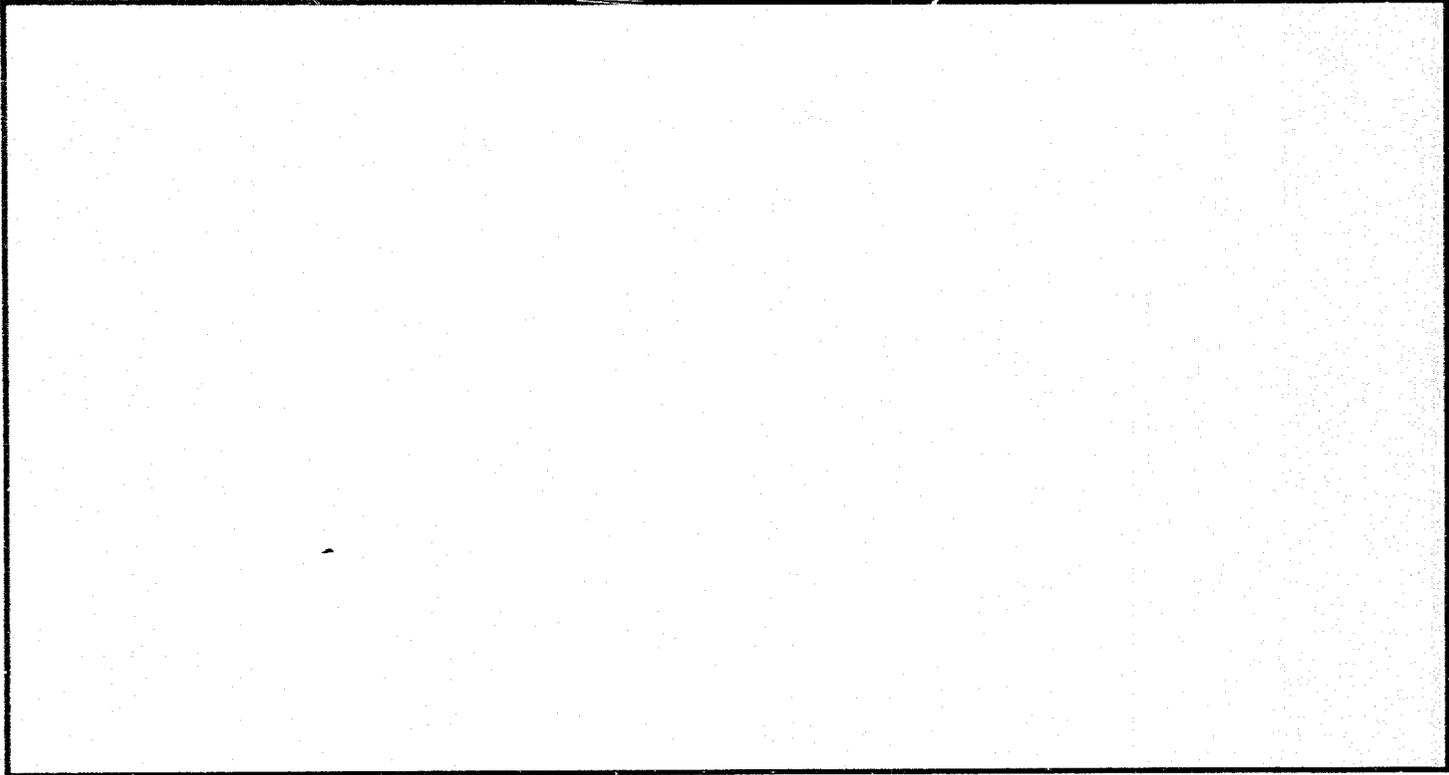


**Report of the Fifth International Conference of the
International Nutrition Planners Forum**

**August 15-18, 1989
Seoul, Korea**



***CRUCIAL ELEMENTS OF SUCCESSFUL
COMMUNITY NUTRITION PROGRAMS***



Sponsored by

**U.S. Agency for International Development
Bureau for Science and Technology
Office of Nutrition**

7/11/89

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Support for the Fifth International Conference of the International Nutrition Planners Forum was provided by the Office of Nutrition, U. S. Agency for International Development, through the Academy for Educational Development's Nutrition Communication Project under contract no. DAN-5113-Z-00-7031-00 (Project #936-5113) and LTS Corporation's International Nutrition Unit.

UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

ASSISTANT
ADMINISTRATOR

February 2, 1990

Professor Mamdouh K. Gabr, Chairman
International Nutrition Planners Forum
162 Tahreer Street
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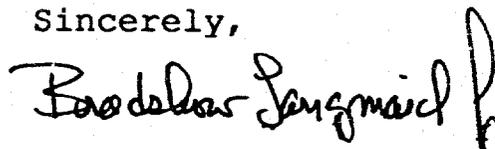
Dear Professor Gabr:

For twenty years, the Agency for International Development has endeavored to help developing countries produce more food and fibre and to help assure that individuals and families in these countries can obtain and consume nutritionally adequate diets. Experience gained in collaboration with various countries on improving nutrition has now been collected and analyzed by nutrition planners at an international conference. The result is a publication, Crucial Elements of Successful Community Nutrition Programs, that lays out a very clear road map for establishing successful nutrition programs.

The publication synthesizes the experience of our efforts and identifies the elements that have been crucial in achieving nutrition program success. It is not surprising that success requires broad participation in the planning and implementation by those who are expected to benefit from the programs and those who are to provide the services. We are finding in other development efforts, as well, that "partnerships"—between service providers and targeted groups, between government and the private sector, between entrepreneurial groups and volunteer groups, and other partnerships—are necessary to establish and, moreover, to sustain successful programs.

I am confident this publication will prove invaluable to development generalists as well as nutrition program planners in governments, in voluntary agencies, and in private enterprise. On behalf of A.I.D., I want to thank you, Dr. Santos, Dr. Jerome, other members of the steering committee and members at large of the International Nutrition Planners Forum for their important contribution to the pursuit of healthier, more productive lives for all the world's people.

Sincerely,



Bradshaw Langmaid, Jr.
Acting Assistant Administrator
for Science and Technology

FOREWORD

This publication is a summation of the main issues presented and discussed in the International Conference on "Crucial Elements of Successful Nutrition Programs".

This is the fifth in a series of conferences held by the International Nutrition Planners Forum (INPF), a non-governmental organization of developing-country nutrition professionals concerned with upgrading the state of nutrition in the Third World. It was felt that discussing the crucial issues responsible for the success of a few selected programs would be a practical way of promoting better nutrition and avoiding failures. We feel this aim has been fulfilled. Linking the conference with the International Nutrition Congress in Seoul was aimed at enabling members to participate in both meetings and at highlighting practical approaches to combat malnutrition in the Third World as an important goal for world nutritionists. We hope these goals have been achieved.

The case studies discussed represent only a fraction of the many successful nutrition projects that have been implemented in developing countries. They were selected as reflecting broad geographical diversity and as illustrative of a variety of community and technical approaches. A few other case studies were also discussed through posters.

As with past INPF meetings, this meeting would not have been possible without the generous support of the USAID Office of Nutrition headed by Dr. Norge W. Jerome. This support covered both the preparatory meetings and the conference. INPF also appreciates and thanks all other international and national organizations that supported the meeting technically and financially as well as our host, the Korean Nutrition Society.

It is hoped that this publication will bring greater awareness on practical approaches to combat malnutrition among decision-makers, researchers, and field workers.

**Professor Mamdouh Gabr
Professor of Pediatrics
Cairo University
and
Chairman
International Nutrition Planners Forum**

PREFACE

This Conference on Crucial Elements of Successful Community Nutrition Programs was the fifth in a series sponsored by the Office of Nutrition, Bureau for Science and Technology (S&T), U. S. Agency for International Development (USAID) under the auspices of the International Nutrition Planners Forum (INPF). In sponsoring this Conference, the Office hoped to achieve one basic goal: to determine whether a group of experienced international nutrition practitioners/policymakers/administrators, intimately involved in community-based nutrition programs, could agree on a set of elements crucial to the success of nutrition programs in poor communities.

I believe that the goal of the Conference was achieved. The answer is an unequivocal "Yes". The precondition, of course, was to have identified for the group a set of nutrition programs judged to be relatively successful and to have the assembled group use selected indices of successful programs in other sectors as a basis for the analysis and discussion.

The results of this conference provide convincing evidence from around the world that nutrition programs can be successful if their design and implementation adhere to the concepts and principles described in this volume. The 14 nutrition case studies from Africa, Asia and Latin America provide excellent illustrative material and underscore the important point that success can be achieved in various types of nutrition programs and in different geographic, political, sociocultural and economic contexts.

It is now possible to refute the charge that "nutrition programs are too complex to plan. . .too hard to do . . .too costly to manage. . .too difficult to evaluate". This is not to say that nutrition programming provides a simple "silver bullet" or "quick fix" to development. There are no "silver bullets" or "quick fixes" to economic and social development. However, lessons learned from this conference point to a key -- a silver key, perhaps -- to unlock the door that keeps partnerships from forming.

Data from the 14 nutrition case studies demonstrate that partnerships are key to successful nutrition programming -- partnerships for community empowerment and ownership. Partnerships between the food/nutrition sector and other sectors; between providers of nutrition services and those at risk to malnutrition; between nutrition specialists and lay people; between designated managers of nutrition programs and community workers; between salaried staff and volunteer workers; between the capital city and village; and between policy makers and the general community.

