy and Mr. A.O. Williams, executive secretary of the Organisation of African Unity/Scientific, Technical and Research Commission (OAU/STRC).

### TRAINING

The programme provides basic training for project staff managers and high level agricultural

officials on how to improve their efficiency as individuals as well as the overall management of projects.

In the agricultural sector, more than 200 African project managers and other senior project staff have benefited from this programme, the press release adds.

It states that the AMTA programme, which was initiated by Ifad, is being implemented in conjunction with the OAU/STRC, the African Development Bank (ADB) and the

World Bank's Economic Development Institute.

### SUB-PROGRAMME

The first OAU/STRC sub-programme covering six southern African countries of Botswana, Lesotho, Malawi, Swaziland, Zambia and Zimbabwe was launched in 1984.

The second phase was launched the following year and assisted seven West African countries.

According to the press release, the present programme will directly benefit over 160 persons from six Anglophone countries in East and West Africa.

The final choice of countries and projects will however be made after consultations between Ifad, ADB, the World Bank and the

OAU/STRC, it was stated.

The programme will be implemented over a period of about 18 months and will consist of a number of regional and national activities including residential seminars and team-building workshops, follow-up actions on the project site, and policy seminars at national and international levels.

INSIDE  
 YOUR  
 TIMES



## Malawi Slight increase in fish ponds...

THE number of fish ponds in Mwanza increased last year by 71 to 649, the fish farming officer of the Department of Fisheries in the district disclosed in an interview with the Malawi News Agency recently.

He said, however, last year's figure fell short of that of 1986 when 92 ponds were dug to raise fish for consumption and as a means of generating income.

Fish farming in the district started in 1981, when 79 ponds were established as part of a Unicef-funded "Integrated Basic Services Approach Programme," launched in Mzimba in the North, Dowa in the Centre and Mwanza in the South.

The fish farming officer explained that the drop in the number of ponds last year was due to a new condition requiring would-be fish farmers to dig bigger dams measuring 100 square metres. This is five times bigger than the 20 sq. metres ponds dug by fish farmers before the new condition was introduced.

There are 513 farmers who produced a total of 141 kgs of fish in the district last year.



## Scientists challenged to develop raw materials

SCIENTISTS and researchers in the country have been asked to assist the government in identifying and developing local raw materials for agricultural and industrial development.

The general manager of the Malawi Bureau of Standards, Dr Fletcher Banda, made the call recently when he closed a five-day second training workshop on research and development, strategic and project planning and budgeting at Parliament Building in Zomba.

Dr Fletcher Banda who is also a consultant to Financial and Administrative Management for Eastern and Southern Africa (Famesa), said that the

Malawi government cannot afford to waste its foreign exchange reserves by continuously purchasing from abroad raw materials that could be obtained locally.

"You as researchers, scientists and managers of research and development institutes should exert yourselves for research and development programmes and projects of the country to be productive," he added.

Dr Fletcher Banda re-

minded the workshop participants that during the first training workshop held in Salima in April 1986, the participants then recommended that the National Research Council of Malawi (NRCM) should organise more seminars that would bring together scientists, technologists and policy makers to appraise them on the role that scientific and technological research could play in Malawi's development efforts.

He urged participants to play a leading role in the research activities of their institutions and at the same time to share their workshop experience with their colleagues in government ministries, organisations and institutions as one way of practically utilising the knowledge and skills gained at the workshop.

Dr Fletcher Banda said

the Malawi government had renewed its efforts to support research and technological activities for the socio-economic development of Malawi.

He called on the participants to properly plan and have a research fund in their budgets so as to efficiently use the resources available to properly design research programmes and projects so that a clear direction is provided for the achievement of the expected results.

The workshop drew 25 participants from government departments, parastatal bodies and the University of Malawi. It was jointly funded by the Malawi government and the European Economic Community.

It was opened on February 8, by the principal secretary, media services and public affairs in the OPC. — Malawi News Agency

## Govt. requires servants with good conduct

THE deputy secretary (training) in the Department of Personnel Management and Training has said civil servants should maintain good conduct when discharging their duties.

The deputy secretary was speaking recently when he closed a six-week proficiency course for copy typists at Mpemba Staff Training College in Blantyre.

He said that in order to maintain an efficient civil service, people working in the government should be faultless in their attitude to the public.

