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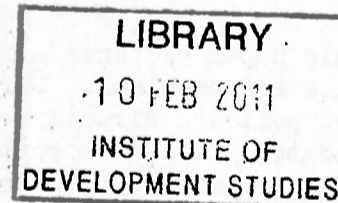
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A POLICY REVIEW FOR NUTRITIONAL GOALS

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ABSTRACT

This paper presents a resume' of the current nutrition activities and problems. Furthermore an outline is given on the impact of policies directly related to Nutrition. Two definite goals are indicated. One, the continued promotion of Nutrition Education as a major focus. This is because of a shift from curative to preventive measures against malnutrition. Two, in the sphere of cereal production Kenya may well consider the feasibility of participation in the ECA/FAO regional grains storage scheme; due primarily to rapid technological advances in this field. Furthermore specific planning will be required for food production primarily for local consumption.

BACKGROUND INFORMATION

In March 1973 the Ministry of Finance and Planning suggested to the Institute for Development Studies (I.D.S.) that an exploratory study should be undertaken which would serve as a basis for a policy review for nutritional goals.

Three phases of the study were outlined :

- A case-study of programme policy
- Analysis of strategic nutrition options
- Policy review and implementation of nutrition strategy. The case-study was expected to take one year, the analysis of strategic options 1½ to 2 years and the time taken for the policy review would depend on the results of the previous studies.

Accordingly I.D.S. convened a Nutrition Study Group to provide a forum for discussion and specialist advice during all phases of the study. The schedule for the study was suggested as follows:

- 1) A case-study of the policy of school-lunches and the nutritional implications related to cost benefits.
- 2) An outline of the schedule and procedure for the study of nutrition policies in Kenya.
- 3) Analysis of the benefits and costs associated with the exercise of various nutrition options.
- 4) Consideration of priorities in nutrition
- 5) A review of policies and programmes needed to achieve a better level of nutrition in the whole country.

Resume

The long term nutritional goal of any country is the ability to guarantee the provision of quantitative and qualitative nutritional requirements of its peoples. The objectives being vigorous childhood growth and an adult populace nutritionally fit to contribute and experiment in the development of their society.

The fulfillment of quantitative requirements of calories and protein is already theoretically feasible for Kenya .

Table 1 : Estimated Consumption Expressed in Calories and Protein

<u>Adequacy %</u>	<u>Calories</u>	<u>Protein</u>
Food Balance Sheet (1969)	107%	140%
Mwea-Tebere (1966/67)	127%	209%
Ichuga-Kiamariga (1965/66)	94%	164%
Githunguri, Murang'a (1971)	101%	119%

Quantitative Consumption.

Food Balance Sheet Estimate	2494	75g
WHO Nutrition Survey (1964/68)	1694	57g
Mwea-Tebere	2604	95g
Githunguri, Murang'a	2025	75g

The Food Balance Sheet prepared by the Institute for Development Studies (Smith 1969) demonstrated that food production provided an estimated 107% of the calories and 140% of the total protein required by the "average" person of the then 10.9 million population.

The fulcrum of qualitative requirements is presently the biological value of protein in the diet. Nutrition programmes in Kenya are expending their major efforts towards lowering the protein calorie malnutrition mortality figure.

Research work and programmes in community medicine and applied nutrition have focused interest on a number of policy problems which may be summarized in the form of questions as follows:

1. How would a Ministry of Health finance an adequate Pre-School Health Programme?
How far may pre-school health programmes be considered as an economic investment alongside other national investments?
2. What is the cost in personnel of a nutrition education programme?
What results are available on the effectiveness of nutrition education programmes?

What co-ordination exists in the training and syllabus used for personnel organizing nutrition education programmes?

3. What percentages of food production may be assumed to be required for use in raising exchange? To what extent does rural milk collection create a demand for commercial preparations of dried milk? Does meat price policy actually reach the critical nutritionally problematic groups?
4. What is known about the nutritional disease pattern in Kenya? How would this pattern modify national measures in nutrition services?
5. Which measures in agricultural extension are most successful in promoting qualitative improvements in the diet of rural families?

An index of available literature (Blankhart 1973) shows on close examination that nutrition studies have been carried out in every Province in Kenya as shown below.

Ahero	Limuru	Nairobi
Embu	Machakos Town	Nanyuki
Kaiwa	Machakos District	Narok
Kericho	Mackinnon Road	Ngong
Kiambu	Magadi	Nyeri District
Kisii	Meru District	Roret
Kisumu	Nombasa District	Yala
Kitale	Murang'a District	
Kwale	Mwea Tebere	

Current findings have shown a widespread incidence of protein-calorie malnutrition. "This may be viewed as a continuous gradation from early moderate degrees to advanced stages of malnutrition of which kwashiorkor and marasmus and their intermediate forms are the two most important. A high prevalence of PCM is mainly to be expected in poor and isolated areas and during food shortages. Migration, family instability, poor hygiene, parasite infestation are all contributing factors to this

preventable disease". (Blankhart 1973) Other forms of malnutrition observed are hypovitaminosis, iron deficiency anaemia (particularly in women) and goitre.

