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REPORT
ON
NUTRITION
PLANNING
CONFERENCE

PORT MORESBY
PAPUA NEW GUINEA

NOVEMBER 21
TO
DECEMBER 3
1976

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REPORT
ON
NUTRITION
PLANNING
CONFERENCE

PORT MORESBY
PAPUA NEW GUINEA

NOVEMBER 21
TO
DECEMBER 3
1976

Organized by :

The Foundation for the Peoples of the South Pacific

Sponsored by :

The United States Agency for International Development

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FOREWORD

From November 22 to December 3, 1976 the Foundation for the Peoples of the South Pacific conducted a Nutrition Planning Conference at Port Moresby in the newly independent nation of Papua New Guinea. The Conference was sponsored by the United States Agency for International Development.

It was decided to concentrate primarily on Papua New Guinea and Fiji - these two Melanesian nations between them have nearly three-quarters of the population of the Pacific basin. Hence the bulk of the participants were from these nations, together with delegates from the Cook Islands, the New Hebrides, and New Caledonia.

The aims of the Conference were:

- 1) To promote an understanding of the multi-sectoral approach to nutrition planning;
- 2) To develop a better understanding of the technical and analytical methods that are applicable to nutrition planning;
- 3) To encourage cooperation between the various government Departments and the Voluntary Agencies, in an effort to improve nutrition status;
- 4) To pinpoint some practical nutrition interventions that could reduce the incidence of malnutrition.

The strong Fijian delegation included high level representatives from the Departments of Planning, Health, Agriculture, and Education as well as two Nutritionists working with the Agency for International Development-sponsored FSP program in Fiji.

As the Conference proceeded it became evident that there is malnutrition in Fiji, however the problem is of manageable proportions. It is a matter of harnessing existing resources.

The Papua New Guinea delegation was very strong in Field Nutritionists - (many from Voluntary Agencies working with the Papua New Guinea Department of Health), but less strong in Government Departments' representatives. However, the Departments of

Health, Agriculture and Planning were represented.

Nutrition Planning for Papua New Guinea proved extremely difficult. All agreed that malnutrition was a major and growing problem in Papua New Guinea - it became all too evident that economic development is worsening the nutrition status of the country in an alarming way. But, the diversity of the country - cultural, linguistic, geographic - the primitive character - the logistical problems - everything seemed to conspire against the Nutrition Planners. Certainly the resources exist, but how to harness these resources?

No one felt the Conference solved all the problems. But it did lay out clearly the rigorous, systematic approach that is needed if progress is to be made.

THE FOUNDATION FOR THE PEOPLES OF THE SOUTH PACIFIC

NUTRITION PLANNING CONFERENCE

November 21 - December 3, 1976

PARTICIPANTS

<u>Country</u>	<u>Name</u>	<u>Position</u>
<u>Australia</u>	Peter Heywood	Lecturer in Nutrition, School of Public Health & Tropical Medicine, Sydney
<u>Fiji</u>	W.J. Bi umaiwai	Medical Officer
	Alan Howson	Central Planning Office
	Dr. Apenisa Kuri saqila	Consultant Pediatrician
	Bhair o Lal	Senior Education Officer
	Verona Lucas	F.S.P. Nutritionist
	Lily Makutu	Senior Health Sister
	Susan Parkinson	F.S.P. Nutritionist
	Robin Yarrow	Director of Agriculture
<u>New Caledonia</u>		
<u>South Pacific</u>		
<u>Commission</u>	Bushra Jabre	Health Education Officer
<u>New Hebrides</u>	Patrick Butu	Assistant Health Inspector
	Tousil Sope	Church Health Worker
<u>Papua New Guinea</u>	John Basford	Provincial Nutritionist, Chimbu
	Marian Cast	Regional Nutritionist
	Karin Holst	Provincial Nutritionist, Enga
	Dr. Roy Kamkilakai	Specialist Medical Officer
	Julian Lambert	Nutritionist, Department of Health
	Barbara Lepani	Environmental Quality Officer
	Gus Maino	Area Coordinator for Papua (D.P.I.)
	Ann Menzies	Provincial Nutritionist, East Highlands
	Patricia Pettigrew	Provincial Nutritionist, Eastern Highl.
	Elizabeth Taylor	Provincial Nutritionist, Sepik
	Maggie Lambert	Nutritionist, PNG
	Clare Chidgey	Provincial Nutritionist, Milne Bay
	Jean Winter	Provincial Nutritionist, Southern Hlds.
<u>Cook Islands</u>	Dr. George Koteka	Director of Public Health
<u>UNDP/FAO</u>	Sandra Stephens	Nutritionist

NUTRITION CONFERENCE
November 21 - December 3, 1976

SCHEDULE

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DATE	ACTIVITY	SPEAKER
Sunday, Nov. 21	Official Opening: University of Papua New Guinea Welcoming Address: "Why National Nutrition Planning":	Hon. Barry Holloway, Speaker of the National Parliament, Papua New Guinea Dr. John O. Field, M.I.T., Cambridge, Mass.
Monday, Nov. 22	Aims and Purposes of the Conference: Nutrition Planning and Development: A.I.D.-Sponsored F.S.P. Nutrition Program for the South Pacific: Proposed Nutrition Intervention for Papua New Guinea:	Dr. B. P. Hosie, Director of Operations, F.S.P. Dr. John O. Field Dr. B. P. Hosie Group Activity
Tuesday, Nov. 23	"Improving Nutrition through a National Agricultural Policy": "The Political Parameters of Nutrition Planning": "A National Development Strategy for Papua New Guinea":	Sandra Stevens, Nutritionist U.IDP/FAO Dr. John O. Field Mr. S. Kopi, Central Planning Office, PNG
Wednesday, Nov. 24	"The Political Parameters of Nutrition Planning" Concluded: "The Effect of Malnutrition on Work Output": "The Current State of Nutrition Program in Papua New Guinea": "Papua New Guinea Development Plan":	Dr. John O. Field Dr. Peter Heywood, University of New South Wales Dr. Roy Kamkilakai, Department of Health, PNG Barbara Lepani, Central Planning Office, PNG
Thursday, Nov. 25	"Malnutrition Causality and the Nature of Interventions": "The Fiji Development Plan": "South Pacific Commission Nutrition Programs": "The Need for a National Nutrition Plan for PNG": Papua New Guinea Nutrition Problems:	Dr. John O. Field Alan Howson, Central Planning Office, Fiji Bushra Jabre, Health Education Officer, SPC Julian Lambert, Department of Health, PNG Group Discussion

DATE	ACTIVITY	SPEAKER
Fri day, Nov. 26	"Nutrition Education in Fiji": "F.S.P. Nutrition Program in Fiji": A Critical Assessment of the Proposed Fiji Interventions:	Susan Parkinson, F. S. P. Nutritionist Verona Lucas, F. S. P. Nutritionist Group Activity
Saturday, Nov. 27	Visit to Papua New Guinea Department of Agriculture Wild Life Preserve - Crocodile Farm	
Sunday, Nov. 28	National Nutrition Committee for Fiji	Susan Parkinson and Verona Lucas Group Discussion
Monday, Nov. 29	"Proposal for an Integrated Planning System": "The Planning Process - Target Group":	Barbara Lepani James Pines, V.P., Transcentury Corporation
Tuesday, Nov. 30	Group trip to Papua New Guinea Highlands: Full day discussion - Papua New Guinea Nutrition Plan and Various Interventions	Overseas Group Jim Pines and PNG Participants
Wednesday, Dec. 1	Nutrition Planning "The Food Action Group - A Practical Nutrition Intervention":	Jim Pines Julian Lambert
Thursday, Dec. 2	Project Hypothesis Nutrition Plans for Fiji	Jim Pines General Discussion
Friday, Dec. 3	Evaluation Appropriate Technology A Nutrition Plan for Papua New Guinea	Jim Pines Anthony Power, Village Task Force, PNG General Discussion

NUTRITION PLANNING CONFERENCE

Port Moresby, Papua New Guinea
November 22 - December 3, 1976

OFFICIAL OPENING

The official opening of the Nutrition Planning Conference was held at the Arts Theatre of the University of Papua New Guinea on Sunday, 21st November, 1976 at 7:30 p.m.

The Director of Operations of the Foundation for the Peoples of the South Pacific, Dr. Bernard P. Hosie, welcomed participants and visitors, and introduced Mr. Barry Holloway, Speaker of the National Parliament, who was to officially open the Conference.

Dr. Hosie explained that the Conference was organized by the Foundation for the Peoples of the South Pacific with funds provided by the United States Agency for International Development. This is part of a world-wide effort by the Agency for International Development to educate government leaders and others concerned with national nutrition planning.

Mr. Holloway thanked the Foundation for the Peoples of the South Pacific for the invitation to open the Conference. He felt that it was fitting that he should do so, because nutrition relates to so many areas of government, not merely to health, but to agriculture, education and other areas.

The Foundation for the Peoples of the South Pacific has opened an office in Port Moresby to plan this work, he went on, and the Foundation and the Agency for International Development are doing something of real value for Papua New Guinea and other nations of the Pacific Basin.

Mr. Holloway has been in politics for twenty years, but only in the last three or four years had people in Papua New Guinea, even those in political life, become aware of the extent of malnutrition and of its results. Lethargy, apathy, lack of motivation, poor mental performance and poor output, ill-health and early death - these are all the evil prints of mal-nutrition. Yet most people in Papua New Guinea are quite unaware of the problem, even among Parliamentarians 80% are still unaware.

Papua New Guinea, continued Mr. Holloway, was fortunate in having plenty of land, plenty of water, and a fertile climate, there is no reason for malnutrition. Or rather, no reason that it should not be eliminated through proper education and planning. Farming methods must be improved, land utilized better. Malnutrition must be met by planning and organization, by coordinating the forces of Agriculture, Health, Education, the Public Media. It must be given due priority in planning, not merely in the Central Government, but especially in Provincial Governments. He hoped that this Conference would look at all aspects of planning, and show how to reach the people.

Mr. Holloway promised that his own party, the Pangu Party, would give nutrition high priority. He felt sure other Parties would do likewise. Hence what came out of this Conference could have real significance for the future of Papua New Guinea.

In declaring the Conference open, he wished once more to thank the Foundation for the Peoples of the South Pacific and the United States Agency for International Development.

Dr. Apenisa Kurasaqila, Pediatrician from Fiji, thanked Mr. Holloway and Papua New Guinea for the welcome they had given to the delegates from Fiji and other Pacific countries.

Dr. John Field, the chief speaker of the evening, spoke of the relation between Nutrition and Development. His lecture follows.

Dr. Hosie thanked the speakers and expressed his gratitude to the one hundred and fifty persons who attended the Conference Opening.

NUTRITION PLANNING AND DEVELOPMENT

John Osgood Field,
International Nutrition Planning Program
Massachusetts Institute of Technology
U.S.A.

A formal address inaugurating the Nutrition
Planning Conference, delivered at the official
opening of the Conference on November 21, 1976
at the University of Papua New Guinea.

My topic this evening has to do with nutrition and development, particularly with the relationship between the two. In the course of my remarks I hope to suggest that nutrition planning is an idea whose time has come, even - quite possibly - here in the beautiful islands of the South Pacific.

NUTRITION PLANNING

For those unfamiliar with it, nutrition planning is a logical outgrowth of a policy concern for malnutrition, which - as you know - is one of the most devastating afflictions of poor people and poor societies in the world today.

Nutrition planning is the attempt to identify, develop, implement, and evaluate a range of policies and programs which, individually and especially collectively, have as a priority objective the improvement of nutritional status in a population. Nutrition planning seeks to match resources to need. It is the attempt to link analysis of the problem - as the problem may appear in a particular time and place, with programmatic initiatives to lessen the problem's prevalence and severity. Nutrition planning entails calculation of alternative ways of addressing malnutrition, a very complex problem indeed, with a view to enhancing the probable impact of whatever is done. Within the constraints of available resources, nutrition planning is a conscious, deliberate means of harnessing the capabilities of government and other relevant factors and also of coordinating many different efforts - be they in health, education, agriculture, community development, or whatever - in a multi-year, multi-sectoral program of action.

Permit me to put nutrition planning in brief historical perspective.

In combating malnutrition, as in other respects, there would seem to be three models: the Western, the Communist, and the Third World.

Malnutrition in Western Europe and North America was, for all intents and purposes, eradicated in the course of economic development. The generation of new wealth during and after the Industrial Revolution and the dispersion of that new wealth throughout society, combined with medical and other health-related breakthroughs, enabled Western countries to substantially eliminate under-nutrition without consciously attempting to do so. The process was evolutionary, unplanned, and it took a very long time to complete.

Malnutrition in Communist countries has also been substantially eradicated. As in the West, the process seems to have been essentially unplanned. However, unlike the West, the process has been revolutionary and it has taken place in a fairly short period of time. The key has been

a fundamental transformation in the exercise of political power, combined with a social revolution: the destruction of an inherited order and its replacement by a new system of beliefs, new instrumentalities of rule, and a new capacity to produce change. Malnutrition does not appear to have been addressed explicitly as a particular focus of planning. Rather, nutritional considerations have been so embedded in a matrix of public health services and the extension of those services has been complemented by well-chosen reforms in agriculture, education, local public works, and community development generally that nutritional problems have tended to be addressed almost as a matter of course.

Malnutrition in the Third World is being addressed, if addressed at all, by nutrition planning. The approach represents a "middle way". It rejects the evolutionary progress of Western societies at the same time that it seeks a viable alternative to the disruptive, revolutionary prescriptions of the Communist model. The rationale for nutrition planning is that it enables governments to address malnutrition explicitly, whatever else they may be doing. It seeks an immediate, focused response to a particular problem, without waiting for development to "trickle down" and without requiring a wholesale transformation in the nature of society.

PERSPECTIVES ON MALNUTRITION

The remarkable thing is that nutrition planning is made possible by an important shift in perspective concerning malnutrition.

Traditionally - indeed, as recently as five years ago - it was widely believed that malnutrition is an indicator of underdevelopment. And it was believed that the solution to malnutrition lies in the process of development itself. Promote development and malnutrition will go away.

Today, malnutrition is seen not merely as a reflection of underdevelopment but also increasingly as a barrier to development, a barrier affecting human capabilities, productivity, and even the willingness of families to practice family planning.

There is today invigorated concern for the social and economic costs that flow from high mortality, lessened physical capacity, impaired learning and social adaptation, even mental stunting - all impediments to creativity and fulfillment, individually and collectively, and all very much products of malnutrition.

There is also increased appreciation for the significance of malnutrition for other policies and concerns of government in health, education, family planning, and even with regard to rural-to-urban migration. This is a major theme to which I shall return in a moment and it is one which we shall certainly develop more in detail during our conference. Suffice it here to say that the existence of malnutrition conditions the effectiveness of other programs and that the suppressant side-effects of malnutrition in many other social sector endeavors are becoming quite clear.

PERSPECTIVES ON DEVELOPMENT

Not only has there been a shift in perspective concerning malnutrition, the concept of development itself has broadened to include a vast range of concerns associated with human well-being which had previously been dismissed as "welfare". As a result the governments of many low income countries have begun to take a hard, second look at their development strategies with a view to addressing the poverty and low productivity of rural areas, which - God knows - have been development's neglected country cousins during the initial enthusiasm for rapid industrialization.

The background of this shift in priorities is of some importance to nutrition planning and, hence, to our proceedings in this Conference. Permit me, therefore, to review development theory in a summary way and to draw from this review an inference or two concerning nutrition planning.

Throughout the 1950's and during most of the 1960's, development theory emphasized the expansion of capital stock and investment in capital goods production. Rapid industrialization was widely accepted as the most expeditious path to development for low income countries. Billions of aid dollars and many billions in indigenous resources were spent to promote economic growth, most of that money going to the urban industrial sector. Agriculture was typically shortchanged, and in some cases the rural hinterlands were forgotten entirely. The so-called "early development school" viewed expenditures on social programs (health, nutrition, etc.) as welfare, equating them with consumption rather than with investment, although planners at the time did indeed speak confidently of a "trickle down" effect that would distribute the benefits of increased production.

Two evolutionary departures from this growth-oriented model of development have taken place over the past decade and a half, resulting in a significant erosion of the early consensus concerning development. One departure reflected the fact that industrialization has not proceeded as smoothly as had been anticipated under the banner of capital

accumulation. The other departure emerged in response to the failure of development to improve the life circumstances of the great majority of people in low income countries, most of whom have remained largely unaffected by the gains made.