The deputy secretary said civil servants should have an unwavering loyalty to the government, and should also demonstrate efficiency in performing their duties.

Zeal and devotion to duty were the hallmarks of the nation, the deputy secretary told the 25 male and female copy typists drawn from government

departments.

The course covered English, office practice, Malawi Public Service Regulations and Public Service Commission Regulations, treasury instructions, stores, and finance.

The deputy secretary said the knowledge gained from the course would go a long way in assisting the typists to make an effective contribution to the

task of promoting efficiency in the civil service.

The deputy secretary advised that unless the outgoing participants showed the willingness to continue learning and improve themselves, they would be stagnant.

"Stagnation leads to gross inefficiency and under-production which the civil service is keen to eradicate," he emphasized. — Malawi News Agency

## UN meet discusses women's role

THE role of women in development dominated the recently-ended four-day conference of resident representatives of four United Nations agencies in eastern and southern Africa held in Arusha, Tanzania.

Participants to the conference were representatives of the United Nations Children's Fund (Unicef), United Nations Fund for Population Activities (UNFPA), the

World Food Programme (WFP) and the United Nations Development Programme (UNDP).

The UNDP resident representative in Malawi, Mrs. Kerstin Leitner said on arrival in Lilongwe that the conference discussed the importance of equality between men and women in development work.

The conference resolved that it was imperative to support projects which

encourage income-generating activities among women who are widely respected as people responsible for the welfare of their families.

Malawi's main contribution was a case study of a project designed to offer credit facilities to small-holder farmers, she said.

Mrs. Leitner described Malawi's case study as the most accurate and best researched among the eight

studies presented at the conference.

The meeting began on February 8 and grouped participants from Ethiopia, Somalia, Uganda, Tanzania, Zambia, Botswana, Zimbabwe, Mozambique, Swaziland, Kenya and Malawi.

The International Fund for Agricultural Development (Ifad) sent an observer to the conference. — Malawi News Agency

## Landing with smiles

What's the land of the lake and smiles like... some 16 West German youths accompanied by five parents and a teacher seem to have made a happy landing at Kamuzu International Airport last Thursday, at the start of their tour of German-aided development projects in this country and as guests of Kamuzu Academy in Kasungu. The group from Wilhelms-Gymnasium Grammar School in Munich is reciprocating two visits made by Academy students to West Germany in 1985 and 1986. They were welcomed by the German ambassador, Dr. Theodora van Rossum. — Picture by Abel Katola, Daily Times

## Housing project shining example

THE director of Building and Social Housing Foundation in the United Kingdom, Mr Peter Elderfield, has commended Malawi's housing project, saying it is a shining example to other developing countries.

Mr. Elderfield was speaking on departure at Kamuzu International Airport for London, after a week-long visit during which he appraised arrangements being made here for hosting an international conference on rural housing at a later date. He also held discussions with government officials on the success of the country's housing project.

The director said during the conference, delegates would visit the housing project which had won an international award last year in the UN housing competition.

The conference, he said, would bring together experts on housing from different countries. It would also be attended by Malawi's donor countries and organisations from Germany, United Kingdom, Scandinavian countries and UN agencies.

Mr. Elderfield said Sri Lanka is another country doing very well in rural housing programme.

He said Malawi and Sri Lanka could learn a lot from each other on rural housing although they build different type of houses. Malawi News Agency

**APPENDIX VI:  
NOTES ON PROPOSED AREAS OF FUTURE INVOLVEMENT  
FOR CNSP AND CDC**



Cornell University  
DIVISION OF NUTRITIONAL SCIENCES  
Savage Hall  
Ithaca, New York 14853-6301

A DIVISION OF THE NEW YORK STATE COLLEGES OF  
HUMAN ECOLOGY AND AGRICULTURE AND LIFE SCIENCES  
Statutory Colleges of the State University of New York

January 21, 1988

Dr. Abraham Horwitz  
Pan Am Health Organization  
525 23rd Street, N.W.  
Washington, DC 20037

Dear Dr. Horwitz:

In continuation of our recent conversations I am pleased to outline the areas of work I believe should take high priority for CNSP during the next 5 - 10 years. The overall objective of future CNSP activities should be to assist national governments and international agencies in efforts to improve the nutritional status of the poor through more informed decisions on policies and programs with nutrition implications.

In order to achieve this objective I propose that CNSP focus on three aims:

1. To strengthen existing and to generate new knowledge regarding nutritional surveillance and to make existing knowledge more operational.

