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WORKSHOP ON THE EFFECTS OF URBANISATION AND WESTERN DIETS
ON THE HEALTH OF THE NI-VANUATU POPULATION

NOVEMBER 2 - 6, 1981

PORT VILA, VANUATU

Sponsored by

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South Pacific Commission
United Nations Development Programme

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Introduction

1. Infantile diarrhoea, childhood malnutrition, dental caries, diabetes, hypertension, obesity and gout are serious health problems of growing concern, now occurring often in epidemic proportions, in many South Pacific countries. The causes are many, but include bottle feeding, the substitution of fresh food by imported foods, increasing urbanisation, and the general adoption of a western lifestyle. At the same time, food imports constitute a major item in the trade figures of every Pacific Island community and trade deficits are widespread.
2. The United Nations Development Programme has kindly provided funds to the South Pacific Commission to help to bring about better nutrition, by helping countries review the changes taking place in diet as a result of increasing urbanisation and the adoption of western foods.
3. In-country workshops have been sponsored by UNDP and SPC to review these trends and discuss ways to combat the emerging problems that relate to changing food habits, attitudes and lifestyles, and to address the problems associated with the formulation of sound food and nutrition policies.
4. The Republic of Vanuatu kindly co-sponsored the workshop held in Port Vila, 2nd to 6th November, 1981.
5. The workshop participants were welcomed by the Honourable Kalpokor Kalsakau, Minister of Finance and Acting Minister of Health, Republic of Vanuatu; and by Terry Coyne, on behalf of the Secretary-General of the South Pacific Commission.
6. Much assistance was provided during the workshop by Sister Joyce Tuidia, Director of Nursing Services, Ministry of Health, Oda Blackburn, and Mr. Ken Calvert of the Central Planning Office.
7. The main objectives of the workshop were:
 - (a) To provide information and to solicit information from the National Government and Administration concerning present nutritional status, and possible consequences of present food and nutrition policies.
 - (b) To solicit information from and encourage discussion by appropriate government bodies concerning potential solutions to the presently outlined nutritional disorders.
 - (c) To discuss with government bodies the present status of food and nutrition policies and potential training and/or consultant needs essential to combat deficiencies and develop and execute national food and nutrition policies.

8. The consultants for the workshop were:

Mr Julian Lambert
FAO/UNDP Nutritionist
Fiji National Food and Nutrition Committee
SUVA, Fiji

Dr Richard Taylor
Epidemiologist
The Royal Southern Memorial Hospital
Kooyong Road, Caulfield
MELBOURNE, Vic. Australia

Marie-Claude Teissier
Health Education Officer
South Pacific Commission
P.O. Box D5
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New Caledonia

9. The South Pacific Commission coordinator was:

Terry Coyne
Food and Nutrition Planning
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South Pacific Commission
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JOINT VANUATU/SPC/UNDP WORKSHOP

The Effects of Urbanisation and Western Diets on the Health of the ni-Vanuatu population.

2nd to 6th November, 1981 - Port Vila, Republic of Vanuatu.

AGENDA

Monday, 2 November

Chairperson: Mrs Mary Gilu
Mothers' Union Representative

- | | | |
|-----------|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 8.00 a.m. | Welcoming Introduction | The Hon. Kalpokor Kalsakau
Minister of Finance, and
Acting Minister of Health |
| 8.15 | South Pacific Commission
welcome on behalf of the
Secretary-General, the
Hon. M. Young Vivian | Ms Terry Coyne
Food and Nutrition Planning
and Research Assistant |
| 8.30 | Introduction of Participants | Individual Participants |

The Economic Implications of:

- | | | |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| 9.00 | Population changes and
changes in migration
patterns in rural and urban
areas of Vanuatu | Mr David Salathiel
Statistics Adviser
Department of Statistics |
| 9.20 | Changes in food systems from
traditional agriculture to
cash crops | Mr Douglas Malosu
Deputy Director
Department of Agriculture |
| 9.40 | Discussion | |
| 10.00 | Morning Tea Break | |
| 10.20 | Changing trends in food
imports and exports, types
of foodstuffs imported | Mr David Marshall
Department of Statistics |
| 10.40 | Changes in food habits,
infant feeding practices
and dietary patterns from
the traditional diet in
Vanuatu to present day urban
food habits | Sister Virisila Kalsakau
Childrens' Ward,
Vanuatu Central Hospital |
| 11.00 | Discussion | |
| 11.30 | Lunch Break | |