And so, as early as the latter 1950's, economists began to formulate notions of "human capital", arguing that investments in people could be just as important for development as investments in heavy goods and equipment. The emphasis on productivity as the essence of development persisted, but the conception of social expenditures as legitimate developmental concerns gained widespread acceptance. In a variety of issue contexts, from education to health, the idea of "bubble up" - unleashing human creativity - assumed a fashionability rivaling that of conventional "trickle down" theory. Nutrition advocates, to cite one example of interest to us here, sought to identify ways in which malnutrition constrains human productivity potential.

More recently, the very centrality of productivity in thinking about development has come under challenge. Building on the human capital idea while departing philosophically from it, a new "modern development school" has emerged proclaiming the primacy of popular well-being and the quality of life. The objective of development, according to this school, is not productivity or growth per se. Rather it is "the sustained reduction of deprivation". Enhancing productivity is not dismissed in this conception; it is reduced from an end unto itself to a possible means for achieving "the successive relaxation of systemic obstacles to the full realization of...human potential". Equity and growth are not so much conflicting goals as they are alternative but compatible ways of improving the human condition, which is now the sine qua non of development. What is new in this perspective is not that it rejects traditional theory but that it requires development planning "to show a direct and immediate concern for deprivation and to demonstrate the link between its reduction and increased levels of production."

Complementing this incorporation of humanism into development has been a growing realization of the extent to which various components of human deprivation go together, reinforcing one another negatively and making it extremely difficult for isolated interventions against them to produce the impact desired. Malnutrition, infant mortality and rampant morbidity, illiteracy and ignorance, low productivity and marginal livelihood, large family size and unresponsiveness to family planning programs cohere so strongly that they form a veritable syndrome of poverty, cultural and structural, that is highly resistant to change. Planners have come to appreciate the synergisms involved and to perceive the need for multi-sectoral planning and integrated interventions. If the problems are synergistic, the solutions must be as well for progress to occur.

The interest in malnutrition as a developmental problem had its origins in the concern for human productivity appended to traditional development theory. However, this interest has been sustained and broadened within the "deprivation" framework. Probably no form of human deprivation is more tragic, morally distasteful, and inhibitive of change than is pervasive, chronic malnutrition with all its dire side effects. Physical stunting, deteriorating health and susceptibility to disease, impaired learning and reduced capacity for work, possibly even irreversible brain damage, are the longer-term effects of malnutrition which come into play when its most serious immediate effect - death in early childhood - is surmounted. By circumstance and by disposition, the malnourished and others comprising the peripheral poor are passive. They do not gamble with new ideas and techniques, and they do not avail themselves of new opportunities. Their conservatism is a product of their vulnerability. Development, in the form of expanding wealth, typically passes them by. People on the margins of survival are neither beneficiaries of development, nor are they participants in the process. They live in another world.

It is possible to argue, of course, that programs to alleviate the multiple sufferings of the poor in low income countries are not developmental programs at all, that they are little more than the familiar welfare efforts of the past wrapped in new labels, and that foreign aid designed to assist such programs - child feeding, for example - is also as humanitarian today as it was before the deprivationists were around to elevate it to the status of developmental aid. One can be quite hardnosed in insisting that development, for it to mean anything at all, has to mean the generation of wealth first and foremost. Just as distribution is not growth, greater well-being is not development unless it can be shown to contribute to productivity.

What the "new development school" has done, essentially, is to turn this last definitional statement around. Improved productivity is not development, or at least the totality of development (it certainly is not its most important aspect), unless it contributes to greater popular well-being. China's standard of public health, possibly the highest of all under-developed countries, is as much development, given the situation prior to 1949, as is Japan's industrial input. Reducing the incidence and severity of malnutrition in Cuba is a form of development no less worthy than India's dramatic experience of economic stagnation. In countries like Sri Lanka and Uruguay, few in the deprivation tradition would dismiss considerations of growth out of hand. Nevertheless, their emphasis is on people as against product.

The fervor of the deprivationists is fueled, moreover, by two poignant considerations: the widely recognized fact that low income groups have benefitted little, if at all, from conventional productivity - oriented development, and the growing sense that a reduction in population growth requires, as a precondition, clearly perceived opportunities for improved well-being on the part of the people involved. Indeed, if the "child survival hypothesis" is even partially correct, combating mal-

nutrition becomes an important ingredient in making family planning a more acceptable and pervasive practice than it now is. Seen in this light, what on the surface might appear to be welfare - providing food supplements to the children of indigent families, improving their health, and otherwise promoting their survivability - is really part and parcel of development.

INFERENCES

The strength of the "deprivation addendum" to development theory, in my view, is that it makes people the focus of development, not irrelevant bystanders or cogs-in-the-wheel. Its weakness - if I may say so - is that it comes very close to equating development with welfare quite apart from the resource base and productive capacity upon which welfare ultimately rests. Almost anything can be claimed as development if phrased properly.

What the deprivationists need to acknowledge more prominently than they have is the importance of durability. Improvements in the human condition which cannot be maintained under normal circumstances are hardly signs of development. Combating malnutrition may be a legitimate developmental concern, but enhanced nutritional status that is dependent on charity to maintain it is not development. Eliminate the outside imports, and the gains will be reversed. At the very least, the reduction of deprivation has to be sustainable, and the ability to sustain it has to be indigenized by countries and regionally within countries. For nutrition interventions to be really developmental, therefore, other kinds of change - more traditional, productivity kinds of change - are necessary as well.

This means that we cannot allow nutrition programs to become just a sop to poor peoples and regions. Nutrition programs must be a part - indeed an integral part - of a broader strategy of development. Isolated efforts may be better than none at all, but we should recognize that the results of such efforts are likely to be marginal, if only because there is such a mismatch between the problem - a complex syndrome of poverty - and the response to it in the form of a nutrition intervention.

The past is instructive on this point. If there is one outstanding lesson to be learned from the history of most nutrition interventions to date, it is that isolated inputs are not sufficient. Nutrition programs accomplish little when they are introduced into an otherwise unchanged environment. And yet efforts to improve nutrition have often been a well-intentioned "shot in the dark". The result is that nutritional services, of one description or another, are given to needy people, but little else takes place to liberate them from the multiple constraints of their poverty. If the track record of nutrition interventions is quite spotty in this regard, the reason is the "stop gap" quality of much of what has gone on.

It is this "stop gap" quality which can no longer be accepted. For nutrition programs to be more than humanitarian, they must be an integral part of a broad-gauged intervention strategy whose purpose is to restructure the environment in which marginal productivity and livelihood dominate. Without a sustained governmental effort in this direction, the immediate nutritional benefits derived from supplementary feeding nutrition education and health care will remain unsupported, and in all likelihood the gains will prove short-lived barring continuous change that unites reduction of deprivation with increased productivity, allowing each to be part of the other and both to be self-sustaining. The need, in short, is for a comprehensive governmental program for rural development.

The challenge before us - as opportunity permits - is to embed nutrition interventions in a broader matrix of programs designed to curb population growth and to promote greater productivity and well-being among the rural poor.

It is here - at this moment of opportunity - to reorient development, conceptually from productivity alone to deprivation and productivity combined and spatially from urban centers to the rural periphery - it is here that malnutrition moves to center stage, and it is here that central and regional planning come to the fore as well. All I am suggesting is that concern for malnutrition and development planning embrace one another.

The logic is there.
The time is right.
Nothing less will really do.

RELEVANCE TO PAPUA NEW GUINEA

When I began to think these thoughts and commit them to paper, I had no way of knowing how relevant they would be to Papua New Guinea. Since coming here, I am inclined to believe that they are quite relevant indeed, granted that my exposure to this country has been brief and fragmentary.

For Papua New Guinea is predominantly an agricultural country which, ironically, imports almost a fourth of its food supply. Malnutrition among pre-school children, along with infant and early childhood mortality, is extensive. With a rapidly growing population both the country's food needs and its malnutrition may be expected to increase - unless corrective action is taken quickly. Compared with many low income countries, Papua New Guinea spends considerable sums of money on public health. Yet morbidity remains a serious problem, and much of it is malnutrition-related. Moreover, Papua New Guinea - if I may say so - is a logistical nightmare. Simple access to people in need is itself a formidable problem, quite apart from capacity to produce change among them. Finally, it would seem that few families victimized by malnutrition really think of malnutrition as a

problem amenable to corrective action. It is as though malnutrition were an accepted fact of life. This makes it all the more difficult for the government to secure the necessary public support and cooperation in its efforts to provide nutritional services. The challenge to good planning is obvious!

Fortunately, Papua New Guinea is ripe for nutrition planning. The data on the problem, while incomplete, are disturbing. Concern exists, as do some resources, and programs may already be found. The principal need, at this point, is to put the pieces together, which is - after all - what nutrition planning is all about.

A FINAL WORD OF CAUTION

I should like to close on a word of caution: beware of people like me.

Nutrition planning experts are all over the place, but very few of them - myself included - have ever done any real nutrition planning. You may infer a credibility gap if you wish. Moreover, nutrition planning "experts" (and I now put the word "experts" in quotation marks) are inclined to be self-serving. My advice, therefore, is that should you use outsiders, don't let them use you. They are resources at your command, but in order to use them effectively you must be in command.

There is good reason for this because the most important expertise in nutrition planning is knowledge of the territory. Outsiders typically lack this knowledge and, consequently, are likely to be insensitive to your requirements and constraints. Outsiders are inclined to be too "rational", demanding, and hence, unrealistic. They are inclined to push their pet theories on you while leaving you to bear the consequence. In short, outsiders are inclined to use you for their purposes.

Do not allow this to happen. By all means draw on the international community of consultants, as appropriate, but do not rely on such people excessively. The best nutrition planning is done at home and by people who have a keen appreciation for the feasible as well as the possible.

DAY ONE - Monday, 22nd November 1976

At 8:30 a.m., Dr. Bernard Hosie welcomed the participants and gave details of the arrangements at Bomana. (The Conference site and residence for participants.)

Dr. John Field spent the first hour discussing what nutrition planning is - and what it is not. While it means different things to different people, most would agree that it demands an analysis of the situation.

Until 10 or 15 years ago it was fashionable to assume that malnutrition was a protein deficiency - most studies had been made in West Africa in the early period. Experience in countries like India had shown the problem was wider than this. Jean Eng, who is working in the Papua New Guinea Highlands, has found calorie deficiency - which in turn led to protein deficiency.

Just as one must analyze, not presume, the problem, one must not predetermine the solution. In nutrition planning one must establish the case for this intervention rather than another.

The third dimension of nutrition planning is the setting of goals, identifying targets, and allocating resources. More than this, one must look at the entire process by which the nutrition intervention is to be established. How move from the present situation to an improved one? One must be as specific as possible. Ask - with the resources available are the goals realistic? What assumptions are built to the planning?

Planning does not cease when action begins. It is an on-going process. Activities must be monitored and plans reformed as experience demands.

Monitoring and evaluation are connected.

One does not merely evaluate at the end to distribute praise or blame. One constantly evaluates to determine how successful or unsuccessful the intervention is - and to make whatever adaptations are demanded. If, as is often the case, one does not have sufficient data to begin with, then the program itself must be data generating.

Nutrition planning is nothing more than applied common sense. It rests on an informed knowledge of the situation - the constraints - the resources - the aims.

The best planners are not people far away in a University, setting up their models and their computers. They are the people in the country, of the country, people who know their own culture, traditions, needs, and limitations.

NUTRITIONISTS vs. PLANNERS

The second half of the morning consisted of a debate between people directly concerned with nutrition and the government planners.

The Nutritionists put up a series of arguments which, they claimed, proved that the Government should increase its financial commitment to nutrition. The task of the Planners was to examine critically these arguments, and point to the conflicting claims of the other Departments.

The exercise was enjoyable as well as successful. The Government admitted that the Nutritionists had made a sound argument in favour of nutrition.

Afternoon Session:

A.I.D. Nutrition Grant

Bernard Hosie spoke to the Conference about the Nutrition Grant that the Foundation for the Peoples of the South Pacific had negotiated with the United States Agency for International Development. He described the history of the grant, the problems encountered, the nature of the final agreement.

Dr. Hosie explained that the implementation of the Grant was an excellent example of the point made by John Field - that it is necessary to be ready to replan a project. Originally, F.SP. had intended the main thrust of the Grant to be in Papua New Guinea, it quickly became evident that much greater impact could be made in Fiji. A.I.D. had accepted the replanning.

Dr. Hosie described the various elements of the Grant. In particular, K18,000 has been allocated for a nutrition intervention in Papua New Guinea. What did the participants feel was the best way to carry out this intervention?

One possibility is to work through a recently set up women's organization in the Papua New Guinea Highlands. He presented this to the Conference as one possible intervention. He would like the Conference to evaluate this and give their view of its possible effectiveness. He wanted them to propose alternative solutions they felt would be more effective.

GROUP DISCUSSIONS

The Conference was broken into two groups of about ten in each. Group discussions went on for an hour, then the two groups came together and each briefly presented the lines of their discussions.

Both groups were critical of the Kuman Yangpela Didiman project, while it did have nutrition elements, its main thrust was towards women's development rather than nutrition. Further, some of the project hypotheses were of doubtful validity.

For example, it could not be assumed that if the women grow more vegetables and marketed them that nutrition status would be improved. Perhaps they would use the money for other purposes.

The first group put forward several possible ways of spending the available funds:

- 1) An intensive Nutrition Project in one village, evaluating as the project proceeds. A high input in a very small area. However, K18,000 was not enough money, and two years not enough time. The South Pacific Commission are planning a Nutrition Intervention and had spent two years simply gathering the data.
- 2) Distribute red palm oil and/or peanuts in the Highlands as a protein supplement. But considerable organization and capital would be needed for this.
- 3) Educate selected Standard VI leavers and send them back to their villages to teach their fellow villagers.

In general, they emphasised that nothing could be achieved at the village level until the village people themselves became aware of malnutrition as a problem.

Group two had looked mainly into the Chimbu area, where half of the children are malnourished. However, they had not come up with a solution. They had discussed the elements of the problem - customs - breast feeding of babies, etc., and a number of possible solutions. They needed more time to consider the question.

It was felt that the exercise had begun to develop a real group dynamic that promised well for the Conference. Later the participants wished to return to this problem.

DAY TWO - Tuesday, 23rd November 1976

Improving Nutrition Through Integrated Rural Development

Sandra Stephens

Sandra Stephens is a Home Economist from New Zealand who is also a qualified secondary school teacher. After graduation she went as a volunteer to Fiji, working with Susan Parkinson, Dietician with the Fijian Government. She later worked in Sri Lanka, and became convinced of the importance of rural social development. She then completed a degree in rural social development at the University of Reading (England). In 1975 she came to Papua New Guinea as an Food and Agriculture Organization (United Nations) representative to introduce the subject to the Agricultural Colleges, where women had just been admitted for the first time.

Sandra was not happy that the women should be given a separate course in Home Economics, and at once began working toward an integrated course for men and women. This was introduced last year.

"Like most Home Economists I believe women are a despised species in development. I have also a hang-up about integrated rural development."

Ms. Stephen's lecture follows.

Introduction

Much has been written and said about the need for integrated rural development through collaborative planning and action by interested agencies. Little of this concept has been realised, and villagers continue to be confronted by a variety of extension personnel pushing their individual components of "development". The resulting chaos has frequently negated many of the benefits one may expect from the introduction of health services, schools, cash crops, and modern technology.

Where real rural development has taken place, levels of nutrition, health, housing, education and employment opportunities which are the overall goals of national development have improved significantly. An analysis of the difference between these and less effective development programmes generally shows a broader based concept of development than pure economics. The human or social resource potential has been included from the beginning, and development seen as an integration of social and economic factors.

Agricultural development usually has as its primary objective the increased output of primary produce. Rural development is a broader based concept of "whole-of-life" development. Individuals involved in effecting development however are employed by departments or agencies and commitment grows towards that organization's objectives. Thus each agency worker tends to see his own priorities as most important, and cannot easily relate these to the whole context of rural improvement. While the implications of better nutrition may be clearly related to worker productivity, a non-nutritionist may not be able to see his role in relation to the improvement of nutritional status.

The problem of malnutrition in the Pacific region appears to be largely a social problem. Thus social factors need to be taken into account in the original development planning process. Direct inclusion of such factors in planning creates certain complications of definition and measurement because social factors include a wide and diverse range of items, many of which are not quantifiable.

The cost of inclusion of social factors thus cannot always be justified in specific cost-benefit terms. This may make the allocation of the necessary resources difficult since returns on investments cannot be easily cited, and some social factors stand in different relation to economic factors than do others. Resources for the kinds of social development which must accompany any rural improvement strategy must be allocated in the light of long term investment benefits for the programme as a whole, and not justified in absolute terms. The cost of not integrating planned social change with economic development can more easily be demonstrated in the many projects all over the world which have foundered on unforeseen social resistance or associated problems.