Work in this area would include: a) research on nutrition information systems, with emphasis on identifying constraints to effective operation and alleviating such constraints, b) further development of surveillance to address the important needs of community based primary health and nutrition care programmes c) analyses of the nutrition effects of selected programs and policies such as Vitamin A distribution, price, policies, structural adjustments, d) identification of effective indicators of past and current nutritional status as well as predictors of expected future effects of such programmes and policies as well as other developments, e.g. urbanization and cash cropping, e) comparative and integrative research to help generalizing methods and empirical results derived from country-specific activities.

2. To create and/or strengthen national capacities in nutritional surveillance. Activities in this area should be focused on a small number of countries strategically chosen by region and should include research, training, and technical assistance as needed to achieve the goal. Technical assistance may be of short as well as long-term

nature. Research priorities for the particular country would be based on the most critical needs and may be short as well as long-term. Training may be in the form of: a) on-the-job interaction with CNSP staff stationed in the country, b) short courses and workshops, and c) graduate training at Cornell. The choice of activities and priorities among them should be dictated by the needs to create and/or strengthen the national capacity.

In each of the collaborating countries, an overall approach should be developed and agreed upon and the specific research, training, and technical assistance should be selected accordingly.

Technical assistance and training, which are not integral parts of such national approaches should generally not be provided by CNSP because the impact is likely to be very limited.

3. To facilitate exchange of information about all aspects of nutritional surveillance. CNSP should serve as a resource center for nutritional surveillance and, as such, it should pursue activities that will facilitate the exchange of information about surveillance methods, empirical results, priorities, and on-going activities among interested national institutions and individuals and international agencies. Both potential users and those responsible for developing and implementing surveillance should be included.

The activities in this area should include the following: a) monitoring of literature related to nutritional surveillance and performing an abstracting and copying service, b) maintaining an overview of on-going and planned activities related to nutritional surveillance and sharing the information on a periodic basis, c) organizing or facilitating workshops and conferences for specific purposes as needed, d) organizing training courses as needed, e) facilitate the creation of a network and coordinate such a network for the purposes of: i) information exchange including the information generated by the above activities, and ii) facilitating communication among institutions and individuals to identify and exploit ways of mutual support.

These are my thoughts on the matter at present. I have given you only the skeleton for the sake of brevity. Since the above has not been discussed with the Cornell Advisory

Abraham Horwitz  
January 21, 1988

-3-

Committee, some changes may be made before the AID meeting  
in March.

Sincerely,

  
Per Pinstруп-Andersen

PPA/pes

cc: Chrono  
Admin. file

Preliminary Project Proposals

Prepared by the  
Division of Nutrition  
Center for Health Promotion and Education  
Centers for Disease Control

Prepared for the  
Office of Nutrition  
U. S. Agency for International Development

## Contents

### A. Projects related to nutritional emergencies

1. Nutritional status and mortality in nutritional emergencies.
2. Population nutritional status and mortality rates
3. Relative utility of arm circumference as an indicator of mortality risk
4. Optimal numbers of population clusters for rapid nutrition assessments
5. Standards for emergency nutrition assessments
6. Short term emergency consultations/assessments

### B. Projects related to long term development issues

1. Analysis of relevant issues from existing national nutrition data sets
2. Evaluation guidelines and assistance for PVO nutrition interventions projects
3. Malnutrition and measles: epidemiologic review and analysis of relationships
4. Role of vitamin A and zinc status in antibody response to polio and measles
5. Improvements in current international growth references
6. Assessment of severe malnutrition in Micronesia
7. Long term collaboration with nutrition institutions in developing countries

A. Proposed Projects Related to Nutritional Emergencies

1. ANALYSIS - Description of the relationship between anthropometry and subsequent mortality in individual children in Ethiopian feeding programs during 1985-86. Our Division will have access to a large data set collected by an experienced voluntary agency in Ethiopia during 1985-86, a period and setting in which many childhood deaths occurred. The anthropometry-mortality relationship has been explored in stable (chronic malnutrition) settings in several countries (Bangladesh, Papua New Guinea, India). To our knowledge, it has not been examined in a situation of acute malnutrition. Determination of the relative (or excess) mortality risk of severely malnourished children in these settings is important in terms of setting appropriate priorities for intervention. (Necessary support: personnel)
  