Norge W. Jerome, Ph.D.
Director
Office of Nutrition
Bureau for Science and Technology
Agency for International Development

ACKNOWLEDGEMENTS

The International Nutrition Planners Forum (INPF) expresses its appreciation to the participants of its Fifth International Conference for their valuable contribution throughout the Conference. In particular, INPF values the formal presentations and comments, the sharing of field experiences, open expressions of views and opinions, and candid discussions of subtle but important issues related to the planning and implementation of community nutrition programs under the real-life conditions of developing countries.

The Office of Nutrition of the United States Agency for International Development (A.I.D.) provided the financial and technical support for the Conference through its Nutrition Communication Project (NCP). A number of A.I.D. country missions, as well as UNICEF, the WHO/UNICEF Joint Nutrition Support Program (JNSP), PAHO/WHO, and the Netherlands Government also contributed by funding some of the participants.

The valuable cooperation of the Organizing Committee of the 14th International Congress of the International Union for Nutritional Sciences (IUNS), particularly of Dr. Sook He Kim, Chairperson of the Steering Committee, in facilitating the administrative and logistic arrangements for the Conference, is also acknowledged.

The INPF Steering Committee with Dr. Jose O. Mora as Technical Coordinator served as the Planning Committee of the Conference. Professor Mamdouh K. Gabr, Chairman of the INPF Steering Committee, was the Conference Chairman. Participants alternated as rapporteurs and moderators of the plenary discussions. Dr. Eileen Kennedy was the general rapporteur.

This publication summarizes the case studies and discussions of the Fifth International Conference of the International Nutrition Planners Forum (INPF), that was held in Seoul, Korea, August 15-18, 1989. It incorporates the notes of the rapporteurs. The case studies were prepared and presented by Dr. B. A. Kodjat (Indonesia), Dr. S. Chawalit (Thailand), Dr. S. Ghosh (India), Dr. C. Mtalo (Tanzania), Dr. Z. Neumann (Brazil), and Dr. A. Pardo (Bolivia). Formal discussants of the case studies were Dr. V. C. Rahardjo (USAID/Indonesia), Dr. T. Gopaldas (India), Dr. S. Gujral (India), Mrs. J. Tagwireyi (Zimbabwe), Dr. J. E. Ariza (Puerto Rico), and Dr. C. H. Daza (PAHO/WHO). Poster presentations were made by Mrs. T. O. Maribe (Botswana), Dr. A. W. Patterson (CFNI/Jamaica), Dr. S. Correu (Mexico), Dr. A. O. Grange (Nigeria), Dr. G. Lopez de Romana (Peru), Dr. J. Eusebio (Philippines), Dr. J. E. Ariza (Puerto Rico), and Mrs. J. Tagwireyi (Zimbabwe).

Logical Technical Services Corporation (LTS) was responsible for the organization and technical coordination of the Conference through its International Nutrition Unit (LTS/INU). The preparatory planning for the Conference was supported by a contract with A.I.D. The organization and implementation of the Conference and the preparation and publication of this report were carried out under the Nutrition Communication Project (NCP), administered by the Academy for Educational Development (AED). Dr. Jose O. Mora and Ms. Charlotte Johnson-Welch, from LTS, acted as Technical and Administrative Coordinators of the Conference, respectively, and prepared the present report. The report was written in English, the official language of the Conference, and edited by Mr. Dennis Ferrara, Th.D. To make the report accessible to a larger developing country audience, it has been translated and published in French and Spanish.

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EXECUTIVE SUMMARY

The Fifth International Conference of the International Nutrition Planners Forum (INPF) on CRUCIAL ELEMENTS OF SUCCESSFUL COMMUNITY NUTRITION PROGRAMS was held in Seoul, Korea, August 15-18, 1989. It was sponsored by the Office of Nutrition of the United States Agency for International Development (A.I.D.) and was attended by thirty professionals from twenty-two developing countries, three from the U.S.A., and by seven observers from international organizations and donor agencies. Following a workshop format, the participants reviewed and analyzed six major case-studies from Indonesia, Thailand, India, Tanzania, Brazil and Bolivia. An additional eight nutrition projects were also reviewed by the group. Critical elements of success of these programs were identified in discussing six major cross-cutting issues: political commitment; community mobilization and participation; human resources development; targeting; monitoring, evaluation, and management information systems; and replicability and sustainability.

A major Conference conclusion is that the nutritional status of poor population groups in developing countries can be significantly improved through nutrition-oriented community development programs if certain critical elements are built into the programs from their inception. It was pointed out, however, that nutrition projects and programs cannot substitute for a country's and government's political commitment to sustainable and equitable economic growth and social development. A comprehensive approach to nutritional improvement, either by incorporating nutritional elements into community development programs or by using a community development approach in nutrition programs, was recommended. It was also emphasized that the quality of personnel and the methods of implementation may be more important than the content of a particular intervention. Institutional and individual commitment to community self-reliance in a broad developmental context is crucial to promote nutritional improvement.

Critical elements of program success were identified in each of six pre-established categories.

1. Political commitment. Firm and consistent political commitment reflected in concrete nutrition financing and action is crucial. Political commitment can be generated from the community needing nutrition services, as well as through advocacy by the technical and scientific community and/or by international organizations.

2. Community mobilization and participation. Effective community mobilization for active participation is essential for nutrition programs to succeed. This is best achieved by involving the community in all phases of program planning and implementation, including needs assessment, decision-making, and program supervision, monitoring, and evaluation. Decentralization of power to the community would facilitate its organization and enable it to identify its own needs, search for solutions, and actively participate in program implementation. Women's groups are key resources for community mobilization and participation.

3. Human resources development. The quality of human resources is an important element. Commitment to community work and strong leadership qualities are basic criteria for staff selection. These qualities are also expected in volunteer workers and in staff paid by the community. Relatively large investments are needed in basic training and frequent in-service retraining. A combination of center-based and field-based training may be the most effective. Skills-oriented and competence-based comprehensive, multidisciplinary training was recommended, with special attention to the training of trainers.

4. Targeting. Appropriate targeting improves the efficiency and cost-effectiveness of nutrition intervention programs by focusing resources on groups or individuals at highest risk and most likely to benefit from the intervention. When malnutrition is widespread, geographic targeting may be enough, but as the level of malnutrition decreases there is a need to combine geographic, household, family, economic and individual criteria. When targeting the poorest regions or communities, development of a minimum service delivery infrastructure is often required.

5. Monitoring, evaluation, and management information systems. A functional management information system (MIS) for ongoing monitoring, evaluation, and decision-making at both the local and upper levels is an important element of program success. A two-way (bottom-up and top-down) flow of information and decision-making should be established, with regular collection of reliable data, timely analysis and interpretation, and immediate feed-back. The MIS need not be highly sophisticated. It should not exceed the program's data handling capacity nor overload community workers as data collectors. A basic MIS includes a minimum set of data and indicators to be collected, analyzed, and used by the community, program managers and policy makers, for decision-making.

6. Replicability and sustainability. These are two inter-related elements of successful programs. Replicability is contingent upon the extent to which program elements, methodologies, and implementation processes are suitable to particular contextual features found in other settings. For nutrition programs to make a difference in the long-term, sustainability of positive outcomes is crucial. This is enhanced by consistent political commitment, active community participation, development of a trained resource base, and affordable program cost-effectiveness vis-a-vis resources available in the country. Sustainability is built in from the planning stage when nutritional interventions are designed within the context and capability of a country's local resources. Effective technology transfer or the creation of cost-effective locally developed technologies would increase a program's sustainability.

I. INTRODUCTION

The Fifth International Conference of the International Nutrition Planners Forum (INPF) on "Crucial Elements of Successful Community Nutrition Programs" was held in Seoul, Korea, August 15-18, 1989. It was sponsored by the Office of Nutrition, United States Agency for International Development (A.I.D.) through the Nutrition Communication Project (NCP) administered by the Academy for Educational Development (AED). The LTS Corporation International Nutrition Unit, a collaborator in the NCP project, organized the workshop and prepared this report.

A. Background

Nutritional problems continue to affect large proportions of the population in developing countries and to contribute significantly to infant and child morbidity and mortality. The rate of malnutrition has remained high in many developing countries and the number of people experiencing food insecurity continues to increase. Nutritional problems are intimately related to poverty and to general underdevelopment. At the same time, a country's social and economic development is impeded by functional consequences of malnutrition such as learning potential and performance, physical work capacity, and reproductive performance. Improving the nutritional status of the poor in economically underdeveloped countries can have a significant positive impact on development.

Actions to improve the overall nutritional status of the poor in developing countries have evolved over the past decades from a specific nutrient fortification approach to broader multisectoral strategies linked to community development in general and to primary health care in particular. Narrow, isolated, selective, often vertically implemented nutrition interventions, which have yielded very limited results, are now leading to more promising comprehensive approaches, integrated within community development strategies.

A number of community nutrition programs from which important lessons could be learned began to be implemented over the last decade. Many have been successful. It seemed useful, therefore, to examine them in detail in order to identify and understand the crucial elements of their success. This was the rationale utilized by the International Nutrition Planners Forum (INPF) in selecting this topic for its Fifth International Conference.

B. Objectives

In line with the philosophy of INPF, the purpose of the Conference was to provide a mechanism for a group of developing country professionals in nutrition and related disciplines to exchange information and learn from each other, to critically review the experiences gained from successful community nutrition programs and projects in order to understand their planning and implementation processes, and to arrive at conclusions and recommendations for decision-makers and program implementers in developing countries.

The specific objectives of the Conference were to:

1. examine in depth and analyze a limited number of case studies of successful community nutrition programs implemented in developing countries;
2. critically review a series of cross-cutting issues affecting program effectiveness;
3. determine universal elements in the planning and implementation processes which lead to successful outcomes, and;
4. draw practical lessons and conclusions that could be usefully applied in planning and implementing community nutrition programs in developing countries.