Even when an integrated approach to rural development is adopted, the difficulty of maintaining an interdependent socio-economic growth pattern is complicated by the difference in social and economic patterns of growth. Ideally social development programmes should complement the success of agricultural development in raising the economic status of rural families, with a parallel improvement in the social aspects of community and family life.

Integrated Rural Development

For a rural family, agricultural development technology may intervene in a cycle of poverty, poor health, ignorance and low productivity to increase yields and thereby increase family income. While the economic benefits derived from this kind of development may provide the means for family life improvement,

it does not automatically follow. Better food, better health and an increase in the capacity of adult family members to work and the children to develop physically and mentally may also mean that the child mortality rate is lowered, and that more children will live and have to be provided for. On the other hand as we see in the New Guinea Highlands during this year's exceptionally high coffee prices, that coffee growers spend additional income on short term satisfactions and derive no long term benefits for themselves or their family.

An increase in agricultural production may thus be insufficient to bring about a long term improvement in the standard of living for rural families. Development always means change, but not necessarily change for the better. Intervention at any point in the natural order of rural life therefore must be part of a comprehensive plan for economic and social change which originates at the national level and is implemented by families at village level, with the help of field extension personnel who are conversant with and committed to the whole plan. This is integrated rural development for family life improvement, and nutrition is a basic part of it.

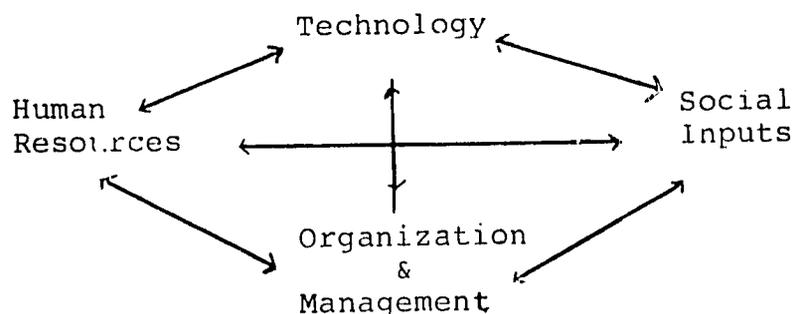
Improving Rural Life through Integrated Rural Development

In the search for more appropriate rural development strategies, integration has become a popular word. It is seen as a key to the economical use of scarce resources and the reduction of conflicting demands upon recipients of development inputs. The words co-ordination and collaboration are often used to imply the harmonious combining and integrating of more than one service in a given rural area. Too often however, the terms are no more than words on the lips of planners.

Bureaucratic departmentalism, man-made, and often worse in highly developed urban societies than in the less sophisticated areas, is a universal barrier to integrated development. It produces departmental attitudes, interdepartmental jealousies, duplication of effort and a serious lack of continuity for those it is designed to help. To break down these barriers is made difficult by the fact that each department regards its own priorities as absolute priorities. Unless the bureaucratic structure allows and encourages integration however, attempts by individuals either to co-ordinate their various efforts or to integrate their functions will fail. Objections to an administrative structure which facilitates co-operation in integrating a particular component are often political, and for this reason an autonomous body is likely to be more successful in bringing about an integrated programme than any ministerial arm.

Any component of an integrated rural development is part of a system of inter-related elements and a change in any one of them produces a change in everything else.

Fig. 1: A model of an Integrated Rural Development System



All action within the system will be the result of relationships between its component parts. The nutrition inputs will be necessary in all four parts of the system, along with inputs by other specialised agencies, particularly agriculture education and health

Integration is not a natural process, and the ways of effective collaboration have to be learned and continually borne in mind. To involve everyone in an integrated rural development project however requires intensive and extensive training programmes at various levels initially. Integrated training may well be the key to the implementation of integrated rural development.

Agricultural Education for Rural Development

The function of agricultural education has been described as a dual process of providing a mechanism to create attitudes and skills which will make innovative processes possible, and the provision of adequate means to disseminate and adopt new technologies. In many cases conventional agricultural education is too narrow a preparatory training for those concerned with the broader field of rural development. Adequate training should include not only aspects of agriculture and animal husbandry, but all the scientific, technological and social areas of rural development with nutrition and family life education an integral part of it.

Because of the interdependence of the causes and consequences of development problems and issues, there is a need to focus on rural development training through an integrated approach. This will facilitate later co-operation while providing an understanding of rural development as a whole made up of interrelated and interdependent parts.

Since the quest for food is the most compelling concern of any society, the vital role of women as the chief cultivators of food crops has given them status in traditional societies. Men may hunt and fish, but may come home empty-handed. The skilful cultivation of food crops ensures a continuous supply for family meals. Agricultural training institutions set up by colonial governments which failed to relate training to traditional roles, have frequently denied women access to the knowledge and skills of modern agriculture, which are the tools for rural development. Subsistence agriculture thus remains backward, while the advanced technology and methods used in cash cropping enhances the male status. This has sometimes resulted in a decline in subsistence agriculture and the status of women who become more dependent, and directly affects the nutritional status of the family. While one can cite many examples of the successful introduction of cash crops resulting in improved food habits and nutrition, it is too frequently not so. Papua New Guinea recognizes that there has been a serious neglect of the female audience in agricultural extension services, and this is seen as one of the contributing causes of increasing malnutrition. A step towards redressing this situation has been taken with the admission of girls to agricultural colleges in Papua New Guinea last year.

Coinciding with the entry of women was the introduction of a course in rural life development, focussing on aspects of family life in its practical, economic and rapidly changing socio-cultural setting. The agricultural training curriculum has been developed in four subject areas:

- Crops
- Livestock
- Rural Technology
- Extension and Management

Rural life development forms part of the extension and management course in four main units:

- Family and Community Health
- Food and Nutrition
- Family Resource Management
- Rural Sociology and Family Life
Development

In 1977 it is expected that over 100 girls will be studying agriculture and rural life development together with 500 male students at three agricultural colleges in Papua New Guinea. It is hoped that by broadening the scope of training in this way, rural development officers will be better able to see their role not merely as agriculturalists, but as agents involved in bringing about the transformation of social and economic structures, institutions, relationships and processes affecting rural families. This marks a new commitment on the part of the Department of Primary Industry to a broader and more integrated form of the "package" approach to rural development, as a way of maximising the potential benefits of increased agricultural output.

A change in approach of this type will not occur overnight. While government policy and an intellectual commitment are relatively easy to formulate, the ways of implementing such change are not. Intensive and extensive reorientation training is necessary for existing extension staff if students now benefitting from training in rural life development are to be allowed to put what they have learned into practice in the field. They need to recognize that although agricultural innovations affect rural family life, more often rural social systems and growth patterns tend to impinge upon agriculture and retard development. Serious consideration therefore must be given to the consequences of both sets of factors for the success of the development as a whole and in the national interest.

Implementing Rural Development Strategies

Integrating social factors in rural development strategies presents a problem of co-ordination, planning and evaluation. Each nation involved in development has a unique situation in terms of physical and cultural influences and resources, and no universal formula can be used to spell out which social factors should be given priority, and how they can best be integrated into the overall plan. A co-ordinating body should produce a programmed comprehensive strategy which, while being fairly specific, allows for some flexibility of interpretation by individuals, and the possibility of changes having to be made when unforeseen circumstances occur. Medical, social and administrative parties need to collaborate with agriculturalists in free and open discussion to minimise the number of unknown variables, and to try to plot phases accurately on a time scale so that each component can be included at the optimum stage.

Evaluation of social inputs is made difficult by the fact that it deals with variables which are difficult to measure and interpret. The basic evaluation can only be expressed in terms of the sum of the success of rural development in improving levels of living. A change in levels of nutrition provides one indication of this, since good nutrition is fundamental to health, the improvement of which is a primary objective in development.

Summary

Rural development is a process of social and economic change intended to improve levels of living in the non-industrialised sector of a nation. In the past, economic development has often been retarded by social factors which act as barriers to planned economic improvement. One of the results of agricultural development in Papua New Guinea appears to be an increasing rate of malnutrition in rural and urban areas. In recognizing this and accepting some responsibility for improving nutrition, the Department of Primary Industry hopes to broaden the scope of extension services towards rural life improvement in its total setting.

Integrated training is seen as one of the ways in which this can be achieved, and the components of the rural life development course are the identified areas of special concern. The admission of women into agricultural colleges, coupled with the broadened scope of preparatory training in agriculture is an initial step towards the eventual implementation of integrated rural development. The more integrated the approach, the more likely the success of any part of it, but to expedite such strategies may require a fundamental change in government organisation.

After the brilliant presentation of Ms. Stephens, a vigorous discussion followed.

John Field: Can your students carry the training you have given them into the villages, or are they overwhelmed by the traditional cultural attitudes?

Sandra: We don't know yet, our first graduates start working next year. The real test is there of course.

Peter Heywood: Where change occurs very rapidly, as in many parts of Papua New Guinea has the position of women worsened?

Sandra: The condition of women has certainly worsened with change. Their traditional village status is quite high - they are the food growers, the child bearers, etc. With the introduction of cash cropping they are forced to share in the work involved, but not in the rewards.

Julian Lambert: Our figures show a drastic decline in food intake where cash cropping is introduced. Illness, malnutrition, disease all on the increase.

Sandra: They lose their best workers, who come back with T.B., V.D. and other diseases. Their food intake falls. The little children are the chief sufferers.

Dr. Apenisa: This is the effect of opening new roads in the remote village areas, I take it.

John Field: You have shown how "development" can lead to the breakdown of a perfectly viable society. I wish this development was better planned by planners.

Margaret Lambert:

I think there are times when we all question our role here. Were the people better off before we came?

Julian Lambert:

It is said that communications into the remote areas are our greatest need - so we can bring in health care, education, etc. But when you build a road all sorts of undesirable effects follow. Would we be better off not to build the road?

Sandra et al:

That is politically unacceptable.

Robin Yarrow:

Fiji has met with problems in sending women into rural areas. Also with women getting pregnant in training institutes. Many of our graduates marry and stay in the cities. Also many of our Extension Workers prefer to sit behind a desk in the city and not dirty their hands.

Sandra:

We have this problem - Promotion means Port Moresby - a desk and telephone are status symbols. Office desks often disappear and reappear in a remote bush hut. This is a world wide problem. Departments must give special incentives for country areas - and special promotion opportunities.

John Field:

I often feel that a quick test of the real commitment of a country to nutrition planning can be made by looking at the extent to which they have decentralized their Health Services. How does Papua New Guinea fare?

Julian Lambert:

Our 1974 Plan emphasised the need to decentralize our health services. But the Health Department is burdened by big expensive hospitals in the cities, these eat up our funds and personnel.

Dr. Apenisa:

The process is self perpetuating. You train a doctor in this atmosphere, he then expects and demands it.

The discussion terminated with a comparison of health services in Cuba, China and other countries.

THE POLITICAL PARAMETERS OF NUTRITION PLANNING

John O. Field

We find the greatest value in a Conference of this kind comes from the informal discussions between the participants. The role of the formal talks is, perhaps, to open up a variety of subjects for the participants to pursue.

Alan Howson mentioned in such a discussion a danger we are all prone to - that of putting nutrition on a pedestal. We must realize that government's have many obligations and development aims - nutrition is only one. We must beware not to isolate nutrition. Because it was neglected for so long, there is the danger we might go to the other extreme.

We must seek to embed nutrition in a whole range of government policies, it should be integrated, not isolated.

Professor Field summed up his points:

- 1) Nutrition as a political issue - (political rationale)
 - a) Why not a political priority.
 - b) Political incentive to raise priority.
- 2) Operational problems
 - a) Administrative capability
 - b) The politics of planning and programming capability
 - c) "Ingredients of success"
 - d) The historical record: implications.

Political Incentive "Model"

- 1) "Basic Change" - popular politicisation
- 2) Political challenge
 - a) New demands on government
 - b) Legitimacy crisis
- 3) Political response
 - a) Repressive force - depoliticisation
 - b) Increased priority to equity
 - c) Attempt to mobilize rural support
- 4) Implications for Nutrition

National planning and other incentives to improve condition of the poor.

A discussion followed. Verona Lucas asked if the implication of the lecture is that a Nutritionist must become politically active. Was this possible, especially where the Nutritionist was a government employee and so not permitted to engage in politics?

John Field answered that there is, in fact, political implication to nutrition. Nutrition planning of its very nature was concerned with politics. It concerned government policies, government expenditures, whether resources should be allocated in this or that direction. These are essentially political decisions.

Perhaps the British model is relevant. The British Civil Service is not allowed to interfere with politics. This means that they have to be careful not to become involved in party politics. However, they greatly influence politics by selecting information they give to Ministers and by their advice. Could we be "non-political" in this sense?

The relevance of the China model in solving nutrition problems was discussed. John Field suggested that the critical distinction between governments was not in the field of ideology, but in "amount". How effectively could the government govern? What was its outreach? How much administrative ability, etc., was available?

A NATIONAL DEVELOPMENT STRATEGY FOR PAPUA NEW GUINEA

Mr. Kopi, Central Planning Office

Papua New Guinea became independent last year. At that time expatriates controlled 80% of the economy. The government has begun to encourage Papua New Guineans to open small businesses.

Because of rapid urbanization, most consumption patterns are based on imported foods. Most of the expenditure of Papua New Guinea (70%) comes from foreign sources - mostly Australia.

The government set out 8 goals and 5 directive principles. In its present planning it is seeking to make these aims a reality - obviously this will be a long term program. It demands that the nations resources be organized by the government.

There are serious problems. There are big differences in living standards between expatriates and Papua New Guineans, between rural and urban workers, between Province and Province - and even inside Provinces. Population is increasing at 3% a year - about 100,000 a year. Already land shortages are developing in various areas - East and West Sepik, Cazelle Peninsula, etc.

The government does not have the finance to expand its resources. It plans to keep these constant, but seeks to provide opportunities for people to work, so they can purchase needed goods and services. Especially in the rural areas the Government plans to generate employment opportunities and encourage production.

Only a small percentage of the work force is in the wage section, most depend on agriculture. The government plans to put great emphasis on promoting small crops for domestic use and for export, and for small scale rural industries.

Land will be developed along group, not individual, patterns.

Health and education services will concentrate on village areas.

Urban planning will be carried out in such a way that they will be centres of service for the people in rural areas.

Mr. Kopi gave all members a copy of the government's White Paper on National Development.

DISCUSSION:

Participants felt that the ideals of the Planning Committee were excellent, but it was not clear that the aims would be achieved.

Surprise was expressed at the fact that the government had no family planning campaign.

It was asked if "highest priority" should be given to roads. Were there not more important things?

It was felt that the Development Plan seemed to be placing more emphasis on cash cropping than on subsistence agriculture. Was this wise?

Dr. Apenisa Kurasaqila, who chaired the session, thanked Mr. Kopi for his lucid talk.

DAY THREE - Wednesday, 24th November 1976

THE POLITICAL PARAMETERS OF NUTRITION PLANNING CON'T

John O. Field

The morning sessions were chaired by Susan Parkinson.

Dr. Field began by explaining his use of the word "politics." He did not mean partisanship, but authoritative decisions by which things are done. This means some kind of mandate, it means getting support from decision making bodies, from Planning, Treasury, etc.

As I suggested yesterday, he continued, there are aspects of political planning that disturb me. I would like to continue with some of these, and get your views of the extent to which you feel they are likely to affect nutrition planning.

Planning and programming do not occur in a vacuum. There are many influences in planning, it is not a purely rational process. It determines who gets the money, who administers it, who pays, some people gain, some lose, according to the priorities and interests that come into play.

Hence planning involves conflict resolution. This is particularly the case in Nutrition Planning, because it cuts across so many areas.

I have four propositions concerning planning which refer to bureaucratic overhead.

- 1) The merits of a proposal are rarely considered in a structural vacuum. Rather it sinks or swims according to how it is put into operation - who gets the benefits. Hence, seemingly extraneous issues become important. What comes out of planning will therefore have a considerable bearing on what plan emerges.
- 2) There is a bureaucratic compulsion to recommend solutions without analysing problems. This enables each branch of government to claim that it has a part to play.
- 3) The solutions recommended have less to do with solving the problems than with fulfilling the requirements of the bureaucracy. There is a tendency for government officers to recommend what they are doing, can do, or want to do - with little relationship to the problem. It is self serving rather than people serving.