2.00 p.m.	The effect of urbanisation on chronic degenerative diseases as seen in the Pacific island countries with possible clues to causes	Dr Richard Taylor The Royal Southern Memorial Hospital, Melbourne, Australia
2.45	Discussion	
3.15	Afternoon Tea	
3.30	Changes in chronic degenerative diseases, such as diabetes, hypertension, cardiovascular disease and cirrhosis of the liver, from the traditional way of life to present day situation	Dr D.K. Bowden Consulting Physician Vanuatu Central Hospital
4.00	Discussion	

Wednesday, 4 November

Chairperson: Mr Douglas Malosu
Deputy Director
Department of Agriculture

8.00 a.m.	Dental caries in rural and urban areas	Mr Ken Hutton Private Dental Surgeon Port Vila
8.20	Discussion	
8.40	Problems faced by the urban housewife/consumer in food buying, food availability, food quality, etc.	Mr Hannington Alatoa Director Department of Social Affairs
9.00	Discussion	
9.30	Morning Tea	
10.00	Planning for national food and nutrition policies - what are the necessary components?	Mr Julian Lambert FAO Nutritionist
11.00	Discussion	
11.30	Lunch Break	
2.00 p.m.	Policies and strategies of the Department of Agriculture which are directed towards increased domestic food production and consumption	Mr Barry Weightman Director
2.30	Policies and strategies of the Fisheries Department directed towards increased domestic fish consumption	(Not discussed)
2.50	Discussion	

- | | | |
|------|----------------------------------------------------------------------------------------|-------------------------------------------------------------|
| 3.15 | Afternoon Tea | |
| 3.30 | Vanuatu 5-year Development Plan - ideals for import substitution and rural development | Mr Ken Calvert
Energy Planner
Central Planning Office |
| 4.00 | Discussion | |

Thursday, 5 November

Chairperson: Mrs Kelma Sope
Womens' Affairs Officer
Ministry of Social Affairs

- | | | |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| 8.00 a.m. | Nutrition education policies related to specific group - pregnant and breast feeding women, infants and children; school children, adolescents and adults | Ms Marie Claude Teissier
Health Education Officer
South Pacific Commission |
| 8.20 | Use of mass media for nutrition education | Ms Jenny Lewis
Information Officer
Agricultural Department |
| 8.40 | Discussion | |
| 9.00 | The role of tertiary education in nutrition education in Vanuatu; teacher training in home sciences, health, agriculture, etc. | Mrs Margaret Worek
Deputy Director of
Tertiary Education |
| 9.20 | The role of secondary schools in nutrition education; home science, health, agriculture, nutrition, technical training | Mrs Maria Waroka
Home Economics Teacher
Malapoa College |
| 9.40 | Discussion | |
| 10.00 | Morning Tea | |
| 10.20 | An historical overview of the effects of urbanisation and western way of life on health and nutrition of ni-Vanuatu | Dr Makau Kalsakau
Chief Medical Officer
Vanuatu Central Hospital |
| 11.00 | Discussion | |
| 2.00 p.m. | Nutrition Education policies:
What are the needs for nutrition education for particular age groups in Vanuatu:
-pregnant and breast feeding women
-infant and small children
-school children
-adults - special problems, diabetes, overweight, hypertension | Group Discussion -
small groups. |

- 3.00 p.m. Afternoon Tea
- 3.15 Are these needs being met? If not, what strategies are needed? Group Discussion - small groups
- 4.00 Group reports