C. Participants

The Conference was attended by thirty (30) professionals from twenty-two (22) developing countries, and three (3) from the U.S.A. Seven (7) observers from international organizations and donor agencies also attended the conference. (See List of Participants - Annex 1)

D. Conference Format

The Conference was structured as a two-part workshop with the following format (See also Annex 2):

Part 1. Short (30 minutes) Case Study Presentations of selected successful community nutrition programs. Six (6) major programs for formal presentation were selected on the basis of

pre-established criteria for program success including nutritional, political, structural, economic, and managerial considerations. Program presenters were either the program director or a key staff member.

Each presentation was followed by formal comments (15 minutes) by a discussant familiar with the program being presented. These comments followed a common analytical framework based on the pre-established criteria for program success. An open discussion on the paper and discussant comments was then held for approximately 1 hour. The group identified elements in the program's planning and implementation processes which may have accounted for its successful outcomes. (Guidelines were prepared for both program presenters and formal discussants to allow for a uniform format).

Eight (8) additional projects or programs from which important lessons could be learned were also selected for presentation in a Poster Session (2 hours). This was followed by a summary presentation (30 minutes) and plenary session (1 hour).

Part 2. Six (6) plenary sessions were held to discuss the pre-selected criteria of success: (1) Political Commitment, (2) Community Mobilization and Participation, (3) Human Resources Development, (4) Targeting, (5) Monitoring, Evaluation, and Management Information Systems, and (6) Replicability and Sustainability. The discussions helped to identify the crucial elements of program success within those pre-specified, cross-cutting categories.

At the closing plenary session, a summary presentation of the general conclusions of the Conference was given by the General Rapporteur of the Conference. This session incorporated the content and results of the discussions which had been carefully recorded by plenary session rapporteur groups of three participants each.

This report consolidates the formal reports submitted by rapporteur groups of all plenary sessions. It reflects the numerous areas of consensus that emerged in the discussions. Points of divergence were minimal.

II. SUMMARY OF PROGRAMS REVIEWED

A. The Family Nutrition Improvement Program (UPGK), Indonesia.

The UPGK is a country-wide program sponsored by the Government of Indonesia (GOI) in 58,355 villages in 27 provinces. The program is being implemented in 5,642 health centers and 214,025 community integrated health services posts (poysandus). The target groups are children under 5 and their mothers, as well as pregnant and lactating women. The total cost of the program, excluding research and development costs, amounted to US\$35.2 million from 1984-1989 (\$11 million from the GOI, and \$24.2 million from donors). External funding covered program expansion, training, and research and development.

The general objective of UPGK is to improve the health and nutritional status of the target groups through modifications in the nutrition-oriented behavior of mothers. The basic package of program activities includes monthly growth monitoring of children under 5, nutrition and health education, nutritional first aid (e.g., vitamin A distribution for children every 6 months, iron supplementation for pregnant and lactating women, and oral rehydration therapy for diarrhea), food supplementation demonstrations, and home gardening. These activities are implemented at weighing posts managed by community leaders and operated by volunteer cadres using a growth chart as a monitoring tool.

Program impact data indicate that the prevalence of moderate to severe malnutrition among children under 5 decreased from 14.1% in 1978 to 12.8% in 1986 in the program areas. Two evaluation studies conducted in selected provinces in 1986 showed positive changes in knowledge and health practices and a direct relationship between program attendance and improvements in children's weight-for-age. A high degree of program coverage (81% to 98%) was found in a 1989 evaluation in West Java, South Sulawesi, and South Sumatra. However, the program's effect on child weight was lower than expected, and the skills of cadres in nutrition counseling were found to be poor.

Political commitment. The program enjoys very high political support at the central level. It has been explicitly included in the national development strategy since 1974, when the GOI decided to expand the program nationwide and presidential instructions were given to implement intersectoral collaborative community actions. Regional Nutrition

Improvement Boards, chaired by provincial (or regency) heads, were established to coordinate multisectoral activities. The major coordination responsibility rests with the Ministry of Interior, while a national UPGK team oversees it. Intersectoral agreements between the Ministries of Health, Agriculture, Religious Affairs and others were developed in the mid-1980's, after field implementation indicated the feasibility of intersectoral cooperation. The program has now reached a stage at which political commitment is strong, but intersectoral coordination at the various administrative levels needs to be strengthened.

Community participation. Direct community participation takes place through several mechanisms: (1) orientation meetings to inform and motivate community leaders; (2) community needs assessment (self-surveys); (3) coordination of activities through existing community organizational structures; (4) training of village volunteers (cadres) to implement program activities; (5) enrollment of children under 5 for monthly growth monitoring sessions; and (6) in-cash or in-kind contributions by families to support food provisions for the enrollees.

Existing village structures used in the program include "Village Community Resilience Boards", which are directly responsible for UPGK activities in each village, as well as other village-based organizations. The community is mobilized for its decision-making and planning role through discussions and by the implementation and analysis of a self-survey to identify village felt-needs and interests, particularly in regard to infant and child health and mortality.

Human resources development. The basic program activities are implemented by village volunteers, with program training and supervisory support. Criteria for selection include an individual's availability, literacy, and interest. Volunteers are chosen by the community. Rewards for the volunteers are minimal, and can be in the form of uniforms, certificates of award, or participation in donor-funded seminars or contests. Drop-out rates range from 10% to 55%, and replacements generally are selected by the remaining cadres. Initial training may last from 3 to 5 days, with the majority of time spent in lectures. Retraining is done by health center staff during monthly supervisory visits. Cadres are also supervised by the Community Board and through monthly village coordination meetings.

Targeting. UPGK began as a targeted program in 11 rural areas having the highest infant mortality rates in the country. It now has been expanded to all 27 provinces in the country and covers about 85% of all children under 5. The choice of villages to participate in the program is made in cooperation with the Ministry of Home Affairs and is based on the community's typology and the presence of a functioning health center. While all eligible children are encouraged to participate, the program focuses on "high risk" children and mothers. "High risk" children are defined as those who are malnourished or fail to gain weight for three consecutive monthly weighings, as well as those having vitamin A or iron deficiencies. The program currently has a 47% participation rate, with the highest proportion of participants from the lower income groups. High-risk individuals are visited and receive supplemental feedings and referrals to the health center. Health education and food demonstrations are conducted during monthly weighing sessions.

Monitoring, evaluation, and management information systems. The program has a functional monitoring and management information system (SKDN) based on the cadres' monthly reports. These reports are used at the local level and then sent to the higher administrative levels. At the central level, the reports are analyzed quarterly and used for planning and feedback. Three indicators are used: program outreach, community participation, and program impact. Central-level analysis also uses logistical, financial, and personnel data, in addition to the SKDN information, to classify provinces into three categories: "leading", "on-course", and "lagging". The information is used to target interventions. Some of this type of analysis is now done at the provincial and district levels. Quarterly reviews are made by district and subdistrict staff, bi-annual reviews by central and provincial managers, and annual reviews by provincial and district personnel. External information sources, such as the Food and Nutrition Surveillance System, are tapped to provide program impact indicators. A "nutrition information network" was established in 1989 to improve the coordination of the various data sources.

Sustainability. The positive factors that make UPGK sustainable include its intersectoral nature, the strong political commitment of the GOI, the participation of indigenous village organizations in program design and implementation, and the use of trained village-based workers. Factors likely to limit the program's sustainability include: the inability of local resources to keep pace with the

demand for services; the limited scope for improving the quality of services due to institutional and village workers' limited capabilities; and continued need for external funds.

B. The Nutrition and Primary Health Care Program, Thailand

The National Nutrition and Primary Health Care Program in Thailand evolved from a hospital-based program to one focusing on public health nutrition and, finally, to the current community nutrition approach. The program is a collaborative effort of the Ministries of Public Health, Agriculture and Cooperatives, Education, and Interior, and the University Bureau. It is funded by the Government of Thailand (GOT), UNICEF, and USAID, with a projected decrease in external donor contributions and a corresponding increase in GOT financial support.

In 1970, a national-level Food and Nutrition Committee was formed to define, coordinate, and supervise nutrition activities. With the 1982 adoption of the primary health care strategy, nutrition was integrated into the health care system and its activities were designed to strengthen the concept of community development. In addition, the GOT included nutrition as one of the 32 indicators for the 8 components of its "Quality of Life" campaign, begun in 1985.

Major program activities include: (1) growth monitoring and nutrition surveillance; (2) distribution of food coupons for children with third degree malnutrition; (3) nutrition training of community volunteers; and (4) community nutrition education using individual counseling, printed materials, audio visual productions, and mass media. Evaluation data are currently available only from the growth monitoring activities. These data show an increasing participation in these activities, more specifically, in the number of villages and children being weighed every 3 months. The latest figures show coverage reaching 98.4% of the villages and 84.8% of the children under 5. There also has been an upward trend in the nutritional status of children in rural areas, with an increase in well nourished children from 49% to 78% (1982-1988), and decreases in first degree malnutrition from 36% to 20%, in second degree from 13% to 2%, and in third degree from 2% to .04%.

Political commitment. The GOT has demonstrated an increased attention to and interest

in nutrition. With each successive Five Year Plan, the role of nutrition has become more clearly defined and integrated into the configuration of government services. With the adoption of primary health care as the strategy for service delivery, and the 2-year "Quality of Life" campaign, nutrition activities have become more focused on the community and on at-risk populations. The value placed on nutrition by the government is also indicated by its increasing contributions to the national nutrition program, from an annual level of \$1.7 million in 1982-86 to a projected \$4.4 million for the period 1992-2001.

