

SOUTH PACIFIC COMMISSION

REPORT ON THE NUTRITION PROJECT - NEW HEBRIDES

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Noumea, New Caledonia
February 1978

2 February 1978

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Following a request by the Condominium Government, the South Pacific Commission proposed to conduct a Nutrition project in the New Hebrides to assess the overall nutritional status of a group of its inhabitants. In 1973 the villages of Wala Rano and Tautu, Malekula, were selected as pilot areas and under the direction of Professor André Raoult, a preliminary survey was undertaken the following year. His findings are recorded in the "Report of Studies carried out by the South Pacific Commission in the Pilot Areas of Malekula".

Professor Raoult summarized the situation by highlighting the major nutritional problems encountered. These were:

1) Infants and Pre-school children

- Iron deficiency anaemia in infancy
- Protein Calorie Malnutrition occurring in early childhood during the weaning period or shortly afterwards.

2) School-age children

- Mild undernutrition and protein malnutrition
- After-effects of malnutrition carried over from the previous phase
- Vitamin A & C deficiencies, but especially vitamin B₂ deficiency due to a lack of animal proteins or the diet
- Anaemia, due to parasites (hookworm, flagellates, malaria) and natural deficiencies (iron, vitamin C, folic acid, protein)
- Periodontal disease

3) Pregnant and nursing women

- Anaemia due to parasites
- Anaemia due to multiple nutrient deficiencies - iron, vitamin B and C, protein
- Periodontal disease

From these findings recommendations were made in the areas of sanitation, nutrition, health and hygiene.

An extensive health education programme was developed by the SPC Health Education Officer, Miss Bushra Jabre, for use in both Wala Rano and Tautu. Aspects on general nutrition (infant feeding, pre- and post-natal nutrition, food hygiene, etc) and health (sanitation, village hygiene, family planning, etc) were covered for use in the

- A) Womens Clubs
- B) School
- C) Dispensary

In conjunction with this programme a dietary survey was conducted by the SPC Public Health Nutritionist, Miss Elizabeth Dye, in 1976. She made a detailed study of the nutrient intakes and food habits of the inhabitants of Wala Rano. Her report "A Survey of Nutrient Intakes and Food Habits in a New Hebridean village" substantiated the earlier reports by showing that malnutrition and marginal deficiencies in Vitamin A and B existed. These results indicated that continued health education in Wala Rano was needed.

In September and November 1977 the SPC Public Health Dietitian, Miss Jill Thompson, visited the villages of Wala Rano and Tautu to

- 1) assess how effective the education programme has been and improve it where necessary;
- 2) carry out practical cooking demonstrations at the village level;
- 3) pre-test the new SPC infant feeding manual

A brief summary of the present situation in these villages is included in this report.

RESULTS

1. Evaluation of the Education Programme

A. Women's Club - Wala Rano

There are four women's clubs in Wala Rano with a total membership of 41:

- Wala - 3 clubs with a total of 16 members
- Rano - 1 club of 25 members

A New Hebridian community worker, trained in Tonga, has been in charge of the clubs since their formation. Weekly meetings are held at the women's homes in Wala and at the women's club hut in Rano. These clubs are open to all the village women. A small fee (50*FNH/month) is charged to cover expenses and this has proved to be an added incentive for the women to attend.

The topics covered include:

- a) Village Hygiene
- b) Weaving and Sewing
- c) Gardening
- d) Cooking Demonstrations

a) Village Hygiene

Over the past year the women's clubs have been instrumental in helping to improve overall hygiene -

- i) at the village level by
 - clearing grass and debris round each house and replacing it with coral, shrubs, flowers, etc.