Friday, 6 November

Chairperson: Mrs Maria Waroka
Home Economics Teacher,
Malapoa College

- 8.00 a.m. What are the needs for legislation and/or regulation of policies related to: Group Discussion
- infant - breast milk substitute
 - infant care
 - maternity leave
 - food imports
 - food production
 - distance of gardens from villages
 - other
- And what strategies are necessary?
- 9.00 Group Recommendations
- 10.00 Morning Tea
- 10.30 What are the needs in Vanuatu for the development of a National Nutrition policy? Group Discussion
- manpower needs
 - training facilities available
 - training needed
 - advisory service available
 - advisory services needed
- 11.00 Group Recommendations
- 1.30 p.m. Lunch Break
- 2.00 What are the gaps in health/nutrition/agriculture information and/or research in Vanuatu
- Recommendations for: data collection
standards used
surveillance needs.
- 3.00 Afternoon Tea
- 3.30 Recommendation for the successful formulation and implementation of a Vanuatu National Food and Nutrition policy Group discussion
- 4.15 Summary and closing statements Mr Ken Calvert

SUMMARY OF DISCUSSIONS

1. The Minister of Finance and Acting Minister of Health, the Honourable Kalpokor Kalsakau, opened the workshop and discussed some of the problems faced by citizens of Vanuatu with the present changes in lifestyle. Health problems seen in urban areas today are due to a sudden change in diets of people who have recently moved from the rural areas. People have been used to consuming their own produce, but now are taking urban jobs and have little time or no land for gardens to grow traditional food. They then have the choice; to consume imported foods, or buy at the local markets. Many foods at the market, however, cost either the same, or more, than the imported foods. The high-risk groups in urban areas are infants, pregnant and lactating women, and the elderly. Malnutrition, vitamin deficiencies and dental problems are becoming more and more prevalent. New diseases such as hypertension, diabetes, gout and others, are being seen more and more often. Mr Kalsakau stated "It is already past time to call public and government attention to the dangers of rapid urbanisation". Although the population in the urban areas is small, urbanisation is already affecting the health of ni-Vanuatu.

Mr Kalsakau asked the participants of the workshop to focus on a number of areas. Firstly, discussion of the problems of nutrition should not concentrate only on urban areas. Secondly, diseases and dietary changes are also being seen in the rural areas, because the rural population is fairly well off and no longer isolated. Thirdly, consideration of the types of foods imported, and the quality of foods such as sweets and lemonade, should be taken into account. Is it really necessary to import these items? Could we suggest coconuts as costing less and being of higher nutritional value than soft drink? Fourthly, Mr Kalsakau suggested that the workshop consider programmes and mass media; are we suggesting to people to bake cakes that are of poor nutritional value and use imported foods when it might be better to suggest recipes using locally grown food? Mr Kalsakau suggested the fifth point for consideration could be the growing of local vegetables, and the nutritive value of introduced vegetables. Sixth and final point could be "habit", or setting an example: do we offer a child lollies, or would it be better to offer peanuts which have been locally grown? Is it better to buy fresh fish at the markets, or tinned fish?

Mr Kalsakau told the participants that the Government of Vanuatu was looking forward to the conclusions and recommendations from this workshop. It was now time for the Government to consider the workshop recommendations, and the means of implementing them.

2. The population of Vanuatu is growing quite rapidly and it has been estimated that it will double in the next twenty-five years. Population density in most areas is quite low; 10 persons per square mile. For most areas plenty of land is available, except on some small islands where they may be land shortages. These shortages are pressuring people to move to towns and to Port Vila. The urban centres of Port Vila and greater Santo contain about 20 per cent of the population, and at present the growth rate is the same as the rest of the population.

Mr David Salathiel suggested that urban pressure is not a problem at the present time. Migration tends to be circular, in that people move to the urban area but then move back to the rural areas again.

3. Mr David Marshall told workshop participants that Vanuatu imports are four times greater than exports. Total imports were Vatu (VT) 3,600,000 in 1980 and, of that, 30 per cent were for food, beverages, alcohol and tobacco. Copra is the main export. Fish is not considered an export since it is caught out of territorial waters; fish industry levies make little difference to the income of the country. Food imports for the year 1980 were: rice, VT 166 million; sugar, VT 75 million; beer, VT 57 million; frozen chicken, VT 40 million; tinned fish, VT 40 million; flour, VT 36 million. The imports of alcohol are as much as the imports of rice. One third of the alcohol imported is beer. VT 30 million of soft drinks was imported in 1980. Imports of foods, however, may have some advantages such as increasing the variety in the diet. The Government collects revenue on all imports. There is an import duty on all food imports with the exception of rice, tinned fish and flour. The question is, however, can the country afford to import large quantities of food and become dependent on imported foods?