2. ANALYSIS - Correlation of the relationship between population nutritional status and the crude or age-specific mortality rates in that population. Is the proportion of malnourished children in a population or the number of calories provided to them in a feeding program a reasonable predictor for - and surrogate of - the mortality rate in that population? Current data suggest that, because the most malnourished children in an at-risk population usually die first, the proportion of malnourished children may fail to increase beyond a certain point, even though high mortality rates are continuing. (Appendix 2) We propose a comprehensive review, examining available published and unpublished data on rates of childhood malnutrition, rations provided, and mortality. We have begun exploring the feasibility of such a analysis; (Appendix 3) (Necessary support: personnel)

3. FIELD RESEARCH - Relative utility of survey or surveillance arm circumference (versus weight-for-height) data as a predictor of subsequent mortality in situations of acute food shortages. A number of investigations have now appeared comparing the sensitivity and specificity of low arm circumference vs weight-for-height measurements of the same children. In reality, these should both be measured against a "gold standard" of child mortality since that is the most important outcome variable. We propose an investigation using existing data, if available, or collecting new longitudinal data on at least several hundred children in each of two or three refugee or famine settings to determine which of these measurements, if either, is superior for predicting child mortality. This is an important issue because, if arm circumference measurements approach measurements of weight-for-height as predictors of child mortality, the technology of rapid nutrition assessments in the field can be further simplified with confidence in the predictive value of the results. (Necessary support: personnel, travel)
4. ANALYSIS - Determination of optimal numbers of population clusters to use in rapid nutrition and health assessments. "Traditional" recommendations have been to use 30 clusters of children or households for these assessments. However, assessment teams are often pressured by resource and time constraints to assess fewer clusters. It is important to determine and compare the precision of estimates based on fewer than 30 clusters as well as how much precision would be gained by using more than 30. Our Division has done some preliminary work on a computer model for this analysis, using two of our existing international data sets. We must be in a position to advise teams as to the minimum number of clusters needed for usable results and to quantify the loss of precision which occurs with reduction in cluster number. More work is needed to clarify these issues. (Necessary support: personnel)

5. CONSULTATION - Development of minimum U.S. Government standards for emergency nutrition assessments. The technology of field nutrition assessments has now progressed sufficiently to allow development of minimum criteria for acceptable rapid nutrition assessments. We propose the development (and publication in appropriate format) of such explicit written standards to provide guidelines for U.S. government agencies requesting, carrying out or interpreting data from rapid nutrition assessments. (Necessary support: personnel)
  
6. CONSULTATION - Short-term consultations for rapid nutrition/health assessments for the Office of Nutrition, AID (ON/AID). Requests for emergency nutrition assessments currently come to us from various U.S. Government sources, ranging from various AID "continent bureaus" to the Office of Foreign Disaster Assistance. The requests come with various degrees of clarity (and appropriateness) of objectives and scopes of work. Division of Nutrition staff, as available, will participate in a limited number of rapid nutrition assessments each year. (Necessary support: personnel and travel)

B. Proposed Projects Related to Long Term Development Issues

1. ANALYSIS - Detailed investigation of current (pre-existing) and new survey or surveillance data sets. CDC staff have participated in a number of international nutrition surveys and nutrition surveillance systems, usually in a role of technical advisor on data collection. Only a basic analysis was done on many of these data sets. They continue to represent an untapped resource for potentially important nutrition information from the developing world and should be further explored.

We propose that a mutually agreed to amount of CDC staff time be devoted to this exploration by DN/CDC and that a corresponding number of analyses be produced each fiscal year. Data available for analyses includes items shown in Appendix 2 which does not include the two most recent surveys in Peru and Bolivia. Examples of issues that could be addressed include: 1) relationships of nutritional status to infant feeding mode, diarrheal disease, health service utilization, immunization status, etc., 2) rural vs urban nutritional status, 3) cross-national differences in patterns of malnutrition, 4) predictive value for child malnutrition of sibling malnutrition or death, 5) breastfeeding patterns in relation to other demographic characteristics, 6) etc.