- 4) This reflects the multi-sectoral nature of nutrition planning. This tends to apply specially when the nutrition planning Committee includes planners from established Departments: - With reputations and promotions ministry specific, the resultant plan is liable to resemble a grab bag of established ministerial objectives, rather than an attempt to attack the problem of malnutrition.

There was some discussion on these points.

B. Lal agreed that there is a tendency in the Education Department to concentrate on its own area.

Patrick Butu felt that the two colonial powers in the New Hebrides seemed to plan for themselves rather than for the New Hebridean people.

Dr. Biunaiwai offered that the Fiji Health Department has not put sufficient emphasis on malnutrition. One problem is in the feedback of information. We have had surveys made, but no feedback on results.

Verona Lucas: On the positive side, we have found that many people in the lower echelons in Fiji know the problem and are ready to work together. If these people can evolve a nutrition plan, and the government rubber-stamps it, the ideas can bubble up from below.

Dr. Apenisa sked how we could bring the people at the bottom into nutrition planning. Surely they should have a say in what their needs are, and how they can be met.

John Field Continued: When the requirements of nutrition planning demand some kind of adaptation of the role of a Ministry, trouble arises.

Planning tends to lead to a conservative result, unless there is some presence from without influencing the planners - strong political leadership, or demands from the people. There is always an in-built bureaucratic inertia - plus vested interests.

The implementation stage of programs is often the focus of a great deal of politics - especially where the people don't understand what is being planned for them. Over determinism from above is an invitation to inertia below.

Hence, normative planning and operational planning have to be brought together. A lot of good ideas fail because the operational side of planning has never been brought out. If people lower down in the delivery system are not part of the planning, they can frustrate the best plan.

Good planning must go on right through the system. A good plan includes people from the bottom as well as people from the top.

I have a check list, based on my own observations, of the elements that are "ingredients for success."

- 1) Closeness to the problem is the most important of these. As part of the community you become aware of the problem, needs, and interests of the people.
- 2) You must be able to motivate people.
- 3) You must have some authority with regard to the intended beneficiaries - e.g., be able to insist they bring their baby to the Clinic.
- 4) Flexibility. Programs work better when they can easily be adapted in the implementative process.
- 5) Popular support is necessary - people must become participants, not merely targets, in the change process.
- 6) Management must be stable and continuous at the local level.
- 7) Corruption must be eliminated - or at least reduced.

In my experience, the voluntary agencies are strongest in these areas. Governments are traditionally weak in them. But voluntary agencies can only touch the problems, not solve them.

Malnutrition will be solved, because it is soluble. If we planners cannot do it, we will be swept aside - a casualty of history - and someone else will solve it.

Barbara Lepani:

The voluntary agency is quite different from a government, and not subject to the same constraints. But voluntary agencies, often foreign, often churches, sometimes interfere in governments.

Certainly the Planning Office in Papua New Guinea are well aware of these problems. We are looking to this Conference to give us some solutions - some recommended courses of action.

THE EFFECT OF MALNUTRITION ON WORK OUTPUT

Peter Heywood

Dr. Heywood examined the theory that work output is increased as a result of improved nutritional status.

He drew on his own experiences in the Caribbean, and on other studies, to show that the data so far does not prove this relationship, at least with regard to commercial enterprises such as sugar plantations and mines.

There is, however, some limited evidence from Africa to show that this might be the case with regard to subsistence farming.

Verona Lucas asked if malnutrition in childhood would affect work output 20 years later.

Peter Heywood felt that it was desirable but hardly practical to make this kind of study.

Susan Parkinson asked if malnutrition affected school performance.

Dr. Apenisa suggested that evidence indicates that severe malnutrition in children below 2 years of age led to permanent brain damage.

Dr. Roy Kamkilakai quoted studies in Jamaica indicating that children malnourished in their first year of life had markedly reduced performance at school.

Dr. Apenisa agreed, but pointed to the difficulty of separating out the social factors involved in this.

Karen Holst asked about the value of school lunch programs.

Julian Lambert considered that a child who had little breakfast, and then walked several miles to school, is tired and hungry. A school lunch program helps such a child nutritionally - and makes school more attractive.

Barbara Lepani said that Papua New Guinea encouraged schools to have lunch programs, but left the responsibility on the school. They grow their own food or bring it from home. The government is opposed to subsidized lunch programs.

B. Lal mentioned that the Fijian government has recently accepted five million tons of powdered milk for school lunch programs over the next five years.

Barbara Lepani said that the Papua New Guinea government had declined a similar offer. It was contrary to their theory of self-reliance, and set up demands that could not be fulfilled later. Papua New Guinea was interested in Soy Milk. This they could produce themselves; dairy milk they could not.

Dr. Apenisa mentioned that school lunch programs in Fiji were an important exercise for women. Women's programs were often combined with them.

Bushra Jabre mentioned places in the Pacific where school lunches are of rice and bread. The children then rejected taro, etc.

Gus Maino quoted his own experience. At school they were fed rice and tinned meat and hated it. They were always eager to get home for taro.

THE CURRENT STATE OF NUTRITION PROGRAMS IN
PAPUA NEW GUINEA

Roy Kamkilakai

Dr. Kamkilakai explained the organization of the Health Department in Papua New Guinea of which the Nutrition Section was a part. He explained how the Nutrition Section itself was organized. He went on:

Fifty percent of the land in Papua New Guinea is too mountainous to use; most areas are hot and dry for six months. The wet period is the growth period.

Sweet potato, sugar cane, bananas, tapioca, taro, etc. are all planted in one garden. In the villages the people have little pest control. Rodents eat the potatoes. "Taim Hungri" is the pidgin name for planting time - they run out of food in their gardens. If they have cash they buy food at the trade store, if not they go to the bush looking for grubs, etc. Also there is often fighting over land and gardens are destroyed.

In Enga Province, fifty percent of the kau kau (sweet potato) produced is fed to the pigs. Also much food is lost in transport. Kau kau has a lot of bulk, but not much protein. Parasitic infection reduces food utility. In Papua New Guinea villages one meal is eaten each day - in the afternoon.

Intra-family food distribution, men and male guests eat first, women and children last.

About half of the calorie needs are met by imported foods.

There are several hundred cases of malnutrition among children reported in various areas, the East Sepik is the worst. However, the figures are not really accurate - e.g., many children do not know their birthday, so the nurse has to guess.

Dr. Kamkilakai went on to explain the various educational and other works of the Nutrition Section. He mentioned that in 1975 the inter-departmental food and nutrition advisory committee was set up.

John Field asked if the Nutrition Section's work was hampered because it was part of the Health Department.

Julian Lambert felt there is some good reason for making the Nutrition Section part of the Health Department. There is no doubt that it would have much more flexibility if it were an independent unit - or perhaps part of the Planning Department.

PAPUA NEW GUINEA DEVELOPMENT PLAN

Barbara Lepani

So far we have only a strategy - not a plan. Even the strategy has not yet been approved, it is before Parliament now.

The question of nutrition was discussed by the Planning Department. It was agreed that efforts should be made to enable villagers to grow cash crops, this would help off-set the pull of the towns.

But would this help nutrition? Would it destroy subsistence agriculture? Would the money be spent on alcohol instead of on food and housing?

Operational planning is done within the various ministries. Each ministry draws up a plan, which is submitted to the Planning Committee to see if it is in line with the strategies.

As Provincial Governments are set up, Provincial Planners will begin to operate. Again Central Planning must approve these plans, to ensure that they are in accord with the government strategies.

One of the most serious problems facing Papua New Guinea is convincing the richer provinces that equity demands they support the poorer. This was a key issue in the Bougainville dispute.

Dr. Bumaiwala asked what machinery existed for feedback from the villages?

Barbara Lepani: We have local councils. Also we have various village workers, e.g., Agriculture, Education, Medical, etc.

Gus Maino: We have also the District Coordinating Committees. That is one of their jobs.

Sandra Stephens: There is nothing about family planning in the strategies.

Barbara Lepani: There is, but I don't have high hopes for that. It is very difficult to contact people and follow up. Also the Church lobby is strong, and Catholic social workers will only teach one method of birth control.

Day 4 - Thursday, 25th November 1976

MALNUTRITION CAUSALITY, NUTRITION INTERVENTIONS AND PLANNING

John O. Field

The Thursday morning session opened with twenty-four participants.

John Field gave a simple causality model, showing the various elements that determine nutrition status.

He defined planning as "an attempt to anticipate needs, to solve problems over time, and to regulate the course of events."

There is a pitfall between too much and too little planning. Too little planning leaves you with little more than guesswork. Too much makes planning an end in itself, losing sight of the real purpose. It paralyses action, because the perfect plan demands even more information.

The United Nations, it is said, is always ready to recommend more data collection and more planning. A program is something for the future, "Operation Just You Wait."

Planning is not just a pre-project happening. It goes on repeatedly in the course of the action. It entails the constant reiterative process, linking means to ends.

To plan just for nutrition runs the risk of isolation. It is probably better to link nutrition planning with other aims. Yet this is a problem, because resources are limited and there is always competition for them.

A causality model looks at the elements that go into nutrition status. Beliefs, etc. may be an element in poor nutrition, but sometimes the real cause may be something fairly simple - e.g., income distribution.

Our model asserts that the most immediate determinants of nutritional status are food intake and morbidity/infection. These in turn are affected by a whole variety of other elements - water supply, etc.

Nutrition Interventions - Constraints

1. Local availability of nutrients
2. Purchasing power
3. Socio-economic factors
4. Infection

The Group examined various nutrition interventions to discover the hypotheses that underlay them. What had to happen in order that nutrition education should be effective? child feeding? village level surveillance? agricultural policies? health care?

A comparison was made between the possible efficiency of these in Papua New Guinea and Fiji and the New Hebrides. It became evident that Papua New Guinea presented problems not found elsewhere in the Pacific.

FIJI DEVELOPMENT PLAN

Alan Howson

Alan Howson explained the Fiji Development Plan. Each Department prepares its own plan, in large measure in isolation from other Departments. These are then presented to the Central Planning Office for review and adjustment to the available budget.

Alan gave a summary of the problems facing the Planner in Fiji. Transport costs in and out are a major constraint on trade and overseas revenue. There has been rural-urban drift; and drift from small islands to larger ones. In some isolated areas few young workers remain.

Sugar and gold are important exports, but depend greatly on fluctuating markets. Tourism has been promoted. However, the World Bank is now much less certain of the value of tourism, it has been found that up to 80% of the tourist dollar goes out of the country for imported foods, duty free goods, profit, etc. There is little linkage between tourism and foreign exchange.

The strategy for rural development in Fiji is improved communications - roads, bridges, jetties, etc. Feeder roads are being built to markets, more health services, schools, amenities (telephones, water, sanitation...) are planned.

Each rural area is allotted a certain amount of money for village projects - water supplies, community centres, culverts, etc. The village chooses these, and must raise half the cost and supply all the labor. This is an excellent system - it forces the people to help themselves. Some Fijian communities have raised \$40,000 in a week for such a project, through Fairs, Beauty Queen Contests, etc.

THE SOUTH PACIFIC COMMISSION NUTRITION PROGRAMS

Bushra Jabre

In 1974 two pilot projects on nutrition were decided upon; one in the New Hebrides and one in the Cook Islands.

In the New Hebrides two sites were chosen - for political reasons. Tautu is English and Presbyterian. Wala and Rano are two Catholic villages on two separate islands close together, facing each other. They are served by a Catholic mission which has given important stability and follow up to the project.

Extensive studies were made over two years. Malnutrition was not drastic - mainly borderline. The area is rich - there are plenty of nutrients - but most of the people are from the hills and make little use of the sea - hence there is some protein deficiency.

We found three groups in those areas:

- 1) Subsistence agriculture
- 2) Subsistence with some cash cropping
- 3) Fully dependent on cash crops

We found that Group 2 had not changed their food habits at all - no money was spent on food.

We found that food taboos were usually well-based.

In Wala and Rano we set up a Village Health Committee. Sanitation was poor, malaria and dengue widespread. We persuaded them to cover the water drums and clear the bush around the village. This reduced the number of mosquitoes. Proper latrines were built; a water supply is being installed.

In Tautu something different is being done - an integrated food system. Twelve school leavers were co-opted to set up a bio-gas digester. They are being trained to look after it. Attached to this project is a small workshop.

	Gas-to-Electric Generator		
Piggery	Bio-digester	Algae Pond	Fish Pond
	Algae harvested for pigs		

As we found little malnutrition in these areas we looked at the few urban areas of Vila. Tagabe is on the edge of Vila; about 500 people live there. They have mostly come in from the outer islands.

They live in one room per family, and eat rice - which is all they can afford. They have no gardens, no facilities (water, sanitation, etc.) Here was the real problem.

In Polynesia we chose Aitutaki in the Cook Islands for our intervention. There are 3,000 people there according to the census; in fact, a large percentage of these, including most of the male workers, have left. Many are working in Auckland. It is a very affluent island and not at all representative. Beautiful tropical fruits grow profusely - but the people eat tinned imported fruit salad. They seldom eat their own fine fish, but buy imported fish at \$1.25 for a 12 oz. can. Fish are so plentiful they have caught 3,000 lbs. in one net haul, but let most go because they can not store them.

This year our main effort will be on vegetable growing and nutrition education, and on training local staff for follow-up.

The South Pacific Commission is doing research on fish poisoning. We have isolated the toxin but cannot yet say what causes it. We are also doing research on a weaning food based on taro in Samoa.

THE NEED FOR A NATIONAL NUTRITION PLAN FOR
PAPUA NEW GUINEA

Julian Lambert

Existing Nutrition Programs depend largely on the Health Department. Education materials are produced by the Nutrition Section - but we are not experts. Working within the Health Department is a constraint.

Recently the Inter-Departmental Committee for Nutrition was set up - it meets every two months. We have discussions and resolutions, but do not have the manpower or money to follow these up. Nor has the Committee been able to achieve much in the way of nutrition planning.

A Nutrition Plan may be nothing specific; but rather a looking at the Government plans as they affect nutrition. This may enable nutritional safeguards to be written into Government planning.

Over the last two decades the Government has pursued an active policy of promoting cash crops in the hope of improving the quality of life. In 1956 a good intake survey was made of a village in the Chimbu, that was the year coffee growing began in the area. Last year we did the same survey using the same techniques in the same village: a 40% decline in food intake has occurred. Coffee prices are high.

There are many reasons for this:

- 1) A shortage of male labor for the subsistence vegetable garden;
- 2) Population pressure
- 3) Land shortage - all the best land around the village is being used for growing of coffee
- 4) There is money available in the village, but it is not being used for food.

We also conducted two nutrition surveys in two newly established plantation areas - a rubber and an oil palm plantation. The people had been resettled from the Sepik, one of the poorest areas of Papua New Guinea. In their new villages they can not get fish and sago. They had to wait seven years for the rubber to mature; they had quite failed to adapt to their new environment. The nutrition picture was very bad.

The Agricultural Department has many cattle projects. Yet surveys in a number of Pacific areas have shown that cattle do not improve nutrition status. On the other hand, sweet potato is a vital ingredient of nutrition - the staple. If you cost the value of sweet potato as low as 3 toea per kilo, the lowest possible price, it is a crop worth one hundred million kina to Papua New Guinea. Yet the Agricultural Department has only one Extension Worker working full time on the production of sweet potato in all of Papua New Guinea.

The urban areas grow up on imported food, and have never established a system of local supply. They are expanding at 10% per year. The urban areas represent a heavy drain on foreign trade balances.

The total budget for the Nutrition Section is about K120,000 per year - compared with \$4 million for malaria control. I believe malnutrition costs us many millions per year. The annual education budget for nutrition is K5,000 per year. Recently a brewery spent K160,000 to launch a new beer.

There is increased awareness in the country of the malnutrition problem. What is needed is a coordinated effort to solve the problem.

Robin Yarrow compared the situation in Fiji with Papua New Guinea. Perhaps the governments will have to consider restricting imports of food from overseas.

Gus Maino suggested that it would be valuable to have a Conference for Provincial politicians and planners to bring to their notice the nature of malnutrition and the possible solutions.

GROUP DISCUSSIONS

On Thursday afternoon from 3:00 to 5:30 p.m. Group Discussions concentrated on the Papua New Guinea Nutrition problem, and suggestions for tackling the problem.

The Conference broke into four groups, as widely representative as possible, and a very broad spectrum of suggestions followed.

The Conference gathered again at 5:00 p.m. and each group presented their proposals. A brief summary of the various proposals follows:

GROUP 1

At the National level we need to identify target groups and priorities. The Control Team should consist of:

- 1) A national planner, who must also be a public-relations man, able to meet and influence government and community leaders;
- 2) A nutrition administrator to carry out programs;
- 3) A nutrition educator whose role would include all education - primary, secondary, tertiary.