4. Mr Douglas Malosu discussed the economic implications of changes in food systems from traditional to cash crops. Traditional agriculture practices in Vanuatu follow an intensive horticulture multistoried planting of different varieties of plants for food. Starchy foods are represented by yam, taro, sweet potato (kumala) and manioc, breadfruit and bananas are the main staples; and a wide variety of other foods (fruits, leaves, nuts, etc.) which provide essential needs in protein, vitamins and minerals.

Many of the traditional techniques used in agriculture take up a lot of time and effort - to avoid this, there is a tendency to reject traditional methods in favour of alternative opportunities which require less manpower and time. It is estimated that over 60 per cent of the population are now involved in a type of farming which includes subsistence farming along with cash cropping. This is important, since people need cash to pay for services and to pay for goods which, technically and economically, cannot be provided by the individual who is using only subsistence agriculture.

Some of the issues and implications of changing food production systems include the following:

- (1) Refined wheat, polished rice, sugar, canned meat and fish are nutritionally inferior to traditional foods, yet are becoming more popular because of the longer storage quality. They are less bulky, easy and quick to prepare and store. Traditional crops do not have these advantages. The lack of refrigeration, and the decline or disappearance of food preservation methods make canned meat and fish attractive.
- (2) Because of the diversion of labour to cash producing activities, subsistence fishing, agriculture and hunting have declined; for example, it is becoming more convenient to buy tinned fish rather than catch fresh fish.

- (3) The planting of cash crops in some areas means that people have to move inland to less fertile areas to grow food, and this means smaller food crops and a possible loss of genetic desirable plants.
- (4) If the income generated from cash crops is sufficient, and the knowledge is available to allow the purchase and preparation of an adequate diet, reliance on imported foods may have a net advantage to the individual and to the economy as a whole. However, almost without exception, the incomes or the information required are not adequate, and the individual attempting such a transaction loses heavily.

5. Sister Virisila Kalsakau discussed some of the traditional food patterns in Vanuatu, particularly in relation to infant and child feeding. Traditional infant feeding practices have remained relatively unchanged in the rural areas. Breast feeding continues sometimes for one or two years. Solid foods are usually introduced with the juice of fruits or coconut. The mother often chews the food herself, and then feeds the baby from her mouth. If the mother is lacking in breast milk, green coconut juice is given to her and this increases the milk supply. Lap lap (grated roots cooked in the oven, often with coconut milk and meat or fish) is given to young children, and provides needed protein for the children. Food is usually roasted which is very good, because the nutrients are preserved. One of the changes that is taking place in infant feeding practices today is bottle feeding. This is happening, in particular, in the towns and urban areas. During 1976, there was a major gastroenteritis programme and mothers were taught about this problem. Malnutrition had become more severe; kwashiorkor was seen mostly in the urban areas, but has decreased in recent years.

Sister Virisila suggested that the aim of the workshop should be to think carefully about what is needed to keep ni-Vanuatu children healthy, and to help mothers learn about feeding their children. This is especially important in the urban areas where the cost of living is high and some mothers may be unable to purchase the food to feed their children properly.

6. Dr Richard Taylor discussed some of the diseases which are emerging in the Pacific today, particularly in the urban areas. These diseases included high blood pressure, diabetes and heart disease; their emergence seems to be associated with a change in dietary patterns from the traditional diet to one of imported foods, particularly: flour, sugar, rice and beer. Dr Taylor showed the difference between urban and rural groups in blood pressure, diabetes and heart disease.

In discussing high blood pressure, Dr Taylor noted that obesity was an important factor, but was not the only cause. Salt appears to be a very important factor also. In Fiji, where hypertension was higher in the urban areas than in the rural areas, the amount of salt consumed was twice as high in the urban centre. Diabetes rates are much higher in urban areas than in non-urban areas. People who are more overweight have more diabetes. Heart disease does not seem to be a problem in most parts of the Pacific, but Dr Taylor showed that blood cholesterol levels are higher in urban people than in those living in traditional villages. High blood cholesterol levels have been shown to be associated with heart disease in countries like Australia and the United States.