Nutrition Education and Training is the major nation wide nutrition activity. The organization of these programmes is conducted by at least seven ministries / agencies namely:

- . Ministry of Health
- . Ministry of Agriculture
- . Catholic Relief Services
- . African Medical and Research Foundation
- . Kenya Red Cross
- . National School Feeding Council/Ministry of Co-operatives and Social Services.

In addition Nutrition Education and Training programmes are organized which are concentrated mainly to one Division or District .

Examples of these are:

- . Department of Community Health/Medical Research Centre, Nairobi. African Med. & Res. Found./Ministry of Health(Machakos District)
- . Catholic Secretariat (Busia District)
- . Salvation Army (Murang'a District).

Training of field personnel is provided through Inservice Courses for demonstrators, aides, assistants and local women leaders. Government Certificate Courses are provided at Karen College(applied nutrition) and the Embu Institute of Agriculture (Home Economics Extension).

Field programmes are based on intensive education of mothers who enrol with their young children for upto five years or more at Pre-School Health Clinics. Shorter courses of a few weeks often including home management are provided at family life institutes or farmers training centres. Women's clubs and home visitors provide the opportunity for follow-up education and evaluation.

Programmes for other sections of the community are not as yet as comprehensive as those for the mother. These include teaching at Chief's Barazas and food promotion campaigns.

School-feeding is regarded as a nutrition education activity. The main aim being to provide supplementary protein, vitamin A and iodine to the diet of primary school-children. Mid-day meals are also organized at pre-school centres. (see table 2).

Table 2: National School Feeding Programme:

% of total number of children on programme,
by district.

Districts	Pre-School Centres		Primary Schools	
	Numbers	%	Numbers	%
Garissa/Wajir	300	3.2	-	-
Kakamega	601	6.5	2344	8.58
Kiambu	1526	16.4	75	0.3
Kilifi	238	2.6	-	-
Kirinyaga	2096	22.6	2493	9.1
Kisumu	635	8.8	757	2.8
Meru	1057	11.4	2222	8.1
Murang'a	455	4.9	9854	36.1
Nyandarua	145	1.6	2641	9.7
Nyeri	1459	15.7	6388	23.4
Siaya	488	5.3	128	0.5
Uasin/Gishu	286	3.1	428	1.6
Total	9286		27330	-

Correlation Co-efficient -.44

Medical treatment and rehabilitation of severely malnourished children is the other nationwide nutrition activity. Most hospitals have a malnutrition ward and provide teaching to the mother on dietary care of her convalescent child. Rehabilitation is begun in the hospital and continued by activities organized by Nutrition Education and Training Programmes.

Other nutrition activities are the production of dried skim milk powder, iodized salt; also the Ministry of Agriculture promotion campaigns in fish and rice. On the question of nutrient and food production Agricultural Planning has already developed a number of major successful programmes in maize, meat and milk production and storage. The results of other arduous research work in livestock and crop production are also being seen in greatly increased levels of production. However, the effects on dietary intake have not as yet been realised. (see table 3).

Nutrition Committees dealing with various aspects of organisation and study are:

- . Faculty of Medicine Advisory Nutrition Group.
- . Kenya National Council of Social Services Better Family Living Committee.
- . Kenya Freedom From Hunger Nutrition Committee
- . Institute for Development Studies Nutrition Study Group
- . Proposals have also been put forward (September 1973) for a National Nutrition Council with a Technical Secretariat.

Table 3.

	Cereals	Roots & Tubers	Pulses	Animal Products	Vegetables & Fruit
Food balance Sheet (Kenya)	60	5	9	17	2
District					
Kisumu	47	5	3	38	2
Siaya	58	2	14	23	2
Kericho	32	1	2	52	14
Nairobi	30	8	26	33	3
Kiambu	38	28	21	11	3
Murang'a	41	1	48	8	2
Nyeri	53	5	28	3	11
Nyeri	44	5	43	6	3
Kitui	85	-	4	11	-
Machakos	53	5	30	6	6

% of PROTEIN from various food sources

(Ref: Blankhart, D.M.)