* 100 FNH = 115 cents Australian

- regularly disposing of cans and bottles and burning rubbish
- ii) at the household level by
 - improving methods of food storage
 - improving kitchen hygiene
 - improving water storage
- iii) at the personal level by
 - washing regularly in fresh/salt water
 - washing clothes regularly

b) Sewing and Weaving

Weaving with natural brush materials and dressmaking are popular sessions with the women. The articles are made for either personal use or to sell at local fetes.

c) Gardening

After the initial survey was completed, the district Agricultural Department was approached to establish vegetable gardens for the Women's Clubs at Wala Rano. (These are distinct from the family gardens which provide the staple foodcrops such as taro, yam, cassava, banana, etc). Two vegetable gardens now exist - one in Wala and the other in Rano. A variety of vegetables including carrots, tomatoes, beans, cabbages, onions, etc are grown. The women are responsible for maintaining the gardens and in return they are able to share the produce. Most of the vegetables are used for home consumption but surplus products are sold to local villages or at the weekly district market at Norsup. These gardens are quite a remarkable achievement considering that the Rano garden is nearly a two-hour walk from the village and in both Wala and Rano water has to be bucketed from a distant water source. The Women's Clubs are hopeful that more accessible land will become available in the near future. Recently, a few small backyard vegetable gardens have emerged.

d) Cooking Demonstrations

During the cooking sessions, recipes using food available from the gardens are tried. Unfamiliar foods of high nutritional value are encouraged but the locally grown staples provide the backbone to most of the recipes. The food is prepared and then distributed amongst the women to take home. If the meal proves to be popular with the family it is frequently prepared again.

These demonstrations are educational as well as practical as the majority of recipes promote the importance of well balanced meals. Aspects on infant and child feeding, pregnancy and lactation are also discussed and many of the foods recommended in Professor Raoult's initial report (e.g. oils, green leaves, milk powder, peanuts, etc) have been utilized.

The education programme introduced into the Women's Club at Wala Rano has been very effective. This has been largely due to the efforts and enthusiasm of the club leader. Under her guidance the club has been able to make a valuable contribution to the general health standard of the village. The initial lack of motivation amongst the women to attend club meetings (which tended to interfere with the normal daily routine) has given way to a genuine desire to participate. It is only unfortunate that so few women have become involved.

Women's Club - Tautu

There is presently one women's club in Tautu. Meetings are held in the local village hall two mornings/week. As all the village women are able to participate, a record of members is not kept. Attendance at these meetings fluctuates markedly from week to week. There is no membership fee and if money is required, local produce is gathered and sold and proceeds are donated to the club. The effectiveness of the education programme seen at Wala Rano has not been duplicated at Tautu. Progress made in the areas of nutrition, health and hygiene has been minimal. This has largely resulted from the absence of a full-time village community worker who could organize and run these weekly sessions. A community worker from the British District Residency at Lakotoro visits Tautu once/month and on these occasions much more work is achieved. When the meetings are unsupervised little educational material is discussed.

Consequently, attempts to improve village hygiene have been minimal, no gardens have been established and overall nutrition knowledge has not greatly improved. It appears that a full-time leader, living in Tautu and aware of the village problems, is essential if this club is to be effective.

B. School - Wala Rano

A nutrition and health programme, designed to cover all aspects of food, health and hygiene relating to local conditions has been incorporated into the final two grades at the school in Wala Rano. Emphasis is placed on the importance of protein foods and nutrition during infancy, pregnancy and lactation. Practical demonstrations are frequently held. Health aspects covered include village and personal hygiene, family planning and local diseases.

An attitude of indifference displayed by some of the mothers at these clinics and the influence from long-standing customs and taboos related to nutrition (e.g. introducing protein foods only after one year) have hindered the effectiveness of the education programme here. However, with time and in conjunction with both the women's clubs and the school programme, its effectiveness should become more apparent. The use of more visual aids and undertaking routine home visits may stimulate more interest. Future success will largely depend on the capabilities of the nurse in charge of the clinic and the influence she has with her patients.

Dispensary - Tautu

The medical dispensary for Tautu is located at the British District Residency, Lakatoro, approximately 6 kilometres away. A New Hebridean MCH nurse is in charge of the pre-and post-natal clinics. She is also responsible for running the education programme. As at Wala Rano, this programme includes discussions on aspects of maternal and child health with particular emphasis on nutrition and hygiene. Although similar problems have been encountered, a general improvement in infant nutrition over the past two years has been seen by the Lakatoro medical staff.

Monthly school and home visits are made to Tautu from the dispensary. During the home visits, talks on nutrition and hygiene are given, posters and other visual aids are shown and a general village inspection is made. Houses, gardens and latrines are inspected and those in poor state are noted and checked on the following visit.

The programme which is carried out on a regular basis has made a valuable contribution to both the health and nutritional status of the villages and should continue to do so in the future.