Dr Taylor suggested that imported foods are a concentrated form of calories, and in urban settings people get less exercise. The combination of increased calories and less exercise leads to obesity, and therefore may lead to diseases such as diabetes and high blood pressure. Sugar, taken in large amounts, may also put an extra stress on the body and lead to certain diseases such as diabetes. The lack of fibre in imported processed foods may also contribute to diseases such as diabetes and heart disease. Salt is a major factor in the cause of high blood pressure. Much salt is added to imported processed food such as tinned corned beef, soya sauce, and other savoury-type foods. Physical activity may be another important factor in some of these diseases, and it appears that people who are physically active are less likely to have high blood pressure and heart disease. Stress has also been suggested as a factor in high blood pressure and heart disease, but at this time it is difficult to say what the effect may be.

7. Dr Bowden discussed some of these diseases as seen in Vanuatu. He pointed out that if all of the people in Vanuatu with high blood pressure were treated, the Government would need to spend VT ½ million. Since it is very much doubted that the country could afford to spend so much money, prevention of these diseases must be the answer. Nutrition-related disorders were listed by Dr Bowden. Heart disease was very rarely seen in Vanuatu. In 1962 a study in some of the suburbs of Port Vila examined wage earners and gardeners (whose diet was very much supplemented by rice and tinned fish), and also people on Malekula and the Maskelynes. The study showed that obesity was very rare, and only 19 people out of 700 were found to have hypertension.

Dr Bowden gave some preliminary reports of a current study that is being conducted in Port Vila which includes 1000 people. These people were over the age of 35, and thought they were healthy. The preliminary findings showed that 2 per cent of the women were obese and 5 per cent had hypertension; 11 per cent of the men were obese and 10 per cent had hypertension. Cerebrovascular disease, which is related to hypertension, is evident in Vanuatu, and has caused deaths. There is evidence of alcohol abuse in Vanuatu, although delirium tremens is rarely seen at Vanuatu Central Hospital. Alcoholic neuritis and cirrhosis, and domestic troubles and accidents which seem to be related to alcohol abuse, are seen at the hospital. There is a survey being conducted on diabetes, and, although the results are not yet available, it appears that diabetes exists in the rural areas, but varies from area to area, and that diabetes in the urban areas is not confined to obese individuals.

8. The nutritional aspects of the change from the traditional diet to a western diet was discussed by Terry Coyne, and in a paper distributed by Mme Bermond. The traditional diet in many parts of the Pacific consisted mostly of root vegetables such as taro, sweet potato, yam and breadfruit; and usually small to moderate amounts of fish or meat, green vegetables, leaves and some nuts and fruit. The change to the urban diet, or a diet of imported foods, usually means a change to rice, bread, tinned fish or meat, soft drinks and other tinned or processed foods. The major nutritional differences in the two diets were:

- (1) the caloric or energy intake of urban diet seems to be higher than the traditional diet. Processed foods are concentrated sources of energy and, in particular bread, biscuits, cakes and sweets are high in calories. Meat containing much fat, such as beef and pork, contain more calories than fish or chicken.
- (2) the fibre content of the traditional diet was quite high because root vegetables such as taro, yam and sweet potato are high in fibre, but rice, bread and biscuits contain less fibre. Salt was shown to be generally much higher in imported foods - tinned fish being higher than fresh meat, and tinned vegetables, doughnuts, cakes and biscuits also contain salt. Other foods high in salt content are Chinese food and imported, savoury snack foods.

It was also pointed out that many of the traditional green leaves (like island cabbage) are much higher in such nutrients as iron, vitamin A and calcium than European-type vegetables, such as lettuce or English cabbage. It was concluded that traditional foods and traditional diet are superior to processed imported food.

9. Dr Caroline Knowles discussed some of the psychological stress faced by urban dwellers, and listed some factors which may be responsible for increased stress. She listed:

- 1) population growth;
- 2) special demographic characteristics;
- 3) mobility;
- 4) economic activities.

Dr Knowles suggested that the crowding of people on insufficient land may change the cultural custom of sharing. The ratio of the population of males to females revealed that many women were lost from the population between the ages of 23 and 52. Statistics also show that men move in and out of Vanuatu at a higher rate than women. This travelling overseas and back again may be a stress factor. It may also cause stress for young men, to be living without fathers.