Community participation. The focusing of the GOT's development strategy on community development and the integration of nutrition into the primary health care system have made the use of community resources of critical importance for the nutrition program. Community members participate in the identification of problems and implementation of activities (village volunteers), and in nutrition planning, allocation of resources, and monitoring/evaluation of the activities (village committee).

Human resources development. Specific roles for the villagers include the community nutrition leader (typically an official or recognized opinion leader); community workers and self-selected volunteers (approved by community leaders), who carry out the growth monitoring and education activities; and fund contributors and managers (community members who establish and manage local contributions to support nutrition activities). Community members are selected to voluntarily implement growth monitoring and education activities. Their training is competence-based and takes 2-5 days. They are supervised by health center personnel and village committee members.

Targeting. There are three target groups for program activities: pregnant women, children under 5, and children 6 to 14. Geographically, the program has focused on rural areas, particularly those with high rates of poverty, and on urban slums. Children with second or third degree malnutrition (weight-for-age criterion) are measured for their height; those with less than 90% reference height-for-age receive food coupons, medical referral, and nutrition education, and are weighed 1 month later. All other children are weighed quarterly, and mothers receive nutrition education.

Monitoring, evaluation, and management information systems. The only longitudinal information available at this time is that collected for nutrition surveillance and growth monitoring. Children's weight-for-age remains the sole indicator currently. The Nutrition Surveillance Cell in the Nutrition Division of the Ministry of Health is responsible for all nutrition-related data, which are collected at the village level and sent upward to the health centers, district and provincial levels and finally to the central level. It is used in the villages, as well as by agricultural, community development, health, and other government services at the higher administrative levels for program monitoring and evaluation, and for interservice collaboration.

Sustainability. The shift away from high-cost, hospital-based, care to community-based services has enhanced the long-term sustainability of the national nutrition program. Responsibility for the activities now lies in the communities, with higher administrative levels providing supplemental support. Other factors increasing the program's long-term sustainability are the increased financial allocations made by the GOT, the community contributions (in cash and in kind) to support local costs, and a concurrent reduction in the use of external funds. Integration of community members into nutrition planning, implementation, monitoring, and evaluation also contributes to the program's potential sustainability. Finally, the integration of nutrition activities into the primary health care system and with other government services increases the likelihood that the program will continue in the long term.

C. The Integrated Child Development Services (ICDS) Scheme, India

In 1974, the Government of India (GOI) developed a framework for integrating the services delivered to preschool children (0-6 years of age) and to pregnant and lactating women. This led to the design of the Integrated Child Development Services (ICDS) scheme, which covers entire blocks (rather than individual villages within the same block). The program was initiated in 1975 in 33 blocks; 67 blocks were added in 1978-79 and 100 more in 1979-81. Currently, project activities are carried out in 1,952 blocks having an estimated population of 165 million, including 28 million children 0 to 6, and 6.6 million pregnant/lactating women.

The program is implemented by the state governments and receives financial assistance from the central level. In 1988-89, the GOI contribution amounted to US\$100 million from central funds. State funds provided support for supplementary foods and their distribution. CARE and the World Food Programme (WFP) contributed approximately 55% of the supplemental food. Bilateral donor contributions, such as USAID's, provided support for approximately 3% of the budget. UNICEF contributed 3.5%, primarily for materials and equipment.

ICDS is implemented through an integrative set of services delivered through the "anganwadi" (courtyard centers) by trained community members and health center staff. Their services include on-site and take-home supplementary feeding to children 0-6 and to pregnant and lactating women; vitamin A, iron and folate supplements; immunizations; health checkups and referrals; and nutrition and health education, as well as non-formal pre-school education.

Data collected in a follow-up evaluation conducted in 1987-88 in USAID-assisted districts were compared with 1984-85 baseline information. There was an increase in the coverage of all services provided by the program and an improvement in the health and nutritional status of the target groups, although the majority of the latter were still not receiving all the program services. There was a substantial reduction in severe malnutrition in spite of a severe drought affecting several of the program areas. There was also an increase in the number of children having correctly completed growth charts, although the increase was less among children under 1. The weakest component of the program was health and nutrition education. Overall, the program was found to be effective, with a large part of its success due to increases in coverage and quality of service delivery, as well as to in-service training and close supervision of community workers to improve their technical skills.

Political commitment. The program received its initial impetus from the GOI's recognition that services for children and for pregnant and lactating women would be best delivered in an integrated way. The GOI provides nearly all the financial support for the program and, while the central level plays an active role, decentralization in decision-making and implementation has allowed for relatively efficient delivery of services. Both the central government and the states contribute food to the nutrition supplementation activities, as well as

transportation services for its delivery through the anganwadis.

Community participation. ICDS elicits community participation by creating awareness of the young child's needs, by involving the community in planning activities, and by promoting program activities and the notion that program services are effective through adoption of better child care practices. While the entire community is expected to participate, the program focuses on the mothers of young children.

During the 3 month pre-project phase, project staff contact the villagers. Working with them, a site for the "anganwadi" centers (AWC) is selected, and a community member to be trained as an anganwadi worker (AWW) is identified. Communities contribute to the program through provision of materials and/or labor and cash. Community involvement is maintained by the AWW and other front-line personnel. While the AWWs deliver project-related services, village committees oversee the AWCs and supervise the AWWs. Other community groups assist in raising contributions and in identifying needy beneficiaries in the community.

Human resources development. The training of AWWs is competence-based and lasts 3 months. "Hands-on" practical experience and field work are emphasized. Informal in-service training occurs in the monthly meetings with other AWWs and with the Child Development Project Officers (CDPOs). The AWW receives a formal 2-week retraining after 2 years on the job. Helpers receive 1 week of training, while field supervisor training lasts 3 months and focuses on supervisory skills, program management, administration, and public relations. The CDPO receives 8 weeks of training. All Block Development Officers and health staff members receive a 1-week orientation to ICDS. Supervision occurs at the village, block, and state levels. In the village, the AWWs are visited each month by a field supervisor and periodically by the CDPO. There are monthly meetings of all AWWs in the same sector, as well as of those in the same block, with the CDPO. AWWs submit a monthly progress report to the block-level supervisor.

Targeting. The program carries out its activities within targeted blocks. In choosing blocks, preference is given to those populated by scheduled castes or tribes, or that are economically disadvantaged, or drought-prone, or have either a high prevalence of nutritional disorders or a poorly developed social service system. Urban slums are

also targeted. Blocks are proposed at the state level, in consultation with the District Coordination Committee. Final selection of blocks is made at the central level. Villages and villagers to be trained as AWWs are selected at the block level. Population groups targeted for service delivery activities are children 0-6 and pregnant and lactating women. All members of these groups residing in target geographical areas are eligible for participation in the program, although food supplementation, while provided to all pregnant and lactating women, is restricted in the case of children to those who are moderately or severely malnourished.

Monitoring, evaluation, and management information systems. Data are collected at the AWW level and sent upward. The AWW submits a monthly progress report, providing information on project infrastructure and stocks, personnel and supervisory visits, beneficiaries, services provided, vital events (e.g., births and deaths), and community participation. A quarterly progress report is compiled at the central level, using computer analysis, and feedback is provided to the states. Some states, in turn, feed back the information to the districts and blocks. At the higher levels, the information is used to monitor the implementation process and to make changes and improvements as needed. At the village level, the reports are used for educational purposes, although they are not utilized as fully as at the higher levels. Information is exchanged among other services, as well as within the implementing department.

There has been no regular system of independent evaluation in ICDS. Information from various sources has been pooled to develop a certain level of "collective wisdom", which, over the course of the 14 years of the project, has been used to indicate the program's impact.

Sustainability. The program's sustainability is strengthened by the GOI's support of the concept of integrated services for children and women, the decentralization of service delivery and decision-making, the widespread interest of communities in the program, and the low per capita expenditure for the program as a percentage of total per capita expenditure for all health and family welfare services (15%). The issue now is how to improve the process and expand the delivery of available services. Although additional allocation or re-allocation of funds within the health and nutrition sector will be necessary, the major constraint appears to be the availability of human and institutional resources to keep up with training

requirements.

D. The Iringa Joint Nutrition Support Project (JNSP), Tanzania

To address an elevated infant mortality rate (190/1000 in 1957 and 127/1000 in 1977), which was attributed to disease and malnutrition resulting from insufficient food availability, inadequate child care practices, and a weak basic health care delivery system, the WHO/UNICEF's Joint Nutrition Support Program (JNSP) initiated discussions with the Government of Tanzania (GOT) in 1982. An integrated multi-sectoral plan was developed, and field implementation began in the Iringa Region in 1984.

The Iringa Region, with an estimated population of 1.2 million, was selected for the program since it already possessed an adequate health and nutrition data-base for project activities, had good infrastructure, and was representative of the range of agro-ecological zones found in Tanzania. The program began in 168 villages and was expanded to 610 villages in 1987. The Government of Italy, through WHO/UNICEF, has been the principal project funder, having provided US\$5.66 million for the initial 5 years (1983-88). Tanzanian contributions have totalled approximately US\$70,000, of which 66% has come from the villages, 21% from the region, 12% from the districts, and 1% from central funds.

The use of a conceptual framework based on analysis of existing data and discussions with local leaders has provided a consistent and comprehensive approach. Coordination occurs at the regional level, in the presence of a central government representative (Ministry of Plan), and is provided by a team comprised of personnel from the Ministry of Health, the Food and Nutrition Center, Community Development, and UNICEF. Specific activities include nutrition campaigns, which are carried out in all villages over 3-month periods; growth monitoring, in which all children under 5 are weighed monthly using a community growth chart; immunizations; weaning food preparation; collection of vital information (nutritional status and child mortality); training; and meetings with communities and higher level administrative personnel to discuss the collected information and make decisions to address problems.