IMPACT OF POLICIES DIRECTLY RELATED TO NUTRITION

1. Food Production

At the time of Independence, 1963, the Ministry of Agriculture was charged with a twofold task in the production of foodstuff (i) to produce sufficient food to keep the nation healthy. (ii) to produce surplus for export in order to earn foreign exchange required for development (KNCSS/FAO Seminar 1973). The policy of the Ministry of Agriculture has therefore been to promote increased yields and production. The aim being to establish food production as a profitable enterprise for the farmer while simultaneously increasing measures of protection against food shortage within the country. ~~Ingenuous planning has been employed to make these objectives coincide.~~

Two approaches have been used to encourage increased harvests and production. One is to increase the harvest yields by the introduction of high yielding, disease resistant crops. The other is to expand the area under production by irrigation, mechanized equipment and bringing hitherto unused arid zones under ranching. Farmers have been encouraged to adopt these approaches through loan programmes and price incentives.

The main setback appears to have been a financial one, that is to say capital investments and outlay were often high. Costs per unit of production made the product relatively expensive for local consumption and unprofitable for export. A severe shortage of trained manpower in extension together with poor management practices were also responsible for keeping production levels down.

For the future it may be said that enormous potentials still exist in increased agricultural production. However it has been observed (Roling 1972) that farmers continue to spend money for maize although the technology is available to double or treble their maize yields. A reversal to primary subsistence has also been noted (O'Keefe and Wisner 1972) in areas which could and did viably produce coffee. The adjustment was seen as a response to the continued deterioration of the soil, ex-migration and minimal remittance of income.

The following notes give examples of the measures employed in food production:

(i) Measures to Encourage Increased Harvests and Production

- Price incentives to encourage farmers to increase maize plantings.
- Introducing rust resistant varieties of wheat.
- Bringing new land under cultivation of rice through irrigation schemes (e.g. Bunyala pilot project).
- Expanding sugarcane production in areas where sugar mills exist to facilitate transport of sugarcane from field to factory.
- Fisherman's loan programme to provide mechanised canoes to enable deeper waters to be fished (Inshore waters/lakes).
- Establishments of new cattle ranches (e.g. group ranches in Masailand) to convert traditional pastoralism into commercial livestock production.
- Increasing the number of grade cattle and therefore increasing yield of milk/cow. e.g. yield per cow/per annum Zebu cow 150 litres, yield per cow /annum grade cow 1,300 litres).

(ii) Examples of Setbacks to Increased Production

- Increases in productivity are not always related to parallel increases in income.
- per unit costs of production higher than export price e.g. wheat and maize production.
- Capital investments in irrigation schemes restrict these to large scale enterprises (e.g. £320 per hectare capital investment at Mwea, £860 per hectare capital investment at Ahero).
- Level of fish consumption 3.5. Kg/person/year does not enhance selling price of fish and keeps fish pond production low (4 kg.fish/pond/year).
- Capital outlay restricts marketing of fresh fish.
- Cost of pig feed keeps cost of production high making pig products relatively expensive for local consumption and restricting substantial export.
- Severe shortage of trained manpower to carry out extension services in livestock production particularly pig and poultry production and in range management.

- Poor management of dairy farming prevents improvement in yield/cow of existing animals.

iii) Future Trends

- Producer price of maize will shortly make maize export profitable. Expected substantial increases in maize production will make maize an important export crop.
- Rice yields are expected to increase by 25%. Furthermore if the Bunyala rice-pilot scheme is successful a further 15,000 hectares at Yala swamps will be planted to rice, which may double present total rice production. It is likely that surplus rice will be profitably exported.
- Provision of improved fishing facilities may lead to increased fish landings. Due to expense in marketing fresh fish these increases would be more profitably marketed as dried, salted or smoked fish.
- Inshore waters are approaching their maximum yield of fish and therefore other sources of fish i.e. deep sea fishing and fish pond cultivation will be encouraged.
- Price of beef is unlikely to decrease due to favourable export prices. Meat production constraint will be mainly on the supply side.
- Retail price of fish will fall relative to meat and other sources of protein. This factor may promote fish consumption.
- Research in wool sheep may promote sheep ranching for wool rather than for meat production.
- Rapid influx of milk into creameries may increase the need for dried milk processing plants.

(iv) Research

The main research experiments are:-

- Hybrid maize research to improve protein content.
- Investigations into the causes of low yields of legumes.
- Potato seed certification.
- Disease control among livestock.
- Production oriented research in livestock
- Improved productivity of sorghum and millets especially for areas too dry even for drought resistant synthetic maize.
- Wildlife cropping for meat production.

- Mass communication in agriculture extension methods.

Comments

The foregoing outline of food production policies has indicated the rapid technological advances achieved in Kenya and hence the necessity to provide services and trained manpower to this buoyant commercial sector of food production. So optimistic is the potential for increased production that Kenya may have an opportunity to participate in the ECA/FAO regional grains storage scheme for Eastern Africa.