This structure should be repeated at the Provincial level.

Health - the Mother/Child Health Clinics are very important. Nurses and staff need training, and transport to widen their reach.

Agriculture - a National Policy on cash crops and import policy needs to be evolved.

GROUP 2

Nutritionists should have a contract of 2 or even 3 years in their areas. Provincial politicians need to be informed and involved in nutrition planning. Nutrition policies have to be the concern of all departments. All Provinces should have a Nutritionist, who will establish the baseline nutritional data.

Agriculture must research on how to grow more food and to use better methods. Ways of growing subsistence food at the same time and in the same areas as cash crops need research - e.g., peanuts under coffee. They should follow up research on the soy bean mill with a view to possible production in this country.

Health - More stress should be placed on Aid Post Orderlies as nutrition aides. They need more support from the Department of Health - such as educational material and training in nutrition. Perhaps we should re-define the role of the Mother/Child Health Clinics.

GROUP 3

- 1) At the village level we need to listen more to what peoples' felt needs are.
- 2) Monitoring is essential for any on-going project.
- 3) We must improve communications between Government and Mission workers.
- 4) Water supplies must be improved. Payment of wages in kind rather than cash should be investigated.
- 5) For Nutrition Education we must use newspapers, radio, cassettes. We need artists for cartoons, etc. Suitable material for each level of nutrition teaching is needed.
- 6) We need to research and promote nutritious local foods, e.g., tilapia. To improve storage systems; to ban the commercial advertising of baby milks; to print and use health record books; to provide funds for nutrition at the Provincial level.

GROUP 4

We must integrate social and economic development

Do spot checking of existing data

Each department must have a specific area of nutrition coverage, allowing for integration at various levels.

Evaluation demands continuous monitoring for program adjustments and periodic analysis at all levels of objects set by each Department.

There is need for professional training for all village extension workers.

We must define our target groups - who are we trying to reach?

Education materials to be made available.

The Office of Information to be used more effectively. Career path and salary incentives for village workers. More emphasis on job in-service training and supervision. Examine all legislation, present and proposed, for nutrition implications.

DAY FIVE - Friday, 26th November 1976

The Friday program concentrated on Fiji. Ms. Susan Parkinson explained how the day had been organized:

- 1) She proposed a brief history of Nutrition in Fiji
- 2) Dr. Buimawai would describe the Medical Organization
- 3) Dr. Apenisa would speak on malnutrition problems
- 4) Bhairo Lal would describe the Education Department and how this could help in nutrition work
- 5) Robin Yarrow would speak of Agriculture and Nutrition
- 6) Alan Howson would sum this up from the point of view of Planning
- 7) Lily Makuto would describe the Fiji Nursing Service and its nutrition work
- 8) Verona Lucas would describe the proposed F.S.P. Nutrition plans for Fiji. These would be critically examined by the Discussion Groups.

HISTORY OF NUTRITION IN FIJI

Susan Parkinson

I want to give some of the history of nutrition work in Fiji, because I believe we will come back to many of the things we once did. In the 1880's Medical school was set up, so we have a long history. In the 1920's came the village Health Workers.

After the second World War, New Zealand helped set up the South Pacific Health Service in British and New Zealand areas of interest. In 1947 a survey of nutrition and health was done and a book based on this became our basic tool.

In 1948 a Government Dietician's Post was decided upon. I held this position from 1950 until 1970, and was the first person trained in Nutrition to hold it. I did a great deal of research work, which became the basis of our nutrition program. We operated in three fields:

- 1) Food in institutions - hospitals, schools, and prisons.
- 2) Problems among women and children. We worked through the well-developed M.C.H. Clinics. The New Zealand nurses had disrupted traditional child feeding methods with some unfortunate results. We had to cope with this.

- 3) An education campaign - first through M.C.H. Clinics, then with the Department of Education. Practical Nutrition Courses were held in Teacher Training Colleges, Agricultural Colleges, etc.

In 1956 we introduced a Dietician's Training Course. Our Dieticians improved hospital foods greatly, while reducing expenses by as much as 50%. Their very success has, unfortunately, tied them to the Hospitals.

A Nutrition School was built at the Medical School - a very fine one. However, this has become tied in with the administrative bureaucracy, and has lost some of its effectiveness as a result.

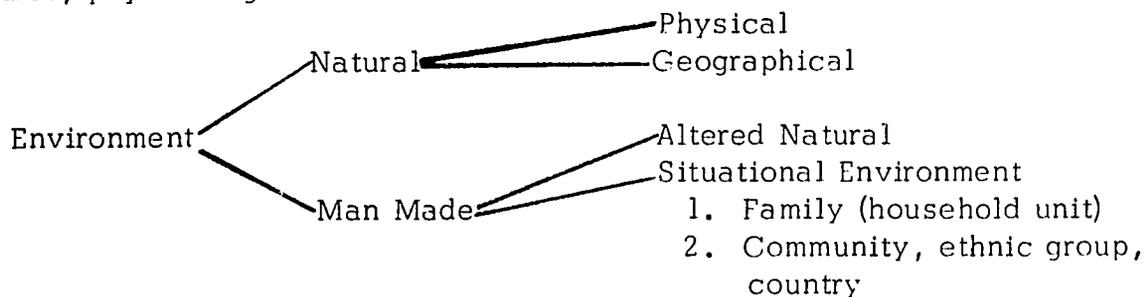
Organizations like the Y.W.C.A. are very interested in nutrition, and we have been helped by the Foundation for the Peoples of the South Pacific. This has led to the present thrust. You will hear from Verona Lucas the plans for our F.S.P. program.

To sum up. In Fiji we have a very large number of people trained in Nutrition, but we have almost no published research, and no educational materials.

Dr. Biunaiwal gave a description of the organization of the Health Department. He showed the outreach of the Department and the way in which feedback was possible from bottom (village level) to top, as well as from the top down.

Dr. Apenisa I have little nutrition background; my training was in curative rather than preventive medicine. But my experience has led me to place even more emphasis on preventive medicine.

A Child's environment is the basic influence under which he lives; the child has to adapt to this. The environment includes physical, cultural, psychological factors...



The mother is the vital element. If we try to alter the environment when people are not ready for it, we will fail. Hence pockets of malnutrition will occur. In eliminating these, the mother is most important.

Eighty-five percent of the children arriving at the Hospital have a history of infection. We have, for example, some very bad cases of gastro-enteritis. We begin by treating the infection. But I have learnt by bitter experience that nutritional status is vital. We must come back to the three basics - food, warmth, shelter - as the three basic elements in health.

It is not sufficient to cure the infection, we must follow up and find the cause of the infection. In 1975 we had more than 100 cases of malnutrition admitted to our Colonial Wars Memorial Hospital in Suva. So there is certainly malnutrition in Fiji, although we do not yet know the extent of it. The crucial time is six months to three years, peaking at eighteen months.

Most of our infant deaths are caused at least in part by malnutrition. There is more among Fijians than among Indians. It is most widespread in people who have left the villages to live in the peri-urban areas. It is a sad thing to meet the mother of a sick child. At this time the Mother is particularly eager to learn how she can help her child.

Lily Makutu A public health nurse in Fiji is a general purpose person, she covers M.C.H. Clinics, Sanitation, Family Planning, Home Visiting, etc. She looks into these in each village and each household in the village.

Many mothers cannot come to the M.C.H. clinics because they do not have the bus fare. For the area around Suva we have now set up the Shift Clinic to visit the mothers, supervise borderline cases, follow up malnutrition cases, etc. We work closely with the Health Inspectors to look into questions of water supplies, sanitation, etc.

We have improved the training of our nurses in nutrition, and they now have a good background in this.

Bhairo Lal I have only had experience in nutrition education since the beginning of 1976. I am, therefore, most grateful for the opportunity of attending this Conference; it has given me a wider understanding of malnutrition and the importance of education in solving the problem.

Mr. Lal gave a general review of the educational system in Fiji. He continued:

Most of our children bring packed lunches to school. Lunches are supervised by teachers and the school lunch is connected with our health teaching - with emphasis on a balanced diet. Health care is taught, and the use of the toothbrush is encouraged.

The Nutrition Section is helping organize five schools in Suva, where Mother's Clubs provide school lunches. Groups of four or five mothers come each day for a week to prepare a meal; a very small fee is charged. The emphasis is on nutritional foods. Nutrition is taught in all schools, in the secondary schools it is part of the Home Economics Course.

Many primary schools have school gardens for vegetables, fruits, etc. Many boarding schools produce most of their own food.

Robin Yarrow: After the morning break, Robin Yarrow described the function of the Department of Agriculture in Fiji.

After a three year course our graduates go out as Locality Field Officers. Subsistence agriculture is written into our policy, and is our primary target, not much emphasis is given to cash cropping.

The Officer deals with the village youth groups, Church groups, etc., with schools and school gardens. We place great importance on Village Leadership Training, and the Officer assists with this. Two Churches have such schools. The Farmer and wife come in for a two or three week course, the man concentrating on the farming side, the woman on home economics.

We also have Field Days on all our Agricultural Stations. These are held every year, and for a full day. We help with transport. We have had as many as 500 farmers attend a Field Day. We try to show them what we are doing, and how they can adapt this to their situation.

We have a number of demonstration farms, where we assist farmers to implement new techniques, etc. This helps them realize that large resources are not needed. We stress spacing of planting; this is important in subsistence farming to ensure a continual flow of vegetables for the family.

We have a strong information division, with a staff of fifteen, and use leaflets, radio programs, newspapers. "Farmer Success Stories" are published regularly. This section also keeps in close contact with the market situation, so that farmers know which is the best market for their products.

Alan Howson: It is clear that the structures of our various Departments is well adapted to helping solve our malnutrition problems. The nursing scene shows commendable flexibility in adapting to the serious problem of the peri-urban areas.

Agriculture and education are adapted toward village life and subsistence farming.

As a Government Planner, I am an economist, and had a traditional training in economics. But like Dr. Apenisa I have become more and more aware of the importance of food in the whole system. We try to keep this in mind in our planning work.

THE F.S.P. NUTRITION PROGRAM

Verona Lucas gave the participants a paper setting out the work being planned for Fiji under the present Agency for International Development funded program to be carried out by the Foundation for the Peoples of the South Pacific.

Ms. Lucas described the research work that will be done, the educational programs being mounted and the suggested intervention. This has not yet been decided upon definitely, and she requested a critical assessment from the Group of the plans.

Throughout, the aim was to get the people to identify their own needs and to work with them for a solution.

DRAFT RESEARCH PROGRAM - FSP

INTRODUCTION

Fiji's total population in the census of September 1976 is 585,000. The analysis showing the population structure will be available next year, but it will consist roughly of half Fijian and half Indian by ethnic grouping.

The nutrition problems in Fiji are divided into two main ones, each characteristic of the ethnic group. The Indian community has a high proportion of iron and folic deficiency anaemia and the protein energy malnutrition of infants and young children is found primarily among Fijians.

The principal causes for both these situations is poverty and ignorance. The initial thrust of the FSP Nutrition Program will be toward the protein energy malnutrition in children, but the principles used can be easily adapted to solve the anaemia problems in Indian women.

INFANT MALNUTRITION

In any one year about 2,000 children will be admitted to the children's ward of C.W.M. hospital in Suva (Lautoka? Ba?). Of these admissions to C.W.M. hospital 114 (i.e. 5%) in 1975 were diagnosed as having malnutrition. The average stay for a child in hospital is 7 days but in malnutrition is 3 months costing \$1,000 vs. \$70 for others.

In the first six months of 1976, 36 admissions were diagnosed as having malnutrition and at the time of writing 3 cases had just been admitted after having no admissions for one month, and 3 cases in the ward. In effect, unless there is an epidemic of some kind to

precipitate malnutrition in the "at risk" population the number of admissions this year will be less than last year. The number of factors can be described to have contributed to this:

1. This year has been very mild, weatherwise, and excellent for vegetable production. Not only have prices on these commodities fallen but for the many people who have their own gardens, there would have been more produce available to them. The lowered cost of vegetables would provide more money for purchasing meat and fish, which unfortunately have continued to rise in price.
2. Fiji's rate of inflation has come down considerably.
3. There has been no serious epidemic of any particular disease this year, whereas dengue, measles and flu epidemics have been newsworthy items in the past few years.
4. The M.C.H. clinics from Suva Health Office have run "shift" clinics beginning in 1975. These clinics have been going into the areas where many cases of malnutrition have come from to the hospital. Children "at risk" are now more likely to see a nurse earlier in the course of their sickness and thus cut down the number of admissions.

Conclusions that can be drawn from this are that the numbers of children "at risk" being inadequately fed will not have been reduced but that climate disease patterns and health services this year have been such that less trauma has been evident so that there have been fewer hospital admissions.

The hurricane season (November - March) which coincides with dengue and diarrhoea is approaching and there is only the "shift" clinic in operation that would keep hospital admissions for malnutrition at this year's lower level, should there be any traumatic situation develop in the community.

ANAEMIA

A recent survey of 5,000 apparently healthy adults in the Suva/Nausori area showed that 33% of Indian women suffered with anaemia compared to 8% of the Fijian women. Of these 50% of the anaemia was attributed to iron deficiency and 16% to iron and folic deficiency. It is interesting to note that 23% of the Indian births are small by our data and there may be some connection. However this connection is more likely related to the nutritional health of the women from infancy to child bearing age and not just to the nutritional status in the actual pregnancy. In such a situation one would need to study a population of Indian females from birth to bearing the first child - a period of 17-20 years.

POVERTY IN FIJI

Real poverty exists mainly among the resettled population, that is those people who live around the town areas, often "squatting" on land or leasing land on a very precarious land tenure. Among these people the poor are those without any income or those who obtain only casual work. Members of Fiji's population who do not work for a cash income but have access to land on which to grow food and can get fish from the rivers or sea cannot be classed as 'poor.'

IGNORANCE

Ignorance is prevalent in the entire population even among those who can afford to buy all the food they require.

SOLVING THE PROBLEMS

A program to reduce the incidence of malnutrition in Fiji cannot expect to approach the problem of poverty. However ignorance can be dealt with if a suitable education program can be set up. Indirectly this may also have an effect on the poverty problem.

DATA REQUIRED:

1. Baseline information on what is eaten by Indian and Fijian families where they can afford to buy what they want - find around 100 of each families.
2. Rough statistics on the level of malnutrition throughout Fiji. Use marked arm bands as the measuring device and get every person who deals with young children, such as the nurses, school teachers, mothers clubs to do the measuring over the two years research period.
3. Define the areas where malnutrition is prevalent from the addresses of hospital admissions over the past two years.
4. Use height, weight and mid-arm circumference to head circumference ratios to get accurate statistics on the degree of accuracy of #2.
5. Obtain 24 hour recall diet history of children from the surveys of #3 and #4.

6. Information for #4 and #5 to be obtained in house to house surveys of the areas selected in #3.
7. Select 299-300 children "at risk" from birth to five years old and introduce a nutrition intervention program. Leave about 100 children 'untreated' as controls. Compare the two groups when satisfactory progress has been made in the treated group.
8. Use the "shift" clinic as an opportunity to teach the mothers about feeding their children. Other contacts will be developed through the church and other womens groups.

NUTRITION INTERVENTION PROGRAM

An education program will be developed intended to improve the health of the children and incidentally the entire community. The effect of the program will be monitored by the progress of the children defined as 'at risk.'

EDUCATION METHOD

1. Women to receive this education to be a leader in the community, possibly the 'witch doctor' in some instances as she is the one to whom the community turn for help first.
2. Courses to be given should be short and often - probably only one subject or less at each course, at one month or two week intervals. Each course to consist of one or two lessons with suitable practical classes.
3. Subjects to be covered:
 - a) Nutrition - general
 - infant feeding
 - importance of breast feeding
 - b) Budgeting and food planning
 - c) Cleanliness
 - d) Toilets and waste disposal
 - e) Hygiene
 - f) Household safety (medicines, kerosine, fire and cooking apparatus)

- g) Home treatment for: fever, vomiting, diarrhoea, skin diseases and allergy, ingestion of kerosine, burns, convulsions, drowning, choking, cuts and bruises, etc., to include local treatments where proven effective.
- h) Customs - good and bad
 - 1. Stress of extended family on host family who are poor and trying to feed young children
 - 2. Feeding guests and adults before children
 - 3. Gifts at funerals and weddings
- 4. 'Road-to-health' cards (Morley) to be used to evaluate the effect of the system on the community. These cards to be kept by the mothers of the children in the study. Probably every mother of every small child in the areas surveyed will need to have a card with only those classes 'at risk' being specially monitored for the research program.
- 5. The education "system" defined above to be extended, if possible to the Indian Community to solve the anaemic problem. This, however, will have to be a side issue as results could be much slower.