2. Practical Cooking Demonstrations at the village level

During this period, cooking demonstrations were held in the villages of Wala Rano, Mahe and Tautu in conjunction with the women's clubs. Local foods and cooking materials were used and aspects of general nutrition were discussed. The areas covered included:

- a) Basic Nutrition
 - 3 food groups and how to combine them to prepare meals
 - the advantages of local foods over commercial foods
 - economical ways of buying food
 - methods of cooking food to retain the nutritional value
 - foods to avoid.

Particular emphasis was placed on the use of protein foods and local staple foods.

Interest in these lessons has been difficult to maintain as many of the students find it hard to relate to topics that don't immediately concern them. The inclusion of more cooking demonstrations and the use of more visual aids may help to stimulate their enthusiasm.

The school meal programme, funded by the French Government has been maintained throughout the survey period. Each schoolchild receives a glass of milo and a slice of bread with peanut butter at morning break. In the afternoon the children from first grade are given a second glass of milk. This has led to a demand for these foods at home and a local bakery has subsequently been formed to supply fresh bread to the village. As many of the villagers are beginning to grow peanuts it is visualized that locally made peanut butter may eventually replace the commercial product.

A general improvement in the basic understanding of nutrition and health has been made in the school at Wala Rano. However, more active participation by the students themselves is required to increase the effectiveness of the programme.

School - Tautu

A general health programme based on the school curriculum from Port Vila is taught over the final grades at Tautu school. No nutritional material is included in this curriculum. It was apparent that the children had learnt very little about food and its relationship to health during these sessions.

During the visit, a nutrition programme to be incorporated into the 1978 curriculum was developed with the new Tautu headmaster. A new teacher from Vila with qualifications in home economics will be in charge of this programme.

A vegetable garden was planted early in 1977 at Tautu school for the children to maintain. Unfortunately bad weather and lack of supervision forced the abandonment of this project. Plans are under way to replant the garden in 1978.

Tautu has no school feeding programme but would benefit considerably if one could be introduced.

C. Dispensary - Wala Rano

A New Hebridean nurse is responsible for running the education programme at the Wala Rano dispensary. Pre- and post-natal clinics are held each week and in addition discussions on maternal and child care are held. The importance of proper nutrition and hygiene is particularly emphasized.

Initially, attendance at these clinics was irregular but by issuing medications (which include iron, folic acid and ascorbic acid) on a monthly basis, visits are kept more regularly. Mothers either go to the dispensary or the nearest hospital at Norsup for delivery.

- b) Maternal and Infant Nutrition
 - diets of mothers during pregnancy and lactation
 - prolongation of breast feeding and its advantages
 - weaning foods - when, what, why and how much to- introduce
 - hygiene in infant food preparation
 - nutrition during illness

- c) Nutrition for the School child
 - basic nutrition with emphasis on protein foods and green leafy vegetables
 - avoidance of excessive intake of highly refined carbohydrate foods
 - snack foods

- d) New Products
 - peanuts, cooking oils, milk powder, etc.

- e) Food Preservation and Storage
 - preservation and storage of meat, vegetables and perishable goods

- f) Food and Kitchen Hygiene

CONCLUSIONS

At this stage, three years after the commencement of the education programme, progress has been made in improving the nutrition and health standards in the villages of Wala Rano and Tautu. However this is only the first of many stages. The full effectiveness of this project will only become evident when the education material becomes integrated into the villagers' normal way of life.

The two main problems encountered in Professor Raoult's initial survey were:

- 1) protein malnutrition
- 2) infantile undernutrition (weanling malnutrition)

Although the nutrition education campaign has made significant progress in these areas, a number of factors which are contributing to these problems must be overcome.

Factors Influencing Protein Malnutrition and Infantile Undernutrition

A. Availability of protein foods

The main protein foods available include fish, beef, chicken, pork, milk, tinned meat and fish.

- 1) Fish - due to the high number of shark attacks in the area recently there has been a reduction in the quantity of fresh fish and shellfish caught. It is hoped that this will be only a short-term situation.