2. FIELD RESEARCH - Development of practical "low tech" evaluation guidelines for private voluntary organizations working with vitamin A and other nutrition intervention projects in the field. Although a number of publications on project evaluation have been written, most proposed evaluations require the availability of statisticians and other resources not usually available to PVO's in developing countries. Simple epidemiologic methods exist - or can be adapted for - process and outcome evaluations which could be carried out by statistically unsophisticated people in the field. We propose the development and field testing of an evaluation methodology for use by agencies accepting AID funding for field projects. Such development would require DN/CDC's longitudinal involvement in the project(s) from the planning phase to at least the point of the initial evaluation. (Necessary support: personnel and travel)
  
3. ANALYSIS - Clarification of the relationship between pre-existing nutritional status and outcome of measles infection. Measles is estimated to kill 2.5 million children per year. Several recent papers have suggested that malnutrition is not a risk factor for mortality and other outcomes of measles. Other investigators continue to feel strongly that malnutrition is an important risk factor. Recent information suggest that vitamin A and zinc may be important variables in whatever relationship exists between malnutrition and measles outcome. We suggest a critical epidemiologic review of information available in this area, summarizing the findings and proposing guidelines for studies to answer as yet unresolved issues.

4. FIELD RESEARCH - Surveillance for severe pediatric malnutrition in Micronesia. Recent reports, including those from Helen Keller International staff, suggest that severe malnutrition, including xerophthalmia, may be a relatively common condition in Micronesia, various parts of which are in transition toward becoming independent nations. We propose further exploration of the issue of severe malnutrition in Micronesia including summarization of currently available data and onsite assessment in each of several island communities felt to be the most severely affected. (Necessary support: personnel and travel)
  
5. ANALYSIS - Clarification of problems related to the current NCHS/CDC/WHO International growth reference. CDC staff have pointed out in recent presentations the problems which exist with the current international growth reference. These problems consist of a discontinuity in the growth references at 24 months of age, due to the attempted combining of two reference curves from two dissimilar populations. They result in an apparent improvement in nutritional indicators in children who cross this 24 month threshold without any real improvement in their nutritional status. This can lead to important misinterpretations of nutrition surveillance and survey data in developing countries. (Appendix \_). We propose exploring alternative approaches to resolving these issues, at least in terms of minimizing resulting interpretive errors. These solutions would then be incorporated into the P.C. anthropometric analysis software developed by DN/CDC with previous RSSA support.

6. ANALYSIS - Vitamin A status and response to vaccine-preventable disease.

Measles is an important risk factor for the occurrence of xerophthalmia in the developing world. Vitamin A levels have been reported to fall in children with measles. We propose an examination of the relationships between serum vitamin A status and both natural and vaccine-induced measles and polio infections. DN/CDC has access to a serum bank containing large numbers of paired serologies from children in developing countries who had measles or polio or who received measles or polio vaccines. We propose: 1) a careful exploration of the relationships between the occurrence of measles or the receipt of measles vaccine, the child's pre-existing and subsequent serum vitamin A and zinc levels, and the height of the subsequent antibody response and 2) a similar analysis of polio illness and vaccines. (Necessary support: personnel and laboratory)

7. FIELD RESEARCH - Long-term collaboration with institutions in developing countries.

Ongoing relationships with institutions in developing countries are necessary in order to build and sustain local research capacity and to carry out field investigations requiring longitudinal design. We have recently become aware of a unique opportunity for such a collaboration with the Malnutrition Research Center at the Chiang Mai (Thailand) University Medical School. That center, which has been functioning since the early 1970's, is housed in a structure containing 30,000 square feet of laboratory and office facilities and an associated clinical research unit with 24 beds. The center has access to a large number of surrounding villages making up a surveillance area which has been used for numerous epidemiologic field studies.

DN/CDC has been invited to submit research proposals to be carried out jointly with Thai staff and with collaborators from Louisiana State University. The protocols listed below are some of those which would fit into our staff skills and interest, would be of interest to our potential collaborators, could be carried out efficiently in the population under surveillance and which address issues of public health importance:.

1. Relationship of pre-existing iron deficiency to frequency and severity of infections (including effect of supplementation).
2. Relationship of pre-existing vitamin A deficiency to frequency and severity of illness (including effect of supplementation).

3. Relationship of pre-existing zinc deficiency to frequency and outcome of infections in childhood (including interaction with vitamin A metabolism and effect of supplementation).

4. Relationship of pre-existing nutritional status (as measured by anthropometry) to subsequent morbidity and mortality.

5. Relationship of pre-existing nutritional status (in terms of PEM as well as micronutrient deficiency) to frequency and severity of malaria infections.