EDUCATIONAL MATERIALS

A considerable amount of printed material will be required for educating the women in the program. Much of this may be stencilled and produced in English and Fijian. From the sum total of all that is done one or more books should be published covering all the topics in "Education Method" (3) a non-technical publication.

It would be an ideal time to produce a book on Nutrition for the people of Fiji.

GROUP DISCUSSIONS

The Conference divided into four groups to discuss the Fiji proposals. Each of the groups then returned to give their criticism and suggestions.

Generally, the proposal was felt to be sound and well thought out. Various aspects were debated and explored, e.g., the best method of data collection, the range and accuracy of the data required, the kinds of tapes to be used. Food prices over the period should be monitored. A questionnaire should be prepared - perhaps the University statisticians could be asked for assistance so that data could more easily be computerized.

Julian Lambert had been a Provincial Supervisor with the National Food and Nutrition Commission in Lusaka, Zambia, working on the UNDP/FAO National Food Consumption Survey. His experience there had led him to be wary of too much scientific data collecting. It was too easy to be buried under a mountain of information. It was better to gather only essential data - generally a simple arm measurement suffices. This was a practical intervention, not a scientific study for a doctoral thesis.

The discussions were of real practical value for the Fijian Planners and enabled them to share the wide experience of the Papua New Guinea Nutritionists.

DAY SIX - Saturday, 27th November 1976

Saturday was a free day. In the morning a shopping and sight-seeing bus tour of Port Moresby was arranged. This was an excellent opportunity for the overseas visitors to see the City - and to understand how the urban squatter problem is worse in Port Moresby than in any other city in the South Pacific.

On Saturday afternoon, Mr. Gus Maino, the Provincial Agricultural Coordinator for Papua, and a most experienced and knowledgeable participant at the Conference, arranged a tour of the Department of Agriculture Wild Life Sanctuary. Sixteen of the participants took advantage of the opportunity.

The Sanctuary contains a wide sample of Papua New Guinea wild life, but participants found the crocodile farm the most interesting element.

The Department of Agriculture has been highly successful in breeding crocodiles, and is now promoting crocodile farms in the villages. A typical "village compound" has been built, and some three hundred small crocodiles were sunning themselves. This could become an important village industry in Papua New Guinea - and perhaps, also in other areas of the Pacific.

DAY SEVEN - Sunday, 28th November 1976

Sunday morning and early afternoon represented a free time slot on the schedule for the Conference participants. At 4:00 p.m. however, Susan Parkinson gave a presentation on a National Committee for Nutrition in Fiji.

A NATIONAL COMMITTEE FOR FIJI

A National Nutrition Committee has been in mind since 1953. Indeed as early as 1939 the British Government recommended that the Fiji Government set up such a Committee. This was done, and functioned successfully for several years. It was dropped during the turmoil of World War II.

It had done some good work. Ration scales in institutions were revised and improved; school gardens encouraged; nutrition education in schools promoted; foods were analysed; the policy on food imports critically examined. Beri beri was wiped out completely.

Our nutrition work in the early fifties was badly hampered for lack of such a Committee. There was very little liaison between the Departments - even today there is very little. A recent example of this was the approval by the Department of Health of a \$5 million powdered milk supplement from World Health without discussing the matter with the Department of Agriculture which is trying to establish a dairy industry.

We feel there is very much more we can do in the field of Nutrition Education - particularly with the Department of Education. There are possibilities in tying home economics and vegetable growing.

Nutritionists have tried for years to set up a National Nutrition Committee. Last year we attacked the problem through Y.W.C.A., which is very concerned with the health of women and children. We set up a Y.W.C.A. Nutrition Committee and invited the Permanent Secretary for Health. He asked us to prepare a proposal for a National Committee. This was accepted, approved by Cabinet and is now functioning.

Our investigations showed an increase in diseases attributed to malnutrition. From 1970 on there have been an increasing number of such cases - 130 last year. Further, there is a high rate of heart disease. It is increasing among both Indians and Fijians. This provided evidence of a shift in disease patterns through food.

The Committee has decided to produce a Newsletter - F.S.P. is helping us with this.

Discussion followed, with comparisons between the experience of Papua New Guinea and Fiji.

DAY EIGHT - Monday, 29th November 1976

PROPOSAL FOR AN INTEGRATED PLANNING SYSTEM

Barbara Lepani

Barbara Lepani described the problems of information organization facing Papua New Guinea, and the effort being made to solve these problems. Mr. Gary Simpson of the Central Planning Office has been working for twelve months in the Southern Highlands and has designed an inventory system to collect and record information.

Papua New Guinea has many sources of information - Mother/Child Health Clinics, Agricultural Extension Workers, Schools, Missions, etc. Information is desperately needed, in easily usable form for National and Provincial Planning and for coordination between the two.

Mr. Simpson plotted all Centres on maps which could be used for showing such information. This highlighted the areas which have centres, e.g., Mother/Child Health Clinics, Missions, Department of Agriculture Extension Services, Community Centres, etc. It showed clusters of them in some places and few or none in others. This made the Provincial Councillors aware of the situation and influenced their policy planning.

It is proposed that information be collected in the Provinces at the census level, and published in a book called the Village Directory. The Mapping Department would then transfer this information to distribution maps.

The Group discussed this from the point of view of nutrition. Information relevant to nutrition could be collected in this way; this would greatly assist nutrition planning.

THE PLANNING PROCESS - TARGET GROUP

James Pines

During the first week you have discussed how you can make governments take nutrition more seriously. As a political person you do not work in the same way as a research scientist; you present the material in a different way.

The Planning Process is the basis for nutrition interventions. What do you do? How do you proceed? The process applies at every level - national, provincial and local.

The first step always is to identify the problems and the conditions. Unless you have some information you don't even approach governments. But planning demands much more detail. You want to know:

WHO has malnutrition and how many?
 WHERE are they - geographically, economically, socially...?
 HOW LONG have they had it? e.g., Is it seasonal?
 TYPE of malnutrition - protein? calorie? Iron? Vitamin A?
 HOW SERIOUS IS IT?

You must ask yourself what will happen if we do nothing?
 Will it go away, remain the same, get worse?

Don't keep postponing action on the excuse of not having enough information. If you have enough information to begin the planning process, you will gather more information as you proceed. We can often use indirect information to make judgments, e.g., health statistics. High infant mortality indicates malnutrition. Data on size of landholdings can help, e.g., if two acres is needed to feed a family and most have one acre... Income - \$16 a week is needed to feed a family in Fiji, how many families have less than this?

The second step demands that we identify the major determinants, i.e., what causes the malnutrition? Causes are many and often interrelated - e.g., infection causes malnutrition and malnutrition causes infection, so also family size contributes to malnutrition and vice versa, food habits - malnutrition, malnutrition - food habits.

The Nutrition System is a tool that helps us trace the consequence of any activity, e.g., if we increase the supply of corn, how will this affect malnutrition? The nutrition system is a useful tool to help us find the answer.

The Nutrition System tells us that nutrition status is the outcome of a system that includes the production of nutrients, the distribution of nutrients, the consumption of nutrients, the utilization of nutrients.

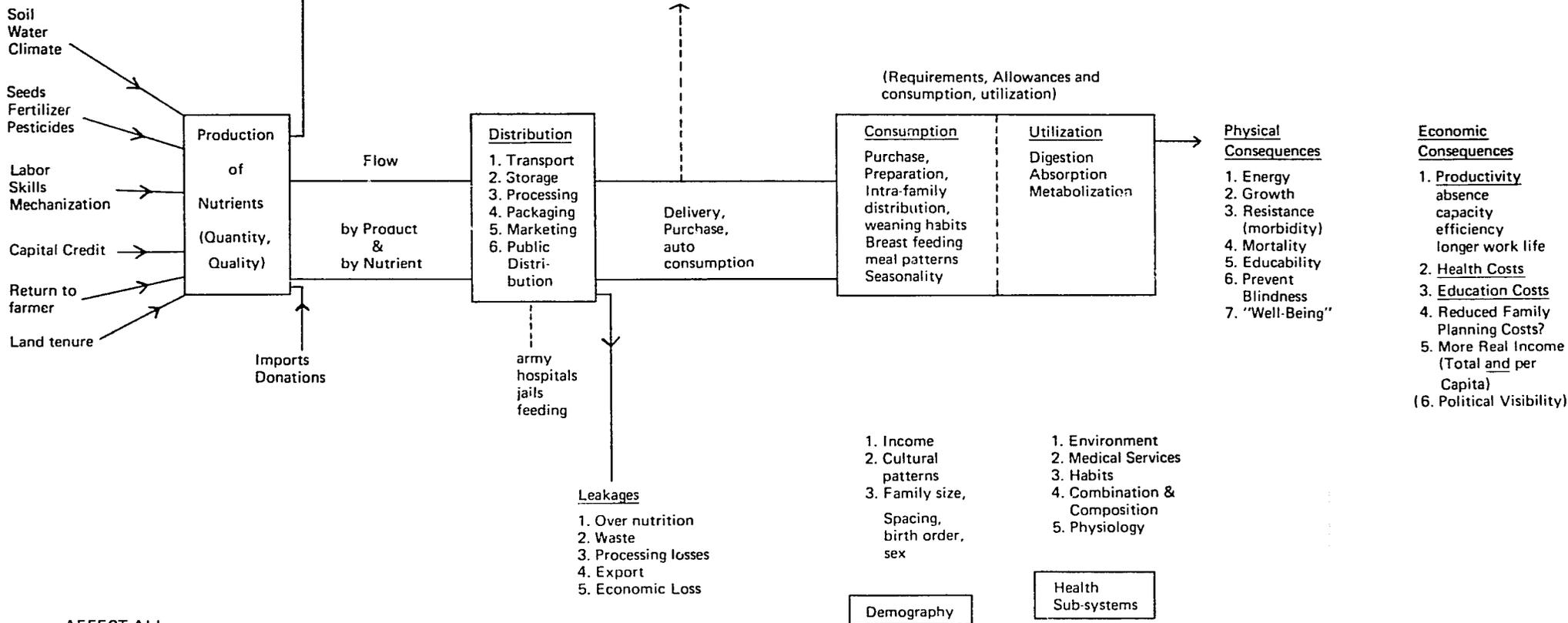
Various nutrition tools such as the low cost diet were discussed.

NUTRITION SYSTEM*

(by Jim Pines)

- Leakages
1. Exports
 2. Seeds
 3. Spoilage, insects etc.
 4. Non-food uses
 5. Animal feed

SUPPLY → PRICES ← EFFECTIVE DEMAND → THE GOAL NUTRITION STATUS



AFFECT ALL

1. Administrative Structure (and "human systems")
2. Government Policies & Programs

*This is not a complete schematic. It is intended to be illustrative of the system and shows some of the factors involved.

DAY NINE - Tuesday, 30th November 1976

OVERSEAS GROUP TRIP TO PNG HIGHLANDS

On Tuesday morning at 6:00 a.m. a Talair Charter Flight took off from Port Moresby with 18 participants - most of the overseas group and several Papua New Guinea participants.

Arrangements had been made for them to visit the Department of Agriculture School, Mother/Child Clinics, a hospital, the tea and coffee plantations in the Highlands. Cus Maino of the Department of Agriculture kindly arranged that four cars meet the participants at the Mount Hagen Airport. Ms. Jean Eng, an I.V.S. worker who is the Nutritionist for the Chimbu Province was in charge of the group.

A report of the trip by Susan Parkinson follows:

Notes on a Visit to the Highlands of
Papua New Guinea

A group of 18 participants from the Nutrition Conference were given the opportunity of visiting the Highland area to observe nutrition and agricultural programs. A great deal of the discussion during the Workshop had been concerned with the problems of the Highlands' people. Many of their problems were relevant to other areas in the Pacific, and Conference participants from other countries felt that they would gain a great deal by seeing some of the Highlands nutrition and agricultural schemes in action.

The day started with a visit to the market at Minj. Here we were able to see the wide variety of foods which are available in the area. Nearby we saw the hospital and nutrition rehabilitation center. This consisted of a typical village house with a cooking fire on the floor. Outside, the staff and patients had a very good vegetable garden. Green vegetables and beans were planted here together with sweet potatoes. The Nurse instructed the mothers of malnourished children on the preparation of suitable foods. The whole situation was designed to be as similar to village homelife as possible.

At Mount Hagen, the Group were taken to the Agricultural Research Station. Here experimental vegetable growing was seen. Research into the cultivation of the winged bean was of special interest. We were also able to see the bean being cultivated by women on an adjacent village farm. Coffee and Tea experiments were also seen.

A brief visit was made to the Agricultural College. The Group were interested to hear about the new two year curriculum which includes a family life course for men and women. After two years all graduates spend a year in the field. The best Field Officers are then chosen for more advanced study in agriculture.

The animal husbandry methods used at the college were of interest. Village type buildings are constructed and local foods are used to feed poultry and pigs. Goats and cattle are also raised.

The main hospital was visited. Here the medical members discussed child malnutrition with the Pediatrician in the childrens' ward. The malnutrition rehabilitation center was also seen. Here about 12 children were being fed by their mothers under the instruction of women who had been trained to care for the center and the adjacent garden. The success of the work in the center was largely the result of the hard work and enthusiasm of the village woman who directed the daily activities. The Ward Sister was in charge of the center.

To conclude, the day's visit was of enormous value to the group. The visit to the nutrition rehabilitation centers was of special interest to the Fijian participants. Everyone was interested in seeing the winged bean experiments, which were very relevant for all countries. The new agricultural curriculum was also thought to have much in it which could be of value in Fiji.

Day Nine - 30th November 1976, Tuesday

While the overseas participants were visiting the Highlands, the Conference continued at Bomana with sixteen participants, several Papua New Guinea officials had joined the group - Michael Sackett of the Department of Primary Industry (Planning), two members of the Education Department and two from the National Broadcasting Commission.

The Papua New Guinea participants had been working for several days drawing up a plan for presentation to the Government. This served as a basis for a long, exhausting, but most valuable discussion.

Jim Pines examined the proposals, and suggested that the recommendations were excellent, but very general. It was not always easy to see what the government was expected to do. It was often useful to divide the various elements as follows:

(1) Promotional - in this case nutrition awareness through local government, schools, and the general community.

(2) Organizational - planning and monitoring, use of existing personnel in other departments.

(3) Informational - the collecting and analysis of data. At present this was being done through the MCH, but this did not work well. In some cases only 20% attend them.

(4) Action - various possibilities were explored:

- a. Changing food habits
- b. Processing and storage of food
- c. Seed distribution
- d. Community feeding with local food

Various intervention points were discussed. The Mother/Child Health clinics are an obvious resource, but for various reasons are not of great value in practice.

The function of the Department of Agriculture was discussed. Mike Sackett pointed out that until recently the Department had been strongly oriented toward cash crops. Now more emphasis is being placed on subsistence farming but much research work remains to be done. There is a severe shortage of agronomists in many areas. Research is also being done in Port Moresby on home gardens.

The group felt that the two areas that offer the most promise are:

- (1) Red palm oil to improve protein deficiency
- (2) The use of an appropriate technology device, the Kau Kau chipper, to enable kau kau (sweet potato) to be stored. It was agreed that the Village Task Force should be consulted about this.

Day Ten - Wednesday, December 1, 1976

NUTRITION PLANNING

James Pines

The first place where our planning must start is our own organization. How do we organize ourselves for planning? We should plot these as planning activities.

Secondly, there is planning of promotion and awareness. The decision makers must be made aware of nutrition needs. What kind of information is required to promote nutrition?

Information Planning is important. Many sources of information are usually available (research, surveys, routine collection, etc.). The gaps required for action are a clue to the nature of the information you must gather. Your research strategy will flow from your nutrition goals.

Your strategy is a broad statement of your aims, it is a guide to planning. A plan is a guide to planning. A plan is a guide to action. A project is a more detailed description of one particular element of strategy. A project, therefore, is a building block of a plan. It must have a money basis. Be careful of going project by project with no overall strategy.

STEPS IN PLANNING

- (1) Description e.g., malnutrition
- (2) Causes (determinants) are many and interrelated - as the diagram of a Nutrition System shows. You need to quantify these relationships e.g., family size as an influence in nutrition status, land holding size, etc. Is there enough food available (Food Balance Sheet). Diseases may be a factor - how widespread is it? We must have this kind of information to develop a strategy.
- (3) Resource constraints
- (4) Priorities and tentative goals. We cannot do everything at once; what will we choose first? This means selecting - and rejecting. We must be clear always - are we planning for this generation or the next; for 5 years or 25?