Constraints on production for local consumption appear to be a combination of (i) a severe shortage of manpower to carry out extension services and (ii) the comparative high cost of investment initially required to make small farming a profitable enterprise. Therefore specific planning is required for food production primarily for local consumption.

2. Campaign Against Malnutrition

The campaign against malnutrition was undertaken jointly by the Ministry of Health, Catholic Relief Services, Oxfam and other agencies in 1968, in an attempt to reduce the incidence of malnutrition especially among the underfives. Programmes outlined then were as follows:

- i) A Nutrition Education and Training Programme.
- ii) Development and Promotion of a protein supplementary food.
- iii) Promotion and Development of a School Feeding Programme
- iv) Promotion of the pre-school Health Programme.
- v) Iodization of salt.

The Campaign placed the emphasis on Nutrition Education and Training an activity which was regarded as highly feasible for application in every District in Kenya. This indicated a shift from the curative aspect to that of preventive.

(i) Nutrition Education and Training

This was primarily a Ministry of Health responsibility. For this purpose the Ministry established a Nutrition Division with 54 posts and a Budget of £20,000 per year. Today (1974) there are over 150 posts and a Budget of almost £80,000. The programme as developed

by the Ministry/other agencies is:

- Nutrition Training in Applied Nutrition as given at Karen College.
- Nutrition education in the consumption and production of green vegetables and fruits is given at the Better Family Living Institute at Kitui.
- Pre-School Health programme, organized by Catholic Relief Services
- Feeding the Family is taught by Group-discussion-demonstrations to groups throughout the community. Also included is teaching on: prevention of diarrhoea; prevention of parasite infestation basic rules of hygiene.
- Follow-up care of malnourished children through malnutrition clinics and home visits.
- Special diet therapy is offered by Dieticians at Kenyatta National Hospital.
- Biochemical analysis of foodstuffs.

ii) Development of a Protein Supplementary Food

A milk-yeast Barley mixture (supro) was tested first as a growth test on rats and subsequently in a recovery test on children with severe kwashiorkor with satisfactory results. The mixture had previously been used effectively in the 1955 famine relief supplies in Kenya.

iii) Promotion of a National Primary School Feeding Programme

- 3 school lunch programmes developed: one using USAID surplus food commodities supervised by CRS; two, using supro with maize and beans, sponsored by Oxfam and organized by the National School Feeding Council; three, Nairobi City Council programme for their schools. Approximately 54,000 children are reached by the first two programmes at a cost of over £100,000 per annum.

iv) Promotion of the Pre-School Health Programme.

Organized by the USCC sub-Sahara Africa Regional Office, supervised through CRS, Kenya. This programme provides Intensive Nutrition Education for mothers with pre-school children, and has developed the following activities:

- Nutrition Education of the mother.
 - Surveillance of the child's growth by clinic/parents.
 - Maintaining adequate growth of the child by clinic/parents.
 - Evaluation of growth curve and other research work.
 - Training of organizers of Pre-School Health Centres.
 - Field Bulletin.
- (v) Iodization of Salt
- All salt marketed by the Magadi Soda Company is iodized.
 - Legislation of compulsory iodization of all salt produced and imported in Kenya has been recommended by the Ministry of Health (1971).
 - Evaluation of the effect of the iodization programme on School children is being planned by the Medical Research Centre, Nairobi, follow-up of their goitre surveys.

Research

Nutrition research in community medicine was also taken undertaken jointly through the efforts of the Advisory Nutrition Group of the Faculty of Medicine which represented the Faculty of Medicine the Medical Research Centre, Nairobi, the Ministry of Health and the African Medical Research Foundation. Long-term research includes:-

- Community diagnosis of protein-caloric malnutrition.
- Longitudinal growth studies.
- Weaning patterns.
- Socio-economic factors of nutritional status.
- Evaluation of nutrition education extension methods.

Future Trends

In general it could be said that the various activities outlined above have successfully completed the trial period and will now continue to develop. A particular point is:

- Nutrition Education using the group-discussion-demonstration method may achieve further impetus. Various 'pilot-projects' are now at the stage of development which produces measurable effects. A good example is the Tape Recorder, Film and Training Project of the Catholic Secretariat (see extract J.Devane). The new Health Education project now underway by the Ministry of Health

SIDA may also prove influential in shaping the type of Nutrition Education Programs for future use.

Comments

These policies that have shaped nutrition planning in community health were based on a main activity of Nutrition Education. Since behavioural studies and the findings of psychological research demonstrate with increasing evidence the effects of new approaches in Education the whole activity of Nutrition Education becomes a challenging field of scientific enquiry.

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