The change from subsistence agriculture to cash crops may also be changing the role of men and women. Traditional women's involvement in work was usually equal to that of men, but in a cash economy it is the men who make the decisions about money.

10. Mr Julian Lambert described malnutrition among infants and children in Papua New Guinea, Western Samoa and Fiji. In the urban areas of these countries, bottle feeding is becoming more and more common, and may also become a problem in Vanuatu. It was estimated that 21 tonnes of infant milk formula were imported in Vanuatu in 1980. Mr Lambert provided figures from Papua New Guinea, Western Samoa and Fiji that clearly showed that breast-fed babies experienced less malnutrition and gastroenteritis than bottle-fed babies.

There is a need throughout the Pacific to inform mothers of the advantages of breast feeding and the disadvantages of bottle feeding. Breast milk is not only clean, but also contains antibodies to protect the infant from many infant diseases such as gastroenteritis and respiratory infections. Legislation in Papua New Guinea restricts the sale of baby bottles and teats through authorised pharmacies, requiring a prescription from a health worker. This legislation has reduced bottle feeding in Port Moresby. Gastroenteritis and severe malnutrition have also been reduced.

After six months of age the infant needs high-calorie, solid foods. In many Pacific Island countries the child at highest risk for malnutrition is between one and two years of age. Root vegetables such as yam, taro, sweet potato and cassava tend to be bulky, so it is important to add coconut cream to these vegetables. Coconut cream is very high in calories, and also contains some protein and other vitamins and minerals. If coconut cream is not available then butter, margarine or oil could be added to the child's food to increase the calories.

11. Mr Hannington Alatoa discussed some of the problems faced by the urban housewife/consumer in making food choices:

- (1) imported foods are usually always available in sufficient quantities in shops and supermarkets;
- (2) local vegetables and greens are available daily in a small number of shops, but the markets operate only three days a week;
- (3) food buying is affected by many factors: food habits, income, status, and social functions such as feasts;
- (4) high food prices in Port Vila. The consumer price index showed that food prices increased by 39 per cent over the past four months.

12. Mr Julian Lambert discussed some of the steps involved and problems met in developing National Food and Nutrition Policies. These policies were described as "formal measures taken by Government and voluntary groups which are aimed at increasing subsistence foodstuffs in the country, and attacking the problem of malnutrition". Policies can be made in different areas:

- (a) Agriculture policies - most Pacific Island countries have policies to increase cash crops for export. There is a need to consider the effect of cash crops on subsistence gardening, i.e. movement of gardens further from the village to poorer soil; soil erosion caused by cattle grazing; lack of crop rotation.
- (b) Health policies - governments will need to decide whether to spend money on hospitals, medical equipment and technology, or to put more emphasis on rural health care to reach more people.
- (c) Education policies - there is a need to consider what people returning to villages need to know.

- (d) Economic policies - higher duties on some imported foods might be considered, especially those which are unnecessary or not nutritionally beneficial.
- (e) Social policies - adequate maternity leave and breaks for mothers to breast feed their infants should be considered.

The aims of food and nutrition policies must be integrated into national development plans. Some examples from Papua New Guinea include: emphasis on rural development, assisting less developed areas, increasing rural income, improving life of women, increasing food production and improving nutritional health.

The necessary elements of developing a National Nutrition Policy include:

1. Manpower - a nutrition planner to coordinate work and stimulate activity; technical support from areas of health, education, agriculture, women's affairs, economics; and coordination of outside agencies such as WHO, FSP, UNDP, SPC, etc.
2. Data collection - basic information is needed on nutritional status of the population, incomes, food production, food imports and exports, water supplies, health services and nutrition education.
3. Evaluation - policies should be evaluated by reviewing changes taking place in the country using the base line data collected.
4. Coordination - a coordinating body, such as a National Food and Nutrition Committee should coordinate the personnel and resources of various government agencies, religious groups, private industry, women's groups, village leaders and local government heads.
5. Education - make use of all personnel, resources and available information.

The basic responsibility for implementing policies must lie with government departments. There needs to be an awareness of nutritional problems in the country, as well as an increase in food production which includes improvements in processing, transportation and distribution of locally grown food. Increased self-reliance in food will help the balance of payments and create employment.