Selecting priorities is a political decision. The planner gives the decision maker the information and so influences him to the "right" choice

NUTRITION GOALS

Who are the people who are going to show change if we succeed?
 What kind of change will they show?
 Where are they located?
 How much change would we expect?
 How many people are going to change - e.g. 90% over 5 years?

Distinguish always between day dreaming and planning. Goals are a guide to planning. Are our goals too ambitious? too limited?

RESOURCES

Nutrition is multi-sectoral, so resources are found in all sectors. Look at the resources to see how you can organize effective nutrition planning. Present activities are a resource - and/or a restraint. A program already operating may be a constraint because there is a vested interest in keeping it going.

You may be able to remove a constraint, often you have to accept it and plan around it.

ROLE OF PLANNING

Planning must be realistic, do not put into a plan things that may not be possible - don't promise too much.

The process of planning involves the collecting of information about some promising point of intervention. It involves identifying points of intervention, including alternatives. Look at the total system and try to identify bottlenecks.

A point of intervention must be:

- 1) An important causal factor
- 2) Something we can influence

We should look for interventions that have a high cost effectiveness factor. Hence, you must quantify the benefits on a monetary basis.

THE FOOD ACTION GROUP - A PRACTICAL NUTRITION INTERVENTION

Julian Lambert

Funding for large projects in Papua New Guinea is often available from donor agencies, we needed an organization able to dispense small sums with a minimum of paper work.

A small group of local people was organized (the Food Action Group); it includes representatives from government departments and charitable organizations such as the Red Cross. The group included a journalist from the "Post Courier", and we had a number of articles, including a six page spread on Christmas Eve 1974. Kina 9,000 was collected in the first six months, most of it in the form of 5 and 10 kina donations.

Circulars were sent to all schools which told that funds were available for school projects that made a contribution to the food problem. Preference was given to areas of malnutrition such as the West and East Sepik.

We have made over 40 grants (a total of 5,000 kina) in 14 Provinces. The limit is 300 kina, although we have occasionally given more in special cases. Expenses have been kept to 1% of grants made. This is possible because all the work is done on a voluntary basis. Projects are evaluated by the Nutrition Field Staff.

A prime requirement is a substantial degree of self help - labour, timber, etc. We pay no labour costs. Where technology is involved we use intermediate technology.

Projects have included making available and distributing nutritious seeds to encourage home gardens in the Port Moresby area, purchasing an ox drawn plough for 200 kina for the Popondetta School (they wanted a tractor).

We feel that we are encouraging local initiative and helping in a small way to arouse interest in nutrition.

We considered setting up revolving funds but decided that the projects were not commercial, rather they are addressed to improving local foods. Hence revolving funds are not considered practical. This made it necessary to find more sources of funds.

Jim Pines asked how the group evaluated their work from an awareness point of view. The answer - many schools have written back commenting on the success of the projects.

The remainder of Wednesday afternoon was given to group discussion. The Fiji group and the Papua New Guinea group were each asked to prepare their final recommendations from the Conference. These would be discussed with Mr. Pines on the last two afternoons.

DAY ELEVEN - THURSDAY, 2nd DECEMBER 1976PROJECT HYPOTHESIS

James Pines

Mr. Pines pointed out that every action or plan represents a hypothesis about what will happen if the plan succeeds... "If I go to college, I will get a good job."

Any hypothesis depends in part on the characteristics and conditions of the group involved. We must examine these before deciding how valid the hypothesis is.

In nutrition interventions, there are at least two different groups involved - an action and a beneficiary group. If we say we will feed mothers (action group) to better children (beneficiary group) - these are separate groups. They may coalesce.

A project hypothesis says that if you have a certain group and certain change goals, and apply certain activities you will get certain results.

Group -----> Activity -----> Results

The project hypothesis enables us to analyse the steps between the activities and the results always bearing in mind the special characteristics of the group. You must ask - what are all the things that must happen for the activity to produce the required result? Clearly the activity must be carried out as planned.

Like many obvious things, this one is often neglected. For example, a certain country decided to concentrate its Agricultural Extension Workers on subsistence farmers. After two years, it became clear there had been no impact whatever on subsistence farming. Subsequent evaluation showed that the Extension Workers had in fact continued to do what they had always done - work with cash crop farmers. This is an actual case. Your project must have built into it the necessary evaluative machinery to find this out right at the beginning and not at the end.

The characteristics of the group you are working with are vital factors. A project may produce excellent results in Fiji and fail in the Highlands of Papua New Guinea among people who are at a quite different stage of development.

Mr. Pines discussed in detail the goals of a Save the Children project in the Chimbu, administered by Ms. Anne Menzies. The goals were examined in detail, the activities and project hypothesis.

Some projects will have multiple goals - this is the thinking underlying the concept of integrated rural development. The term has become fashionable, but we must not imagine that using the term absolves us from the need for planning. We need to isolate the various goals and plan to reach each of these goals in each case, critically examining the link between your proposed actions and expected goals to see how valid your project hypotheses are.

Several examples were taken by Mr. Pines and examined to show the links between the action taken and the goals.

PLANS FOR FIJI

The Thursday afternoon session was devoted to a consideration of the plans of the Fiji group. Several days of group discussion among themselves, followed by a probing session with Mr. Pines led to a revision of these plans. The group decided that anemia was one of the most urgent problems of nutrition and planned to attack this.

The problem would be attacked through the National Nutrition Committee working with the Departments of Health, Education and Agriculture.

The aim is to reduce the prevalence of anemia. The full extent is not immediately available, but Dr. Kurusaqila and Dr. Biumaiwai were confident that the necessary records are available and could be collated in a month or so. Ms. Verona Lucas, F.S.P. Nutritionist, will do this.

There is some treatment being given now. The efficacy of this will be examined, and the extent of malnutrition among women not being reached will also be assessed. Hence what is needed is:

- (1) Outreach
- (2) An educational campaign to persuade the women to eat more fresh vegetables
- (3) Treat the women for worms

Mr. Pines felt the group had pinpointed some intervention points. But they had not distinguished how they would attack the problem of hookworm. Were they planning for treatment or prevention? Had they considered the cost effectiveness of each program? In any case, how would they try to prevent hookworm?

Fiji: Hookworm spreads through faecal matter. Hence, we try to get them to wear shoes, to wash their hands carefully and to use water sealed toilets.

A list of ways to achieve this were discussed.

- (1) Wear shoes. Check and see how effective this is by comparing the incidence of worms between those with shoes and those without.
- (2) Build latrines
- (3) Education in hygiene

- (4) Treat present hookworm carriers
- (5) Child spacing

Mr. Pines: Your strategies are excellent. You still need to know how much the government is prepared to spend on preventive medicine, what you want the government to do, and how much this will cost.

I suggest that a useful way to approach this is to take a specific area, carry out some of these interventions and see how effective they are. How many cases of serious anemia did you prevent and at what cost per case? You may find the cost prohibitive. If so, can you achieve your results more cheaply in another way? Do you need to do all these things for everyone?

Education: The group spent some time in discussing how to reach the women - especially the Indian women where the anemia is most prevalent. How do we persuade them to eat more dahl and chinese cabbage? (Chinese cabbage is very easy to grow, grows all year, is popular and is an excellent source of iron.) The Family Planning and Mother/Child Health Clinics could be used as a teaching base.

Working with village groups is important - getting them to identify their needs and the foods required to meet these needs.

Radio shows are a practical proposition. The Fiji Broadcasting Commission has approached F.S.P. for help for a development officer. They would be happy to use such a person to promote nutrition education through their radio dramas. Also each morning there is a brief (2 minute) session on Farming Life at 6:30 a.m. which could be used to encourage the production of dahl and chinese cabbage.

Production: Jim Pines asked if the production of dahl and chinese cabbage could be increased to meet the expected increase in demand.

Fiji: Much of the increase would be in the subsistence area and that would not be a problem. The increase for the urban areas could be encouraged through: (a) school gardens; (b) Research on the cheapest way to promote dahl, and encouragement by Extension Workers.

Jim Pines congratulated the group on their planning. It was clear that they had made great progress since the sessions earlier in the week, and had profitted from the systematic planning approach.

He suggested that they could break up their plan into a series of coordinated goals and actions. This makes it very much easier to get funding. Small donors are much more willing to assist where it is clear they are funding one part of a larger, coordinated plan.

With governments also, the more detailed the planning, the more difficult it is for them to refuse help.

DAY TWELVE - Friday, 3rd DECEMBER 1976EVALUATION

James Pines

Planning, including evaluation, is a continuous process. Evaluation is one of several kinds of information systems.

We distinguish between a project evaluation system and a program evaluation. A program usually has a series of interrelated goals, each of these goals can be evaluated - the evaluation of the specific goal is project evaluation.

Another kind of information system used in nutrition planning is sometimes called a monitoring system, e.g., every month we might want to know the nutrition status in a country or a Province.

There is also a surveillance system - or an early warning information system. This means some regular way of anticipating or predicting a change in nutrition status. This requires identifying variables related to a change in nutrition status; e.g., if there is a "taim hangri" there will almost certainly be an increase in morbidity some months later.

You may find that if you examine the data on world coffee prices, that a fall in such prices will mean a decline in nutrition status several months later.

There are many possible variables which you may find will be connected with nutrition status, e.g.,

- (1) Planting - if we know what and how much farmers are planting we can often predict malnutrition
- (2) Weather
- (3) Price level of products
- (4) Pig cycles - a big pig feast in a given area may be followed by malnutrition
- (5) Level of employment

It may help to systematize this data at a national or provincial level.

The next question is - who will act on the early warning?

A system attempts to evaluate and measure the impact of non-program variables (exogenous variables). These come from outside the system - unemployment increases, bad harvests, etc. These influences may better or worsen the situation. This permits you to assess the impact of policies in other sectors - in some places the Green Revolution made the nutrition status worse. Wheat and rice became so valuable that farmers grew fewer pulses.

Project Evaluation

We must distinguish activities and results. Most agencies are excellent at evaluating activities, few make a serious attempt to evaluate results.

Most of the information you need for evaluation should come from your routine information set up. Unless this is done, evaluation is very expensive and of limited value.

For example, policy in Papua New Guinea now decrees that Agricultural Extension Workers will concentrate on subsistence farming. Are they doing so? You must collect information from the beginning to ensure that they are, in fact, doing so.

To do an evaluation I need to know:

- (1) The base line data - what was the status before the project started?
- (2) The activities carried out
- (3) The impact of these

What variables do I want to measure, and what information do I need to measure these? E.g., If the variable is nutrition status, what do I measure? I may decide on height/weight; weight/age, arm circumference, etc.

How is the measuring to be done? Who will do it? Your evaluation must be consistent with the capability of the person gathering the information and with the time he or she can afford to give. Hence, we must ask - how much or how little information is needed? When and how often will the measuring be done?

Next - what will be done with the information? It is better to collect a little information and use it than a lot which is not used. You build a feedback mechanism which determines where the information goes, who organizes it, and what is done with it.

Who is the project evaluation for? The worker? the beneficiary/ the planner? - or for all of these? Is it needed for the Provincial level? the National level? These are all factors that determine the amount and kind of information you will collect.

Indicators:

We must identify indicators - an indirect way of measuring variables. What if the program is seeking to change attitudes, e.g., awareness of nutrition. How do you measure this? Does a change in attitude necessarily mean a change in behaviour? Perhaps something else is coming in between; e.g., Mother-in-law may make the decision, or food might be too expensive,

or too difficult to prepare. Information about these factors may help your planning.

What if a program is long term - say 10 years? If something different is to happen in ten years, something should already be happening now which will cause this. You can evaluate stages.

Always emphasise that you are evaluating programs, not people. When people think their future as a professional depends on the numbers in an evaluation report, something funny often happens to that report. A classic case was the "body count" in the Viet Nam War. When the Patrol Leaders became convinced that their promotion depended on the number of bodies counted, enemy "dead" climbed to astronomical proportions.

When preparing a project, try to pinpoint some useful indicators, and build these in to your data collection. Often you can take advantage of other agencies routine data collection.

Exercise:

It has been proposed that nutrition status in Papua New Guinea Highland villages will be improved if kau kau chippers are used to treat the crop which can then be stored for use in times of famine.

How could we build up an evaluation system for this?

The Project Hypothesis is that through the introduction of food storage there will be an increased availability of sweet potatoes.

Base Line Data: What does the situation look like now with respect to the problem we hope to solve? Is there any storage? Are extra sweet potatoes available? What are the characteristics of the group we hope to help? What do they grow now? How much land do they have?

Who will collect the data and what will we do with it? What kind of data is already available, and who will seek this out?

What do we expect to do?

- (1) Distribute the chippers? How many and to whom?
- (2) Training - how much was done? How many people were reached? How many were changed? How much did it cost per person reached (effectiveness)? Remember that if your goal is change, you may get more change by reaching fewer people.

- (3) How many buildings have been erected? (but be careful of the "bricks and mortar" mentality).

What are the next steps that have to happen before the result will be achieved?

- (1) Machine must remain in working order
- (2) Some has to use it
- (3) Before it even gets used, someone has to dig up the extra kau kau
- (4) How much product is actually stored and of what quality is it?

APPROPRIATE TECHNOLOGY

Anthony Power (Village Task Force, PNG)

You will have a copy of a project I prepared on a village feed mill. You all know that it is almost impossible to make people change their diet - unless this is integrated with a number of other elements. In my paper I have tried to show how all the various elements must be considered.

There is not a great tradition of food storage in the Pacific. If we can change this it will revolutionize the South Pacific food position. I am therefore very pleased to learn that this Conference has been considering ways of promoting food storage.

Mr. Power showed a number of slides demonstrating various appropriate technology devices. These included:

- (1) The Alaskan portable sawmill - cost about \$1500, high portable
- (2) Kau Kau chipper - 200 of these are on order for Papua New Guinea through the Village Task Force. Cost is kina 150 - assembled locally. "I see this as a central machine to increase production. As land pressure increases, there will be increasing need for this machine. The chips will dry in the sun in a day or two and can be stored for six months or more."
- (3) Chinese tractor (plus half ton trailer) Kina 1300
- (4) Bio-digester. Having a pond that is fertilized by manure which grows algae is very applicable to village life in Papua New Guinea.

The Village Task Force is trying to influence schools, especially vocational schools. We are trying to make simple hand tools available for the village women. They have almost nothing. Many of them still use the digging stick.

FINAL SESSION - A NUTRITION PLAN FOR PAPUA NEW GUINEA

The final session was given over to a discussion of a Nutrition Plan for Papua New Guinea. Considerable time was given to this during the Conference and various suggestions were proposed and examined. All agreed that malnutrition is a grave problem in Papua New Guinea and is worsening.

In the final session, Jim Pines asked the Conference: "What do you think the government of Papua New Guinea should do to organize for nutrition that they have not as yet done?"

John Basford: I believe that what we have decided on planning is the most important decision we have made at this Conference, viz. to seek to have a Nutrition Planner as a member of the Central Planning Office. At the same time Nutrition Planners in the Provinces must be feeding back information to the Central Planning Office.

Jim Pines: What kind of information would the Central Planner need?

John Basford: His first job would be to analyse the information already available. We can get the Mother Child Health Clinics data and re-view it each month.

Sandy Stephens: We are seeking to have a standardized core system of Nutrition Education. We need materials for this relevant to primary, secondary and tertiary levels. We need a Nutrition Manual for Aid Post Orderlies, pidgin booklets for village workers, flip charts, etc.

Julian Lambert proposed a red palm oil supplement for energy and Vitamin A. This had been discussed in earlier meetings, but practical difficulties of distribution exist which the Conference members were not able to solve.

John Basford: I plan to start a Nutrition Mobile Unit. In fact we have this largely worked out, but lack finance, particularly for transport. The visits would include personnel from the Agricultural Department, community development, medical. . . . Lessons would be given in gardening, cooking and so forth.

Jim Pines: What exactly are you trying to do in the villages? and what will happen when the vehicle wears out? You are really talking about budget support rather than a nutrition intervention.

John Basford: The Provincial government has already agreed to fund such a vehicle after two years if the scheme is successful.