A mid-term evaluation, carried out in 1988, indicated that program activities had contributed to

a marked improvement in the nutritional status of children and to a decline in childhood mortality rates. Severe malnutrition rates fell by 70%, from 6.3% in 1984 to 1.8% in 1988. Prevalence of moderate malnutrition was reduced from 56% to 38%. Program success has been attributed to the high level of community organization, mobilization, and participation, the use of a village-based data collection system in the decision-making process, and a major focus on training all levels of society in program-related activities, especially on the causes of childhood mortality and morbidity. There is also a strong central government commitment to decentralization and the development of human potential as key strategies for social and economic development.

Political commitment. Following the GOT's emphasis on community "empowerment" and "self reliance", the program has been able to feed on and into this national development philosophy. Decision-making and coordination is decentralized and the Office of the Prime Minister serves as the National Program Coordinator. Provision of government personnel to participate in the program, as well as the contribution of funds to support program activities, indicates a high level of GOT commitment. Through periodic seminars and training workshops, in which government personnel participate, the program has been able to develop people's awareness of and commitment to improving children's potential through collaborative problem-solving efforts.

Community participation. The program involves all segments of the population, from the villager to central government personnel. While the region is the focal point for coordination, program activities are focused at the village level. Implementation committees coordinate and work with existing community organizations, such as the village councils. Regular meetings provide a forum for discussing activities, identifying problems, and developing appropriate solutions. Community volunteers as well as traditional birth attendants and healers, are trained as village health workers (VHWs). The communities also support the program through cash and in-kind contributions. They have constructed buildings, instituted day care systems, provided food for children's feeding programs, and paid honoraria to community workers.

Human resources development. The program's central focus is the development of human resources. The training involves all levels of

program personnel, from the government officials seconded to the program to the villagers who make the decisions and implement them in their communities. The program has developed a skill-specific "Integrated Training Manual", which is used to train program staff in child care and development, health, and other related topics. Community members selected for training as village health workers (VHWs) have primary level education and receive 6 months of training, including 2 months of intensive, classroom learning and 4 months of practical experience.

Targeting. The program currently covers only the Iringa Region. Program activities were begun in a small area and then expanded to cover the entire region in 1987. While entire villages are targeted as a unit, activities are specifically directed at the mothers of young children for education in child care and feeding; women and youth for income generation; entire families for socioeconomic activities; and mothers and children 0-5 -- the two principal target groups -- for nutrition and growth monitoring activities.

Monitoring, evaluation, and management information systems. The overall management information system (MIS) is based on a "Triple A cycle", that is, assessment, analysis, and action, with re-evaluation at each of the three stages. This concept is implemented at the various levels of administration, from the village to the regional. Using the results of monthly weighings and statistics on childhood mortality, VHWs prepare quarterly reports, which are presented to the village councils. The councils discuss the reports' findings and determine if and what action should be taken. The reports also are sent to higher administrative levels, where they are aggregated and analyzed. Problem areas or problem villages are identified and special support is provided to address them. No baseline information was collected prior to program start-up; instead, 1978 General Population Census data were used. Data collected in the 1984 Nutrition Campaign also provided information on the nutritional status of children under 5. These two sources of information have been used as baseline in assessing the data reported each quarter by the VHWs.

Replicability and sustainability. Program replicability is based on the country-wide representativeness of the Iringa Region. It is anticipated that activities and implementation strategies which have been effective in Iringa would also be effective in other agro-ecological zones in

the country. In addition, given the existence of the same strong social and political organization throughout the country, the program's strategy is likely to be replicable elsewhere within Tanzania. For these same reasons, however, the program may not be as easily replicable in other countries.

The program's sustainability is strengthened by the contributions made by the communities, and by their role in decision-making and implementation; the high level of interest in the program on the part of all segments of the population; and the emphasis on training of the full range of participants within the village and throughout the administrative hierarchy. The GOT's political support for the program's practical implementation of its ideological tenet of developing the country's human resources, as well as its decentralized system, enhance the program's potential for sustainability.

The major factor limiting program sustainability is its relatively high cost. The large capital investment needed for start-up limits not only the program's potential sustainability, but also its replicability. Related costs, such as remuneration of supervisors, may also limit the program's long-term sustainability. It is not yet clear if the same level of supervision can and will be maintained once external funds are no longer available. Recurrent costs, however, will be significantly lower, since the costs of the expansion into other regions within Iringa were not as high as the initial investment, and certain costs can be fully borne by the communities.

E. The Child Pastoral Program, Brazil

This program, initiated in 1983 by the National Conference of Brazilian Bishops, focuses on children 0-6 and on women. Program activities were begun on a pilot basis in seven villages. By 1989, the program had expanded to 7,454 villages throughout Brazil. The program uses existing church structures but makes referrals to government health services and uses government funds to support its activities. The program budget totaled US\$803,320 in 1988, of which 90% was covered by the Government of Brazil (GOB). Until 1987, when the GOB began to contribute through its Ministry of Health and Social Welfare Institute, UNICEF was the major source of funding. In addition to the GOB, funds are now provided by the Brazilian Assistance Legion and by Miserior (international donor).

The primary implementors of the program are community volunteers who are trained as health agents or "leaders". Specific activities are carried out by these leaders (and by government health services through referrals) to improve the health and nutritional status of pregnant women by promoting changes in their feeding habits using locally-available, low-cost supplements, providing tetanus inoculation, and identifying high-risk mothers using arm circumference measurements, as well as by encouraging exclusive breast-feeding through the first 4 months and educating mothers in the use of improved local weaning foods, including rice and wheat bran, ground egg shells, dark green vegetables, and fruits.

Children are weighed each month, and malnourished children are targeted for home visits and referrals. Specific community-based projects to improve nutritional status of all community members, such as vegetables gardens, are initiated and supported by GOB grants. Other activities include promotion of home-prepared oral rehydration therapy (ORT), immunizations, control of acute respiratory infections in the home, early identification of childhood disabilities, and use of appropriate medicinal plants and home remedies as front-line treatments.

While no impact evaluation has been done, there are indications that the program is having positive effects on its target groups. Program data for 1988 and the first quarter of 1989 indicate a fall in the percentage of children underweight at birth from 14.1% to 7.4%. There also was an increase in immunization coverage from 51% to 70%. A slight increase was noted in the percentage of mothers exclusively breastfeeding their children for the first 3 months (65% to 69%). Other data, however, indicate little change in the percentage of undernourished children gaining weight or in the use of ORT in program communities. Reasons for the apparent success of the program include the presence of a strong church structure throughout the country, increased contribution by the GOB, use of community members as the front-line care providers, and the adaptability of the program to meet local needs and constraints.

Political commitment. After having begun as a strictly church-related program in 1983, the Child Support Program has received increasing government support since 1987. This was the result of the demonstrated effectiveness of the program's activities, particularly for children in poverty areas, and the strong level of community participation.

The GOB currently supplies most of the funds and provides grants to support particular community projects. GOB personnel provide technical assistance and health care for referrals.

Community participation. Community participation as defined by the gospel, that is, love of one's neighbors, sharing of knowledge and teaching each other, development of human dignity, and self-help, is the core of the program. Through the use of its existing structures, the church initiates dialogues with communities to determine their needs and priorities. Active members of the community and/or the church identify village women who are then trained as community health agents or "leaders". Implementation of program activities begins with the leaders' acceptance of the program as a means to solve local problems, and with their commitment to participate in it. Each leader is responsible for approximately 20 families and is supervised by the parish program representative. Existing community groups, such as mothers' clubs, collaborate with the leaders in implementing community-based projects, such as animal husbandry and cooperative vegetable gardens.

Factors limiting community participation include the high mobility rates of low-income communities, the limited time available for leaders to devote to program activities, and the communities' traditional habit of passively receiving assistance rather than initiating and being responsible for their own development.

Human resources development. Key to the program are the community leaders, who serve as educational and evangelical agents and as community organizers. The leader is not necessarily literate; if she is not, she uses a "helper" to deal with written documents. This helper can be a family member, in most cases an older child in the family. The leader is a volunteer and is motivated by her dedication and commitment to Christian beliefs and ideals. She is trained as a health promoting agent over a period of 5 days. Training is done in small groups (5-6 participants) by a diocese-based team. Leaders also learn by accompanying experienced leaders. In-service training occurs in the monthly meetings with the parish program representative, as well as through meetings with other parishes and other dioceses participating in the program.

There are parish, diocesan, and state program coordinators, who receive a low salary. Diocesan and state coordinators typically are "religious"

leaders and are seconded to the program by their congregations. Coordinators receive 1 week's training in health as well as in leadership, administration, monitoring, and community organization. Each year, diocesan coordination teams meet by regions to review the program and make projections for the next year's activities.

Targeting. The definition of the program's target group derives from the Catholic Church's priorities and values. The National Conference of the Bishops of Brazil has made an option for giving priority in its pastoral work to the poor. The objective of reducing infant and child mortality and promoting child development naturally led to the targeting of the age group 0-6 and pregnant and lactating women. The target group is always the whole family, not the child in isolation. The program, in its educational actions, works primarily with the mother.

Monitoring, evaluation, and management information systems. In 1988, the program set up a computerized data system based on the monthly reports submitted by the village leaders. These reports are reviewed by the parish program representative and community leaders and transferred to a monitoring sheet. The parish coordinator sends these sheets each month to the national coordination office, which processes the data and prepares a quarterly report. Beginning in mid-1989, these reports have included computer-produced educational messages which reward and reinforce a leader's good performance, call attention to areas needing improvement, and make suggestions for concrete action.