13. Policies of the Department of Agriculture were reviewed by Mr Barry Weightman. Balanced development of individual farmers is being emphasised to preserve and reactivate traditional methods, at the same time increasing production through applied research and modern scientific practices. A strong plantation industry is also being encouraged to meet the urgent economic needs of the country. Cash crops, food crops, livestock and forestry are being developed to decrease dependence on a single crop (copra), and to promote self-sufficiency in the areas of food, fuel and building materials.

A very important "aim of the policy is to improve the diet and health of the rural population through the promotion of more varied and productive vegetable gardening and improved village livestock husbandry".

Some agriculture activities in progress, or being planned, include: cattle development; new breeds of sheep and goats; loans for small projects such as poultry raising; training programme for 10-12 female extension workers; research into varieties of root crops such as quick-growing taro; encouraging cultivation of other crops like peanuts and citrus fruits; allotment system of gardens in towns (divided into family plots); road development for easier access to gardens and for food transport; and local canning and salting of meat. Discussion followed about the effect of salting of meat on increasing hypertension and reducing malnutrition.

14. Mr Ken Calvert discussed the Vanuatu 5-year Development Plan. Mr Calvert presented current government expenditure figures and government income. The figures showed that import duties were the greatest source of revenue. Overseas aid makes up a large percentage of the budget. The two major objectives of the Vanuatu Development Plan are:

- 1) To encourage rural development;
- 2) To become economically self-reliant.

Steps being taken to encourage rural development include: decentralisation of local government services; village projects to improve water supplies, electricity and transport; revitalising of Santo to take pressure off Port Vila; assistance to rural businessmen; directing primary education to work which is available in villages; placing emphasis on primary health care and prevention rather than on high technology; keeping people in towns to retain close village ties; holding down wages in town until rural wages catch up; assisting farmers in rural areas to earn income. To increase economic self-sufficiency Vanuatu must develop agriculture, use appropriate equipment to start up rural industrial projects, and look for ways to produce goods instead of importing them, i.e., using sugar cane for fuel. The participants discussed the need to increase import duties on certain foods which compete with local products.

15. Marie-Claude Teissier gave an interesting example of dental health education projects in Tahiti to illustrate steps in community health education projects. Mme Teissier described working with existing groups, parents, shopkeepers, and organising a health committee. The health educator can lead the community to:

- a) recognise the problem;
- b) find the facts to solve the problem;
- c) reach a decision to act;
- d) plan the action;
- e) do the job; and
- f) evaluate the action.

Mme Teissier suggested that learning and teaching were not the same. Some important steps in learning are:

- 1) awareness;
- 2) interest;
- 3) letting community evaluate the project;
- 4) trying the project;
- 5) adopting the project, and rejecting that which didn't work.

A health educator should work with people, not for them.

16. The role of nutrition education in schools was discussed by Mrs Margaret Worek and Mrs Marie Waroka. All students at Vanuatu Teachers College and Vanuatu Technical Institute receive some nutrition education. Basic nutrition principles are taught to teacher trainees in Home Economics and Health Science courses.

Mrs Waroka pointed out that there is no unified curriculum in nutrition education in the secondary schools, and what is taught is left to the individual teacher. In May 1982 there will be a meeting of Home Economic teachers to plan a nutrition curriculum for the secondary schools. The participants stated that nutrition education was very important, and should be integrated into various school subjects such as health and agriculture, and in Technical Training schools. Boys as well as girls should receive nutrition education. It was suggested that teachers take health education courses, and that public health nurses and teachers work together to plan health and nutrition curriculum.

17. Dr Makau Kalsakau presented an historic overview of the effects of urbanisation and western way of life on the health and nutrition of ni-Vanuatu. Dr Kalsakau suggested that before World War II malnutrition was rarely seen, but, if seen, was associated with hookworm, malaria or yaws.

During the 1940s, training of doctors, malaria control programmes and good medicines reduced the mortality rate from these diseases, and little malnutrition was seen. As the urban centre of Port Vila grew, however, changes were seen in the level of nutrition. Children were receiving "white man's kaikai" - rice, biscuits and bread - which lacked essential protein, vitamins and minerals.