Our plan is to get people working together toward nutrition solving. There is at present little cooperation between the various Departments. In my area several of us have discussed ways to remedy this - to coordinate the various Departments working in the villages. We are fortunate also in having three other people who could coordinate this so that when I leave it will continue. We have a number of aims:

- (1) See increased variety of seeds distributed
- (2) Introduction of solid foods for babies earlier than at present
- (3) Show people how to utilize the new foods developed by the Department of Primary Industry (non-local but indigenous)
- (4) The Department of Primary Industry could have demonstration gardens within the village to show how to grow these
- (5) Community Development to show people how to set up small businesses
- (6) The kau kau chipper could be very useful not only for the villages but also for the High Schools (boarding) which now have to become self-sufficient

Gus Maino: The Department of Primary Industry has come up with a number of varieties of sweet potato that mature in 6, 9 or 12 months - hence they are maturing at all times of the year. However, there could be cooking problems for the chipped kau kau; villagers would need to be shown how to cook these.

Jim Pines: Could you find six villages that grow sweet potatoes and have malnutrition? If so what do you propose to do in these villages?

John Basford:

- (1) Introduce sweet potato chippers
- (2) Grow more sweet potatoes and if so areas where land is available would have to be picked
- (3) Community Development would give cooking demonstrations
The people in my area have cooking pots.
- (4) Promote other, more nutritious, foods

The components of our group would be:

- (1) Community Development for cooking, etc.
- (2) Mother Child Health Clinics for mother and child health
- (3) Department of Agriculture
- (4) Nutritionist

The Nutrition Committee has already proposed this idea. The Committee has four Melanesians (Chimbus) out of a total of seven.

Jean Winter: If this works in the Chimbu I feel it could work elsewhere. It would help solve the problem of the Mother/Child Health Clinic nurses. They lack prestige; the status of women is low in Melanesia. As members of a team they would have support and backing. This could be important for their morale.

It would also solve the problem mentioned by Sandy Stephens - that the villagers become confused when people come at different times from different departments to tell them different things. There would be a real chance of integrating these various departments and of having a real impact on the villages.

In closing the Conference, Dr. Bernard Hosie thanked all the participants for their efforts and cooperation. A special word of thanks was due to Mr. James Pines for his invaluable contribution, Roy Kamkilai, Julian Lambert, Susan Parkinson, Gus Maino.....it would be impossible to pay sufficient tribute to all who had helped.

EVALUATION OF CONFERENCE

The Holy Spirit College at Bomana is twelve miles from Port Moresby and somewhat isolated. This had disadvantages especially for the non-residents. However, it had the advantage of drawing the participants closer together and facilitating the informal sharing of experiences which is a vital but immeasurable benefit of Conferences of this kind.

Living accommodation was simple but adequate. The classrooms were hot in the Port Moresby summer; they had large overhead fans but no air conditioning.

There were eighteen live-in participants and nine day-only participants. Attendance of the former was excellent. The daily attendance (Port Moresby officials) was somewhat erratic. Average attendance throughout the Conference was 22. Bushra Jabre, the South Pacific Commission participant, was able to attend only for the first week. Dr. George Koteka, Director of Public Health, Cook Islands, had visa troubles and arrived a week late for the Conference. Several Fijian delegates were forced to leave two days early because of travel problems. Mr. Jim Pines used their problem as an example of problem solving and of possible solutions!

The Conference concentrated on nutrition planning for Papua New Guinea and Fiji. It became clear that the two areas were vastly different as far as problems and stage of development were concerned.

Participants were asked to evaluate the Conference under five headings: What was most useful? What was least useful? What changes would you propose for future Conferences? General comments, including those on the site of the Conference? What practical effect, if any, will the Conference have on your future work in nutrition?

Most Useful

The participants were unanimous in their view that the contributions of Jim Pines were the most useful element of the Conference.

Typical comments: "Jim Pines with clear, logical presentations pulled everything together." and "Jim Pines' lectures - he used simple, clear language."

Several members of the Conference mentioned the exchange of ideas and experiences between the participants as a major element.

Least Useful

Several participants were critical of the first week; they felt that it was too academic. Some found the language and the concepts difficult.

Three found the group discussions too vague and unstructured. Three others considered that everything was useful.

General Comments

More than half the participants considered that the site was suitable.

Four considered it too isolated - or at least somewhat isolated. Three considered that it would have been better for the Papua New Guineans if the site had been well away from Port Moresby.

Changes in Approach

All the participants claimed that the Conference would assist them in their work, and would lead to definite changes in their planning and approach.

Typical comments were: "I plan to look at the programme and set some definite goals and plans instead of just muddling along."

"Back in the Chimbu there is going to be a reappraisal of the different intervention programmes underway (which I have been following blindly and religiously in the past!)."

"The materials presented at this Conference are the tools by which we will be able to get the F.S.P. Nutrition Program coordinated with government. Designing the F.S.P. program will be done using this information instead of by guess and by God."

REPORT

RECOMMENDATIONS OF THE SOUTH PACIFIC
NUTRITION WORKSHOP FOR PAPUA NEW GUINEA

BOMANA, DECEMBER, 1976

- Section 1. A national strategy for nutrition planning as part of general development planning in Papua New Guinea.
2. Description of two specific interventions for immediate action in improving nutrition in Papua New Guinea.

Sponsored and organized by The Foundation for the Peoples of the South Pacific.

SECTION 1.

NUTRITION STRATEGY - "TOWARDS A NATIONAL NUTRITION PLAN FOR PAPUA NEW GUINEA"

AIMS:

TO GIVE EVERY PAPUA NEW GUINEAN THE MEANS TO ACHIEVE OPTIMUM GROWTH AND DEVELOPMENT THROUGH GOOD NUTRITION.

TO PROMOTE THE RECOGNITION THAT GOOD NUTRITION IS A NECESSARY ELEMENT FOR IMPROVING THE WELFARE OF RURAL AND URBAN PEOPLE IN PAPUA NEW GUINEA.

OBJECTIVES:

TO INSURE THAT:

1. Nutritional implications are an essential component of evaluating all development planning and policy formulation.
2. The incidence of sub clinical malnutrition be continually reduced.
3. Clinical malnutrition be eliminated within ten years.

POLICY IMPLEMENTATION

This strategy necessitates the co-operation of concerned departments in designing programmes outlined below. Co-ordination of these programmes will be the responsibility of the national nutrition planner and the Inter-departmental Food and Nutrition Advisory Committee.

1. Planning and Monitoring

AIM: TO HAVE NUTRITIONAL IMPLICATIONS ACCEPTED AS AN ESSENTIAL COMPONENT IN THE DESIGN AND EVALUATION OF -

- National and Provincial Programmes
- Departmental Plans
- Policy Submissions
- Individual Projects by Departments
- Legislation

It is recognized that much important planning and monitoring work has already been carried out by the Nutrition Section of the Department of Health. This strategy calls for the continuation of this work, with the additional support of the national nutrition planner of the National Planning Office, as is specified in Section A below.

STRATEGIES:

A. National Nutrition Planner

National Nutrition Planner to be appointed to the Social Planning Section of the National Planning Office. This national nutrition planner to undertake the following responsibilities:

- (i) analyse existing human resources in departments to identify who can assist in the implementation of nutrition programmes;
- (ii) develop a format for the nutritional evaluation of all policy submissions, departmental plans, development programmes and projects;
- (iii) prepare a policy submission for the National Executive Council to declare the importance of nutrition in the allocation of resources in all government planning and decision making;

- (iv) assist the Budget Priorities Committee in the consideration of nutritional implications in submissions before it;
- (v) assist in the development of a legislation and tax programme designed to encourage the consumption of locally produced nutritious foods by:
 - discouraging the consumption of foods proven harmful to the nutritional status of the population.
 - modify products to improve their nutritional value.
 - discourage the importation of foods that can be substituted by local products at competitive prices.
 - discourage the exporting of food of high nutritional value unless large surplus exist after the domestic market is satisfied, as for example, with peanuts.
 - influence infant feeding practices by encouraging breast feeding, discouraging bottle feeding, and discouraging commercial baby food preparation consumption.
 - investigate ways of subsidizing key nutritious foods with tax levies on undesirable food items such as soft drinks and cheese pops.

Monitoring, Evaluation and Research.

(to be implemented by co-ordinated effort by appropriate departments)

- B. Ensure that a suitable nutritional indicator is included as one of the select social indicators to be collected at the census division level in the proposed Integrated Planning System. This system to be used to identify areas requiring nutrition interventions.

Revise and up-date existing programmes to provide an initial estimate of the incidence of malnutrition amongst priority groups, and to use this information as baseline data in programme formulation.

Periodically re-assess the incidence of malnutrition for use in programme evaluation and modification.

Research, as needed, to clarify nutrition problems detected by monitoring system, and the modification of existing and proposed programmes in the light of their effect on the nutritional status of populations.

- C. Regional and Provincial Nutrition Planning.

Provincial Governments and/or Area Authorities to state the nutrition must be an essential component in all project evaluation and resource allocation.

Regional nutrition planners to be directed to comment on all provincial programmes, with follow-up work to be provided by provincial nutrition educators.

Regional nutrition planners to be available as a resource for all provincial planning teamwork.

- D. Messing Policies at Residential Institutions.

Encourage the consumption of locally produced foodstuffs, and discourage the reliance on imported foodstuffs at all residential institutions, (such as hospitals, boarding schools, corrective institutions, government hostels, Defense Force establishments).

2. AGRICULTURE.

(to be implemented by the Department of Primary Industry)

AIM: TO MONITOR THE LEVELS OF ADEQUACY OF SUBSISTENCE FOOD PRODUCTION AND GARDENING METHODS, WITH PARTICULAR EMPHASIS ON AREAS OF SEASONAL FOOD SHORTAGE.

TO ENSURE A CONTINUOUS SUPPLY OF FOODS FROM THE THREE FOOD GROUPS (ENERGY, PROTEIN, PROTECTION) THROUGHOUT THE COUNTRY BOTH IN RURAL AND URBAN AREAS FROM SOURCES WITHIN PAPUA NEW GUINEA.

TO PROMOTE THE EQUITABLE DISTRIBUTION OF THESE FOODS THROUGH IMPROVED PROCESSING, TRANSPORT AND MARKETING, AND EXCHANGE.

TO PROMOTE BACKYARD GARDENING AND LIVESTOCK PRODUCTION IN URBAN AREAS TO SUPPLEMENT CASH INCOMES AND PROVIDE A SAFEGUARD AGAINST LOW INCOMES AND UNEMPLOYMENT.

STRATEGIES:

- A. To monitor the levels of adequacy of subsistence food production and gardening methods with particular emphasis on areas of seasonal shortage.
- B. Agricultural research work be expanded to identify improved varieties of all major subsistence crops and to identify soil types and establish suitable food crops.
- C. To make available seeds of high nutritive value crops for sale at reasonable prices to villagers in all rural areas through Department of Primary Industry extension agents. To demonstrate suitable planning densities and techniques at all Agricultural Stations, suitable posters and educational materials should be produced to promote these crops.
- D. All Field Agricultural Officers to be instructed to actively participate in Nutrition Programmes, and attend short Nutrition training courses.
- E. In all Agricultural Colleges, strengthen awareness of nutritional problems encountered through an over emphasis on a cash economy.
- F. Suitable planning materials to be provided at reasonable prices in all urban areas to encourage backyard gardening.

3. EDUCATION.

AIM: INCREASE AWARENESS OF THE RELATIONSHIP BETWEEN FOOD AND HEALTH SO THAT PEOPLE UNDERSTAND THAT THE DAILY CONSUMPTION OF ADEQUATE NUTRIENTS IS NECESSARY FOR OPTIMUM DEVELOPMENT AND CONTINUED GOOD HEALTH.

STRATEGIES:

A. Production of Nutrition Education Materials

- (i) Development of a core package capable of being understood by pre-literate peoples and community school children.
- (ii) Production of a standardised core nutrition package suitable for all students at all secondary schools, tertiary institutions and in-service training programmes.

- (iii) Production of core package supplements based on individual departmental needs.
- (iv) Production of a basic field extension worker's manual on the integration of nutrition in basic extension services such as agriculture, health and community development.
- (v) Nutrition extension through the use of all media - provincial radio programmes, films, theatre, posters, comic strips, video, flip charts, newspapers, etc.

The Aid Co-ordinating Committee be consulted regarding the recruitment of a nutrition educator skilled in the production of educational materials, and with experience in dealing with pre-literate peoples.

B. Community Education Work

- (i) Nutrition and agriculture should be taught in all community schools. Nutrition teaching should involve nutrition assessment by the measurement of mid upper arm circumference.
- (ii) Obtain support from political leaders at the provincial and community government levels in nutrition awareness programmes.
- (iii) Involve Parent and Citizen organisations in nutrition awareness programmes.
- (iv) Encourage Summer Institute of Linguistics and other such non government agencies to use nutrition materials in their language programmes so that basic nutrition information can be distributed to a level equal to that of the Bible.
- (v) Advanced standardised core package to be taught to all students at secondary schools, tertiary institutions and in-service training courses. Supplementary material to be included in appropriate course according to individual needs.
- (vi) Improve the understanding of individual food needs within the family to ensure more equitable distribution of food from the three food groups to all family members.

4. HEALTH.

AIMS: TO MONITOR THE NUTRITIONAL STATUS OF THE NATION AND TO TAKE REMEDIAL ACTION ON ALL INCIDENCES OF CLINICAL AND SUB CLINICAL MALNUTRITION.

PROMOTE GOOD NUTRITION THROUGH THE DISTRIBUTION OF SUITABLE EDUCATION MATERIALS THROUGH ALL HEALTH SERVICES.

TO ENHANCE FAMILY NUTRITION STATUS AND REDUCE INFANT AND TODDLER AND MATERNAL MORTALITY AND MORBIDITY RATES.

STRATEGIES:

- A. Continuation of the existing programme of the Nutrition Section of the Department of Health.
- B. Recognition by all sections of the Department of Health that an adequate nutrition status is a prerequisite for the effectiveness of all health care and health improvement services.
- C. Upgrade and extend existing maternal and child health services through the wider distribution and more effective use of the health record book and nutrition education materials.
- D. To improve services through:
 - in-service training programmes for all health workers on health extension techniques, particularly the importance of face to face communications.
 - improve field support and supervision of all extension workers.
 - improve transport facilities for the delivery and supervision of all health extension services.
- E. Professional training and staffing of nutrition workers as below:
 - (i) The training of provincial nutrition educators at the College Allied Health Sciences to be continued subject to modifications necessitated by more adequately defined levels of responsibility.

- (ii) Four regional nutrition planners to be trained at graduate or post graduate level at suitable overseas institutions, through technical assistance programmes.
- (iii) The continued use of volunteer programmes for additional field nutrition workers to enable the establishment of a provincial nutrition educator in every province by 1980.

SECTION 2.

Nutrition Interventions.

It was the opinion of provincial nutrition staff that poor nutrition results from -

- (a) ATTITUDES -
 - (i) daily frequency of eating is not adequate to enable small children to consume enough quantities of basic energy foods from bulky staples such as kau kau or yams.
 - (ii) distribution of food within the family does not take account of the special needs of vulnerable members such as sick people, small children, lactating mothers.
- (b) SUPPLY - In some areas energy deficiencies are the result of an inadequate supply of food on a regular basis.

Recommended Interventions:

A. MATERNAL AND CHILD CARE CLINICS

Attendance of these clinics is the most efficient way of monitoring nutrition, detecting malnutrition, and making parents aware of the importance of nutrition, and how to achieve good nutrition.

At the moment the effectiveness of the clinics in this task is hindered by:

- (i) inadequate transport facilities to help the clinic staff fulfill their schedule of clinic days in the different rural areas. To be effective clinics must occur with reliable regularity.
- (ii) failure of nursing staff to either treat nutrition as an important health issue, or in some cases to detect malnutrition and undertake the necessary remedial work to prevent serious clinical malnutrition.

Intervention - immediate priority to be given by the Government to assisting the Health Department to:

increase the coverage of the population by MCH Clinics through better transport facilities.
provide in-service training and supervision.

- (a) to help nurses appreciate the importance of nutrition as a pre-requisite to good health and
- (b) to improve their standard of nutrition monitoring through better use of the health record book.

B. FOOD SUPPLY.

1. To follow up the Enga experiment using red palm oil with commercial marketing of packaged unrefined red palm oil (a high energy supplement and source of Vitamin A) at acceptable prices throughout Papua New Guinea. If necessary price should be subsidized by a levy on other food items of no nutritional value, but with widespread distribution such as "cheese pops".
2. The distribution of wing bean seeds, and the promotion of wing bean production and consumption in all suitable areas of Papua New Guinea, that is below 7,000 feet. Wing bean is a very good source of protein and vitamins.
3. Promotion and marketing of cooked (boiled or roasted) peanuts and peanut products so that packaged peanuts are more readily available, and at comparable prices to other fast food such as "cheese pops" and "twisties" throughout Papua New Guinea.



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