The program has an extensive data bank with the names and addresses of all participants, registries of all communities, numbers of families and children covered, and program performance indicators. Indicators generated from the monthly report are the percentage of children who are exclusively breastfed for the first months of life, receive ORT for diarrhea, are weighed each month, show normal weight, and are gaining weight, as well as the prevalence of low birth weight, mortality data, and immunization rates.

Replicability and sustainability. The program is vertically implemented, with its impetus coming from the church rather than from the community. Its management rests with the church hierarchy. The impressive program expansion between 1983 and 1989 does argue for its replicability within the same church-based structures. Other factors

enhancing the program's replicability include promotion of easily transferable knowledge and practices, responsiveness to the felt needs of communities, and low cost due to reliance on volunteers. The program is based on a strong church presence, which may make it less replicable in countries where this does not exist, or where there is not a high degree of government-church collaboration. Program sustainability rests on the church as a source of stability and continuity, as well as on the level of commitment demonstrated by participating communities. Factors which may limit sustainability include the need of financial support for monitoring and evaluation, and the use of government-sponsored health providers for referrals.

F. The Endemic Goiter Control Program, Bolivia

Designed in 1983 by the Government of Bolivia (GOB), this country-wide program began field implementation in 1984, with financial support from the Joint Nutrition Support Program (JNSP) of PAHO-WHO/UNICEF. GOB interest in designing the program was generated by the results of a 1982 survey of school-aged children which showed a 60.5% prevalence of goiter, a figure which reached 93.5% in some areas, with all communities having a prevalence above 50%. An initial funding of US\$333,000 from the Government of Italy through the JNSP was followed by US\$1,660,000 for the period of 1984-1989. The largest portions were allocated to Epidemiological Surveillance (US\$683,400) and to Iodization and Control (US\$408,300).

The purpose of the program is to control endemic goiter and cretinism through provision of a sufficient supply of iodine in the daily diets. The program has three major components: epidemiological surveillance, salt production and marketing, and education/communication. Activities within these components have included: reviewing existing legislation and technical norms; installing iodization systems at salt production sites and distribution centers; sensitizing the producers of the need for iodization; establishing an epidemiological baseline; and developing appropriate educational materials for improving knowledge and encouraging changes in behavior. The earliest direct interventions were the distribution of lugol to pregnant women, national campaigns using oral and injectable iodized oil, and the distribution of iodized salt through health posts.

Program data from 1989 indicate a positive effect on the prevalence rates of goiter and cretinism as well as on the availability of iodized salt to the general population. The prevalence of goiter in school-aged children was reduced from 60.5% to 20.6%. Iodized salt production increased from 1,860 metric tons in 1985 to 18,067 in 1989, with an increase from 2 salt production plants in 1985 to 33 in 1989 (28 private and 5 cooperative). Cross-sectional data also revealed that 80% of the salt consumed by humans was iodized (98% in urban and 22% in rural communities); also, that 83% of the general population was aware of the problem, with 57% citing iodization as a means of prevention.

Other positive achievements have been the development of appropriate technologies for the production of iodized block salt, the establishment of a National Salt Marketing Company (EMCOSAL), and the decrease in production and marketing costs (\$.75/kg to \$.10/kg). Educational materials were developed, and agreements were signed with the Social Security System and the World Food Programme for the distribution of iodized salt.

Political commitment. The program was an initiative of the GOB, which designed it and requested financial support from external sources. A three-party council, with representatives from the GOB, the program, and UNICEF/WHO-PAHO, oversees the financial and technical aspects. The GOB has seconded its personnel to be trained by and participate in the program, and services are delivered through the GOB's health system. The program is a part of the Primary Health Care System. Other GOB sections, including the Social Security System and the Social Emergency Fund, play active roles in the program. This fund, which is under the direct control of the President, provided support (\$140,000) for the national oral iodized oil campaign.

Community participation. While the program was not initiated by local communities, participation by the Bolivian population has been achieved through program activities. From the central level, where overall management and supervision is located, to the local communities, where services are in demand and are provided, the program has generated active participation by stimulating production, marketing, and use of iodized salt, as well as by providing iodized oil and lugol to the target population. The Program's operational base is in the Regions, using MOH structures and regionally-assigned program personnel. These

personnel, as well as community-level teachers and auxiliary health personnel, are mobilized and trained to educate and provide program services. Community members involved in the production and sale of salt have been organized into cooperatives, and individual private initiatives have been encouraged to promote salt iodization.

Human resources development. Training has focused on service delivery, quality control, and increasing demand for the product. Technicians have been trained in methods of iodization, goiter and cretinism control, and marketing techniques. A central team, composed of medical doctors, industrial engineers, economists, and marketing, cooperative, and social communication specialists, have been trained in methods to meet program objectives, including management and implementation techniques. Salt producers (private and cooperative) have been trained in production and distribution methods.

Health personnel, as well as teachers and students in teacher-training and health science schools, have been trained through short courses and in workshops on the causes and prevention of goiter and cretinism. The general population has been the focus of mass education efforts directed at increasing the knowledge of goiter and cretinism and at stimulating action to prevent and control them. Manuals for health and auxiliary-health personnel have been developed, as well as charts, short stories, flyers, and posters. These are prepared both in the vernacular languages and in Spanish. Supervision is provided by central-level personnel periodically reviewing activities at the regional levels, and by regional personnel regularly supervising activities at the district, area, and sectoral levels.

Targeting. In its initial stages, specific high-risk regions and groups were targeted, but the program now has national coverage. Priority groups are rural, isolated communities, child-bearing aged women, and children under 18 years of age.

Monitoring, evaluation, and management information systems. The Epidemiological Surveillance System and the marketing component of the program collect information on salt production, distribution, and intake, as well as on goiter prevalence and other relevant data to monitor process and measure impact. Every 2 years, school-aged children are surveyed to assess goiter prevalence. Every 6 months, information is collected through sentinel communities on urine and

salt iodine content. Quality control data of iodized salt in production plants and markets are also collected. Information from the communities is interpreted by health personnel at the area levels and transmitted to the health districts and sanitary units, as well as to program personnel. Analysis is done at the regional level, with information being fed back to the communities. An annual report is prepared and distributed within the country and sent to donor organizations.

Replicability and sustainability. Factors enhancing program sustainability include the GOB's financial and political support, the use and improvement of existing resources (including Ministry of Health personnel and local salt producers) to provide services, the development of a system for self-financing through sales of iodized salt, and mass education efforts to increase demand for iodized salt. The high initial capital investment with external donor contributions would limit the program's replicability. The fact that endemic goiter and cretinism were highly prevalent throughout the country, rather than in focal areas, would make this type of program useful only in those countries with a similar level and scope of the problem.

G. Programs/Projects Presented in Poster Session

The Vulnerable Group Feeding Program, Botswana

This program was developed in response to the 1982-88 drought and had three major components: human relief, agricultural relief, and water relief. Its strategy has been to link relief efforts with development work. Besides direct nutrition improvement, its objective has been to create rural employment opportunities to compensate for the loss in income due to a decrease in food production. Using donated foods, the program provides one-third of an adult's monthly nutritional needs through take-home rations, feeds malnourished children at health centers, and develops short-term income earnings through activities such as hand-stamping of sorghum to produce meal for school feeding programs. As a result of the program, there has been an increase in the use of health facilities and in availability of water, and a decrease in the prevalence of malnutrition (from 30% in 1981 to 16% in 1989).

The Joint Nutrition Support Program (JNSP) in the English-Speaking Caribbean

As a result of natural calamities, this WHO/UNICEF-supported program was begun in the Dominica and St. Vincent and Grenadines states in 1984. The goal is to improve the health of women and children by providing support to the existing primary health care structure. Program operational objectives are to: (1) increase the capability of the Food and Nutrition Councils to identify food and nutritional problems; (2) improve the knowledge, attitudes, and skills of community health workers and other health-related personnel in relation to nutrition in primary health care; and (3) strengthen communities' participation in solving health and nutrition problems. The positive results of program activities are attributable to its focus on communities and family units and to the increase in skills and knowledge levels of all program participants.

The Rural Health Program, "Fewer and Better", Mexico

In 1982, the Mexican Institute for Social Security designed a rural health program named "Fewer and Better". Priority is given to interventions in health care and human reproduction, nutrition and self-sufficiency in family food production, and improvement of the rural environment. The basis is a training process eliciting community participation. The following actions are being carried out: training of rural midwives in delivering maternal-child health care and family planning services; training of community volunteers and rural midwives in specific actions to promote health care; and training of local health committees to identify, analyze and develop alternative solutions to basic health and nutrition problems. A participative diagnostic methodology is used for needs assessment and decision-making to solve problems at the community level.

Dietary Management of Diarrhea (DMD) Project, Nigeria and Peru

This action research project, supported by A.I.D., was undertaken in Peru and Nigeria by the Johns Hopkins University in collaboration with local research institutions. It was an interdisciplinary effort to reduce the well-documented nutritional impact of diarrhea on children by improving the dietary management of the disease. Based on

research findings, the most appropriate intervention appeared to be the development and promotion of nutritionally enhanced weaning foods for use during diarrhea. Nutritionally appropriate low-cost foods available to families in the study areas were identified. Prototype recipes combining low-cost, locally available and culturally acceptable foods were developed with mothers, and community-based trials were conducted to refine these recipes and assess their practicality. Clinical trials were carried out to assure efficacy of the recipes during diarrhea. Information about these recipes was disseminated through a variety of pre-tested educational materials. Evaluations revealed that the majority of mothers knew of the new recipes, and a large proportion used them in feeding children during and after diarrhea. A Guide for program planners and decision makers on Improved Nutritional Therapy of Diarrhea was prepared and widely distributed for use in developing countries.