- 2) Beef - there are few privately owned cattle in the villages and fresh meat is not available from the co-operative stores. Fresh meat is sold cheaply in Norsup but (a) a one-way taxi fare from Wala Rano to Norsup at the time was 1000 FNH (\$11.50), (b) it normally lasts for only one or two meals with very little remaining for the next day.
- 3) Chicken - the few chickens which are kept by each family are usually reserved for special occasions. Poultry grain is expensive and chickens are left to roam through the bush to search for food. The survival rate of young chickens is low because of frequent attacks by dogs and rats. As a result, eggs are also scarce.
- 4) Pigs - as with chickens, only a number of pigs are owned by each family and these are kept for special occasions. Pigs are either tethered or let free to forage for food, as they require a substantial amount of grazing land.
- 5) Milk - no fresh milk is available and tinned or powdered milk is not commonly used in the home.
- 6) Tinned meat & fish - the ready availability and easy preparation of canned meats and fish has led to a high demand for these products. They are held in high regard by the villagers and frequently given as gifts. Tinned meats are expensive to buy and there is a large variation in quality between brands, with many having a very low protein content. (Some tinned meats and most tinned fish can contribute valuable amounts of both protein and calories to the daily intake and these should be recommended over the inferior brands). Fresh meat and fish are far superior products and should be encouraged over all canned products

B. Cost of Protein Food

Protein foods are one of the dearest food items to purchase for the family. Family income therefore influences the quality and quantity of these foods bought.

C. Storage of Protein

Although attempts to introduce methods of preserving and storing meat have been made, they are not frequently used. Animals or fish are killed just prior to being eaten and little is left after a meal. Consequently there is normally insufficient meat to preserve or store. Conservation methods should continue to be emphasized and demonstrated, as they would help to create a greater availability of protein.

D. Family Size

Because the average family size is large, distribution of protein food results in each family member receiving a small share. In some families where it is still the custom for the father to eat first and the children last, the youngest members may receive no protein food at all.

E. Local Customs

Some health problems experienced by the villagers can be attributed to local customs and traditions which still influence some aspects of village life (e.g. not introducing protein foods into the diet until a child is one year old). Only continued nutrition and health education may gradually help to eradicate these beliefs.

It is hoped that with time these problems will be overcome, as it is only then that the education programme can become more effective. Continuation of the programme in all three areas - the school, dispensary and women's clubs is essential if any long-term benefits are to be achieved. The project relies heavily on the capabilities of the people in charge of the three areas, with the best results seen from the most conscientious and enthusiastic leaders. Unfortunately, there are frequent leadership changes and this has upset the continuity and advancement of the programme. More village women, trained in aspects of nutrition, health and hygiene are needed. These women would be able to relate easily to their own people, create an awareness of the problems that exist and be readily available to help their people overcome them.

RECOMMENDATIONS

1. EDUCATION PROGRAMME

a) Women's Clubs

- availability of more full-time qualified community workers who can teach relevant aspects of nutrition and health to the village women. A recognized training course for community workers, based in the New Hebrides, could enable this.

b) School

- increased use of visual aids, more cooking demonstrations and provision of simple handout manuals on nutrition and health
- implementation of supervised school feeding programmes where possible but using locally grown products, e.g. yam or taro flour mixed with wheat flour for baking
- establishment of school gardens
- carpentry lessons to assemble food storage cabinets, etc.

c) Dispensary

- home visits to assess village health standards
- increased use of visual aids, simple handouts, pictorial leaflets

A continued emphasis on the importance of protein foods and weaning foods is essential in all three areas. Further attempts should also be made to persuade the Education Board in Port Vila to incorporate a nutrition section in the school curriculum. All areas also need the assurance from outside bodies, such as the Agricultural Department, Health Department and Local Council that assistance is available if and when required.

GENERAL

A number of general recommendations were made in the report by Elizabeth Dye. Briefly these were:

1. Small-scale recommendations
 - build docks to enable regular fish supplies
 - build elevated roosting houses for the chickens so eggs could be consumed on a regular basis
 - investigate the protein quality of various wild nuts
 2. Large-scale recommendations
 - cooperative-owned beef, regularly slaughtered and sold to the villages on demand
 - organization of a fishing fleet to fish the waters outside the reef
 - establishment of village piggeries
 - planting and harvesting of peanuts by village workers (this has already been commenced by some villagers).
-