In 1979, 34 children were treated at Vanuatu Central Hospital for malnutrition, 18 from Vila. In 1980, 18 cases of malnutrition were seen, 8 from Vila. This year, 7 children with malnutrition were treated, 4 from Vila. Dr Kalsakau questioned why malnutrition had declined in 1980 and 1981, and suggested it may be due to better prevention. "Health education is a duty of all of us".

Dr Kalsakau offered solutions for the improvement of nutritional health for ni-Vanuatu:

1. Make health education a high priority and direct it to men as well as women;
2. Emphasise primary health care;
3. Encourage family planning;
4. Involve villages in a National Food and Nutrition Development Programme;
5. Encourage the regular consumption of a well-balanced diet;
6. Provide adequate anti-natal care for women.

RECOMMENDATIONS

We, the delegates of the in-country workshop, have spent five days looking at various aspects of the problem. We have studied the statistics of food imports against the trends and patterns of infant malnutrition, chronic degenerative diseases and dental health. We have also looked into the patterns of food buying and availability of local foodstuffs in markets, and are concerned that more people are buying imported foods which are nutritionally inferior to traditional food.

We further believe that these discernable trends are going to become worse unless immediate action is taken to try to counter them. We believe that the best way to do this is to have a person working full-time to maintain coordination and follow-up, working with a local committee, to integrate government departments to work together to contribute to and promote nutrition and health education.

We therefore specifically recommend that:

A NUTRITION COORDINATOR AND PLANNER BE RECRUITED IMMEDIATELY, SINCE THIS IS URGENTLY NEEDED.

A NATIONAL FOOD AND NUTRITION COMMITTEE BE ESTABLISHED AND CONSIST OF REPRESENTATIVES OF THE MINISTRIES OF HEALTH, AGRICULTURE, FINANCE, SOCIAL AFFAIRS, AS WELL AS CHIEFS, DIRECTORS OF LOCAL GOVERNMENTS, NATIONAL COUNCIL OF WOMEN, CHURCHES, AND OTHER APPROPRIATE ORGANISATIONS.

THE NUTRITION PLANNER BE ATTACHED TO THE CENTRAL PLANNING OFFICE AND COORDINATE THE ESTABLISHMENT OF THE NATIONAL FOOD AND NUTRITION COMMITTEE AND BE ADVISED BY IT.

That the National Food and Nutrition Committee further investigate and consider the following specific recommendations:

1) NUTRITION EDUCATION

(a) That nutrition education be integrated into the subjects of Agriculture, Health and Home Economics in schools;

(b) The Government should put more emphasis on promoting Nutrition in Health Education;

(c) Provide education about nutrition to the community using individuals as needed from Agriculture and Medical Departments, where applicable;

(d) Utilise existing training centres to do further community work;

(e) Radio programmes and health talks to be simple and clear so they can be understood by all (avoid technical terms);

(f) Mass media-radio programmes to use only those who have expertise in the field.

2) RURAL DEVELOPMENT

- (a) The Government should put more emphasis on rural development with a clear policy on it, and follow through on policies made;
- (b) More emphasis to be put on training more extension officers, and placing them in more extension positions;
- (c) The central government should encourage local government to try to meet rural peoples' needs by education, youth centres, and other appropriate needs.

3) STAFF TRAINING

- (a) Train more public health nurses to carry out teaching programmes in nutrition and disease prevention, particularly with infants and young children. Also provide nutrition training for doctors, home economists, agricultural extension workers and others.

4) INFORMATION AND PLANNING

- (a) Study the nutritional status of communities and develop nutrition programmes with traditional foods.

5) BREAST IS BEST

- (a) The Government should control the sale of bottles, teats and dummies unless the mother is under the advice of a health worker;
- (b) Places should be provided at place of work for breast feeding mothers to care for their babies;
- (c) Maternity leave for all working mothers to be extended to a period of four months.

6) IMPORT DUTIES AND PRICE CONTROLS

- (a) The Government should consider its present position on food import duties and price controls to ones that would encourage local food production and decrease the consumption of imported foods.
- (b) That consideration be given to the availability of land in urban areas for family gardens, especially for low-income families.

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