The Barangay Integrated Development Approach for Nutritional Improvement (BIDANI) of Rural Poor, The Philippines

This program postulates that development planning should be oriented to satisfying nutritional objectives. Program activities are directed at causal factors such as low income, underemployment, ignorance, poor water supply and environmental sanitation, and inadequate community participation and organization. Activities include training indigenous workers in extension and communication methods, involving village members in problem identification and solution development, and training village health committees and village health workers in skills to improve the socio-economic status of the communities. Success of the program has been attributed to the involvement of a network of academic institutions, which served to catalyze and maintain program activities, and to the training of different development agencies' personnel for program implementation and support.

Nutritional Improvement in Puerto Rico, 1940-1989

Fifty years ago the overall situation of Puerto Rico was similar to the current prevalent conditions of developing countries. Since then, food availability and intake have improved consistently as part of economic growth. However, improvement in the economic situation and greater food availability did not necessarily mean better nutrition for the whole

population. A comprehensive approach to satisfy the basic needs of the population was needed. A Primary Health Care System was established which helped to improve the patterns of morbidity and mortality. Undernutrition is now mostly under control. However, the population is currently undergoing an undesirable transition from growth retardation to overweight and obesity. The country is shifting demographically from a young to an old population, and welfare programs have increased substantially during the last decade.

The Zimbabwe Supplementary Food Production Program (SFPP)

The program objective is to reduce malnutrition in children under 5 years of age in nutritionally vulnerable rural communities. Program components include: nutrition surveillance; community mobilization; nutrition education and training of management committees, community-based extension workers, and project workers; communal production of nutritious foods; promotion of technologies to improve food production, storage, preservation, processing and preparation; group feeding of children under 5; and integration into ongoing development activities in various sectors. Program implementation has included assessment of the nutrition situation; community mobilization through awareness campaigns; project identification; communal food production; and group feeding. The program structure interfaces with sectoral ministries and Development Committees and includes a National Steering Committee in Food and Nutrition, as well as project communities and provincial, district, and local food and nutrition management teams, and project committees.

III. CONCLUSIONS AND RECOMMENDATIONS

From the presentations, comments, review, and analysis of successful programs by the Conference participants, as well as from the discussions of the different issues across program lines, a series of conclusions can be drawn. The greater emphasis given to some of the conclusions in part reflects the particular experience and interest of the Conference participants. It may also be due to the fact that some topics were covered more in depth than others.

The general message is optimistic. The nutritional status of poor population groups in developing countries can be substantially improved through nutritionally oriented community development programs if certain crucial elements are built in from the programs' inception. There is, however, an important warning: significant improvement in the nutritional status and well-being of the population nationwide cannot be expected solely as a result of nutrition projects, no matter how well planned and implemented they may be. Community nutrition projects may be useful for demonstration purposes to generate political commitment, particularly if they are cost-effective, replicable and sustainable, but there is no substitute for a country's and government's political commitment to **sustainable and equitable economic growth and social development.**

The Conference participants agreed on the need for a **comprehensive approach** to nutritional improvement, either by integrating nutritional considerations and activities within overall community development schemes, or by adopting a community development approach in nutrition programs. The rationale for a comprehensive approach is not merely the notion of complementarity of interventions within and across sectors, but the need to address the problems of poverty and under-development in a systematic and integrated manner. Whereas a number of nutrition interventions to be included in community development programs and/or the primary health care strategy have been well identified and agreed upon, no single set of interventions can be considered the most appropriate in all cases. An adequate mix should be developed within the community, based on problems assessment and the specific local contexts.

Furthermore, there was a general view that the **quality of personnel and the methods of implementation** may be more important in nutrition

programs than the content of a particular intervention. Charismatic institutions and individuals enjoying leadership positions and high **credibility** in the community are the most likely to succeed if they were to apply appropriate nutrition and **community development planning and implementation processes** to nutrition programs. Institutional and individual commitment to **community self-reliance** and well-being within a broad-based developmental context and to programmatic processes and methodologies consistent with such an approach, are crucial to promote nutritional improvement.

Crucial elements of successful community nutrition programs were identified within each of the six major categories.

A. Political commitment

Firm and consistent **political commitment**, reflected in concrete action, was a crucial element of the successful community nutrition programs reviewed at the Conference. Political commitment is usually the result of social pressure. For the community to exert such pressure, it must be organized and able to identify its own needs, search for solutions, and have the means, will, and freedom to implement these solutions. The question of **decentralization** of power and of program operation generated a great deal of discussion. The importance of local planning and community involvement was greatly emphasized. While community pressure to generate political commitment was seen as most effectively achieved by decentralization of power to communities, it was recognized that this is necessarily linked to a government's political ideology. Political systems interested in promoting social development tend to promote decentralization and prioritize the provision of social services to the poorest segments of the population. This implies a judicious combination of **bottom-up and top-down planning**, as in Tanzania and Thailand.

The scientific community and the technicians, particularly the nutritionists, also have important **advocacy roles** in generating political commitment to social development and community nutrition. For this purpose, they should establish effective communication channels with decision-makers to transmit relevant scientific and technical information and to make the felt needs of the community known. Some Conference participants felt that nutrition should be kept out of politics, but this view

was generally opposed. It was argued that adoption of a purely "professional" attitude is unwarranted and even impossible; to refrain from advocacy itself to make a political and ideological commitment.

In many of the programs reviewed, decision-makers were informed, motivated, and convinced of the need to address food and nutrition as a key development issue. This was achieved through the concerted action of technicians' advocacy and community pressure. It was further facilitated when the broad multi-sectoral concept of "food needs", which is more understandable to politicians than the narrow concept of "nutrition", was conveyed. Food and nutrition needs are more clearly conceived as a development priority, amenable to national long-term planning, and not limited to a single sector, such as health or agriculture. There is also a need for good projects with measurable and quantifiable indicators to demonstrate effectiveness in order to convince politicians and other decision-makers.

The programs in Bolivia and Tanzania show that international agencies can play an important role in influencing political will in favor of the nutritional well-being of the community. The agencies should not jeopardize this role by trying to impose pre-conceived notions, by overwhelming developing countries with centrally-designed programs, or by creating in-country competition for funding of vertical projects in areas close to large cities.

B. Community mobilization and participation

An important lesson learned from the case studies is that an indispensable element of a successful nutrition program is **community mobilization for active participation**. While time-consuming, mobilization of the community is vital for ensuring community ownership of the program, breaking down resistance to program activities, and harnessing needed human and material resources. **Women and women's groups** represent a critical resource in this area. Religious leaders, primary school children, and indigenous health practitioners are also important resources that have been used successfully in Brazil and India to mobilize the community for nutrition activities. Mobilization is most effective when it extends to all the communities -- the political, the scientific, the technical, and the administrative -- concerned with assisting people in development. It is easier to mobilize rural communities than urban

communities, which are less well organized and more mobile. The Brazil experience is particularly relevant in this regard.

Active participation is achieved by involving the community in all phases of program planning and implementation, including the assessment of its own needs, the ongoing decision-making process, and program supervision, monitoring, and evaluation. The case studies from India, Indonesia, Tanzania, and Thailand show that active participation is best achieved through an ongoing, interactive process between technicians and the community on the assessment of the community's felt needs and search for solutions, and is greatly facilitated by workshops and orientation sessions to train community members in the use of local resources as well as in technical and leadership skills. These programs also reveal that communities, when well motivated, can participate effectively in nutrition program planning. The key here is to integrate nutrition activities within the framework of a total development program which the people identify and plan for themselves. A package of services for community development, such as in the ICDS, is better appreciated than narrowly focused nutrition or dispersed projects which tend to generate community confusion.

C. Human resources development

The quality of human resources responsible for program planning and implementation is another key element of success. Motivation, leadership, and commitment to community work are basic criteria for staff selection. Judicious use of **community volunteers**, whenever feasible, may increase community ownership of the program and represents a valuable resource. Relatively large investments in human resources, particularly in **initial training and in-service retraining**, are required for successful community work. A combination of center-based and field-based training has frequently proven successful. Trainee visits to successful community programs were found useful for staff training and motivation in Tanzania. Training should be as **comprehensive and multi-disciplinary** as possible, as well as skills-oriented and **competence-based**. The aim is to develop workers' abilities to approach the community and to help the community to identify its problems and search for solutions. Since multi-disciplinary training is often difficult, it may be more feasible to incorporate nutrition components into individual sector training activities rather than to attempt a

vertical, multi-sectoral approach. Training is more effective if based on non-formal techniques and should be continuously updated. Training materials should be developed locally, within the context of the community. Community nutrition workers should listen to the community with a respectful attitude, learn from them, work with them and for them, and provide guidance rather than simply teach them.

Training of trainers needs to be given special attention, as well as the incorporation of nutrition into the academic curricula of formal training institutions at the primary, secondary and university levels. It is important to promote permanent information exchange between training and implementation institutions, as well as more intensive technical cooperation between developing countries. There is also an urgent need to establish closer linkages between centers of higher education and the community, and to have the centers "get their hands dirty" in community development work. All too often, those trained in traditional university settings in industrialized countries approach development problems theoretically rather than practically; they also tend to insist on their own specialty, resisting integrated approaches such as primary health care.

D. Targeting

Appropriate **targeting** is critical to improving the efficiency and cost-effectiveness of nutrition intervention programs. It permits the better use of limited resources by focusing specific interventions on those groups or individuals at the **highest risk** and most likely to be benefited. A specific mechanism is needed to identify, enroll, and follow up on the "high risk" groups in the community. These groups, generally the poorest, are marginalized from society as a whole, including the health care system, and cannot usually be reached unless a deliberate outreach effort is made, e.g., through systematic home visits. Motivating these groups to make use of social services is a difficult task, though some social promoters and others like the local religious leaders in Brazil may have special skills in this area.

While the extent of targeting is determined by the availability of resources, the most appropriate **targeting strategy, criteria, and procedures** will depend on the program objectives, specific interventions, and local conditions. Targeting may be based on geographic, socioeconomic, or

demographic criteria, and make take place on a community, household, or individual basis. When malnutrition is widespread, geographic targeting might be enough, but as the level of malnutrition decreases there is usually a need to combine geographic, household, family, and individual criteria. Some specific actions, such as nutrition education, should be directed to the family as whole. Some nutrition interventions may be targeted to adolescent boys and girls. Targeting should also be flexible enough to adapt itself to changes in nutritional status and needs. For example, individual targeting of children using a weight-for-height criterion may be useful in cases of acute malnutrition, but not when wasting has been overcome or has become infrequent. When targeting the poorest regions or communities, development of a minimum service delivery infrastructure is often needed.

E. Monitoring, evaluation, and management information systems

A well designed **management information system (MIS)** for ongoing program **monitoring, evaluation, and decision-making** is an important element for success. This implies a step-by-step process in which a two-way (bottom-up and top-down) flow of information and decision-making is established, with regular collection of reliable data, timely analysis and interpretation, and immediate feed-back. The MIS does not need to be highly sophisticated and should not exceed the program's data handling capacity. A minimum set of indicators and data that can be collected, handled, and used by the community should be the basis of the MIS. In addition to basic health and nutrition information, including that collected by the community (e.g., growth monitoring data), it is important to make use of all available data from other sectors, such as national statistics, agriculture, food prices, and food availability and consumption information. Periodic use of data for process and impact evaluations should also be considered.

The MIS must be operational at all levels, with a clear definition of the type of decisions to be made at each level and the specific data needed to make them. In decentralized systems, the most critical level for the MIS is the local level (family and community). Since the information is to be used by the community as much as by program managers, both the field workers and the community need to be trained to make decisions on the basis of the local community MIS. However,

community health workers should not be used primarily as data collectors. Computerized data systems may be used at the middle to high levels of the MIS, but not usually at the local level, where simple hand tabulations are more appropriate. In countrywide programs, in which the volume of information proves unmanageable, a sample of program communities or families can prove feasible.

F. Replicability and sustainability

Finally, replicability and sustainability are two inter-related and crucial elements of successful programs. **Replicability** is contingent upon the extent to which program elements, methodologies, and implementation processes are suitable to particular contextual features found in larger settings. Replicable programs are designed with a full understanding of the country's macro-system, and of the communities' infrastructure and cultural background. A straightforward scaling-up of pilot nutrition projects, as they are, without an appropriate contextual analysis and eventual adaptation, is not likely to succeed, no matter how effective the projects were as demonstrations. Small-scale project start-up and the subsequent phased-in expansion call for a great deal of flexibility in program design to allow for local variations, as well as for gradual phasing-out of technical assistance and continuing technical back-stopping at all levels. Successful program experience in Tanzania is illuminating in this regard. Dissemination of effective training strategies and exchange visits by staff from the potential expansion areas may facilitate replications of successful demonstration projects to larger areas. Keeping a program's costs within the country's financial capacity is important to ensure its replicability, as is the development of transferable and appropriate technology. Using existing government structures may increase replicability. Externally-funded projects with extravagant expenditures are not likely to be replicable under most conditions. The introduction of sophisticated technologies is likely to reduce a program's replicability and to increase project and country dependency. Developing countries should not accept projects funded by external donors without consideration of the countries' financial capacity for phasing-in, replication, and expansion.

Sustainability of positive outcomes is key if a nutrition program is to make a difference in the long run. This is enhanced by: strong political commitment; community ownership and

participation in all phases of program planning and implementation; development of a trained human resource base; and affordable program cost-effectiveness vis-a-vis the country's financial capability. Sustainability should be built into the program from the beginning. The country's existing resources, both human and material, must be considered in the program design, and program activities should be sustained basically by local resources. Unrealistic expectations and infusion of donor inputs beyond the country's manpower and economic capacity for long-term sustainability are counterproductive. Effective technology transfer and minimum external financial input are also facets of a sustainable program, as are cost-recovery schemes and mechanisms to provide continuous training of field workers and to keep the program running at a minimum level. A number of small-scale programs that have been initiated under external pressure with large technical and financial inputs and great expectations from both donors and implementers have vanished as soon as external funding has come to an end. This is a negative outcome that generates skepticism and undermines the potential for future community participation in development programs. The pros and cons of relying on volunteer work from the poor was sharply debated by Conference participants. The use of volunteers can reduce program costs and stimulate community ownership of the program, but it may not be sustainable in the long term. All agreed, however, that there is no justification for non-sustainable community nutrition projects.

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A G E N D A

Chairman: Professor Mamdouh K. Gabr
Technical Coordinator: Dr. Jose O. Mora
General Rapporteur: Dr. Eileen Kennedy

August 15

8:00 - 8:30 Opening Ceremony (Camellia Room)

8:00 - 8:05 Inaugural Address: Gabr
8:05 - 8:15 Welcoming Remarks: Jerome
8:15 - 8:20 Welcoming Remarks: Santos
8:20 - 8:30 Conference Format: Mora

8:30 - 12:15 Plenary (Camellia Room)
Moderator: Aree
Rapporteurs: Gujral, Seumo, Ariza

8:30 - 9:00 INDONESIA Presentation: Kodyat
9:00 - 9:15 Discussant: Rahardjo
9:15 - 10:15 Plenary Discussion

10:15 - 10:30 Coffee Break

10:30 - 11:00 THAILAND Presentation: Chawalit
11:00 - 11:15 Discussant: Gopaldas
11:15 - 12:15 Plenary Discussion

12:15 - 2:00 Lunch

2:00 - 5:45 Plenary (Camellia Room)
Moderator: Grange
Rapporteurs: Chawalit, Eusebio, Lopez

2:00 - 2:30 BRAZIL Presentation: Neumann
2:30 - 2:45 Discussant: Ariza
2:45 - 3:45 Plenary Discussion

3:45 - 4:00 Coffee Break

4:00 - 4:30 BOLIVIA Presentation: Pardo
4:30 - 4:45 Discussant: Daza
4:45 - 5:45 Plenary Discussion

6:00 - 8:00 RECEPTION (Lotus Room)

AGENDA (continued)

- August 16**
- 8:30 - 12:15 Plenary (Camellia Room)
Moderator: Rahardjo
Rapporteurs: Maribe, Neumann, Kigutha
- 8:30 - 9:00 TANZANIA Presentation: Mtalo
9:00 - 9:15 Discussant: Tagwireyi
9:15 - 10:15 Plenary Discussion
- 10:15 - 10:30 Coffee Break
- 10:30 - 11:00 INDIA Presentation: Ghosh
11:00 - 11:15 Discussants: Gopaldas, Gujral
11:15 - 12:15 Plenary Discussion
- 12:15 - 2:00 Lunch
- 2:00 - 4:00 POSTER SESSION (Lotus Room)
4:00 - 4:15 Coffee Break
4:15 - 6:00 Plenary (Camellia Room)
Moderator: Ghosh
Rapporteurs: Orraca-Tetteh, Correu, Abosede
- August 17**
- 8:30 - 10:30 Plenary (Camellia Room)
GENERATING POLITICAL COMMITMENT
Moderator: Daza
Rapporteurs: Tagwireyi, Kahn, Freire
- 10:30 - 10:45 Coffee Break
- 10:45 - 12:45 Plenary (Camellia Room)
COMMUNITY MOBILIZATION AND PARTICIPATION
Moderator: Mtalo
Rapporteurs: Gopaldas, Eusebio, Pozo
- 12:45 - 2:15 Lunch
- 2:15 - 4:15 Plenary (Camellia Room)
HUMAN RESOURCES DEVELOPMENT
Moderator: Orraca-Tetteh
Rapporteurs: Ghosh, Daza, Aphone
- 4:15 - 4:30 Coffee Break
- 4:30 - 6:30 Plenary (Camellia Room)
TARGETING
Moderator: Gopaldas
Rapporteurs: Mtalo, Kodyat, Santos

AGENDA (continued)

- August 18 8:30 - 10:30 **Plenary (Camellia Room)**
MONITORING, EVALUATION AND MANAGEMENT
INFORMATION SYSTEMS (MIS)
Moderator: Kodyat
Rapporteurs: Grange, Maribe, Pardo
- 10:30 - 10:45 **Coffee Break**
- 10:45 - 12:45 **Plenary (Camellia Room)**
REPLICABILITY AND SUSTAINABILITY
Moderator: Tagwireyi
Rapporteurs: Rahardjo, Kigutha, Patterson
- 12:45 - 3:00 **Lunch**
- 3:00 - 5:00 **Final Plenary (Camellia Room)**
Chairman: Gabr
- 3:00 - 3:45 **Summary of Conclusions: Kennedy**
3:45 - 5:00 **Plenary Discussion**
- 5:00 - 5:30 **Closing Ceremony (Camellia Room)**
5:00 - 5:15 **Closing Address: Jerome**
5:15 - 5:30 **Closing Remarks: Gabr**