THE ROYAL NORWEGIAN MINISTRY
OF DEVELOPMENT COOPERATION

# Evaluation Report 1.86

## Stockfish as Food Aid

## *EVALUERING AV TØRRFISK SOM MATVAREHJELP.*

På bakgrunn av hungerskrisen som i 1984//85 rammet store deler av Afrika ble det i juni 1985 innkjøpt 1 800 tonn tørrfisk gjennom Departementet for utviklingshjelp (DUH). Målet har vært å levere et nyttig protein-supplement til den matvarehjelp som allerede gis til flyktninger eller andre nødlidende i noen av de fattigste land i verden. Fisken har blitt distribuert hovedsaklig til 7 land i Afrika gjennom norske private organisasjoner; Norges Røde Kors, Care Norge, Kirkens Nødhjelp, Håpets Stjerne, Norsk Folkehjelp og Caritas Norge. I tillegg har Verdens Matvareprogram og og UNICEF også distribuert tørrfisk. DUH har gjennomført en evaluering av bruken av tørrfisk i Mosambik, Ghana og Etiopia.

Rapporten understreker at brukt riktig kan tørrfisk kan være et svært verdifullt supplement til annen matvarehjelp. Tørr-fiskleveransen er funnet å ha forbedret ernæringssituasjonen for mottakerne, selv om ikke fisken alltid er blitt brukt på en optimal måte. Det har sammenheng med at folk i bestemte områder ikke er vant til å spise fisk, eller denne type av fisk og ikke vet hvordan tørrfisken skal tilberedes, samt at tørrfisken ikke alltid er inngått i et balansert kost-hold. Det er heller ikke alltid de gruppene som trenger fisken mest som får den.

Spesielt for å sikre at tørrfisk blir brukt og tilberedt på en forsvarlig måte anbefales at DUH konsentrerer tørrfisk-bevilgningen til et fåtall land og med distribusjon gjennom organisasjoner der de lokale representanter har den nødven-dige kapasitet samt kjennskap til lagring og tilberedelse av tørrfisk. Videre bør det benyttes mer ensartete og detaljerte prosedyrer for vurdering av tørrfiskleveransene.

På bakgrunn av evalueringen har regjeringen for 1986-87 vedtatt å innvilge 800 tonn til Mosambik og 400 tonn til flyktningeleire i Algerie.

The Royal Norwegian Ministry
of Development Cooperation

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# Evaluation Report on Stockfish as Food Aid

The views and interpretations expressed in this report are those of the authors and should not be attributed to the Ministry of Development Cooperation.

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# 1. INTRODUCTION

In June 1985 the Norwegian Parliament decided that the Royal Norwegian Ministry of Development Cooperation (MDC) purchased 1,800 tons of stockfish for distribution as food aid. The characteristics of the product are given in Annex 1.

In February 1986 about 847 tons of stockfish had been sent to Algeria, Angola, Ethiopia, Ghana, Mozambique, Togo and Zimbabwe. An account of the current stockfish situation is given in Annex 2.

The Royal Norwegian Ministry of Development Cooperation decided to undertake an evaluation of the efficiency and impact of the projects carried out through Norwegian NGOs and the World Food Programme using stockfish (Terms of References, see Annex 3.)

## 1.1 Countries Included in the Evaluation

MDC had initially selected 3 countries to be visited by the evaluation team, namely: Algeria, Mozambique and Ghana. Due to travel restrictions no permission to visit the project sites in Algeria was obtained. Therefore, the evaluation report only deals with Mozambique and Ghana. A summary of the situation in Algeria is, however, attached as Annex 4. This summary is based on interviews with Red Cross representatives and relevant recent reports received from Red Cross as well as from a joint Norwegian Red Cross/Unistock mission to the camps in Tindouf.

MDC engaged an individual consultant to report on the use of stockfish in Ethiopia. This report does not form part of the present study.

## 1.2 Methodology

Due to the lack of a baseline study and detailed background data describing the situation before the programme was commenced, a comparative assessment could not be carried out.

The main approach adapted by the mission was, therefore, to follow the flow of stockfish from the arrival in the country to the final distribution to the beneficiaries. Bottlenecks in the distribution chain could be identified together with an evaluation of the operation of the

executing organizations. At the end of the chain the impact on the beneficiaries' situation and their efficiency of utilization of stockfish could be assessed and compared to the objectives of the Norwegian Parliament and Norwegian Development Assistance guidelines as well as to the policy objectives of the recipient country.

## 1.3 Difficulties Encountered

Three main factors hampered the mission's ability to assess the impact on the beneficiaries. Firstly, the inaccessability of project sites in Mozambique. Due to security reasons it was virtually impossible to travel outside the capital, and considerable time was lost arranging and waiting for air transport. Secondly, in most cases the stockfish had been consumed, so the mission did not have the opportunity to see by itself how the fish was stored, distributed and consumed.

Thirdly, the time available in the respective countries was limited. The mission could not study all organizations equally. It had to concentrate its efforts on a few organizations which were studied to some degree, whereas others were interviewed only once. The conclusions of the mission are, therefore, partly based on facts and partly on subjective impressions.

# 2. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

## 2.1 General

Stockfish is a suitable product for food aid projects, both from nutritional and economic points of view, provided it is handled and prepared correctly, in the right combination with staple foods.

Stockfish is a difficult product to store, distribute and prepare. To obtain the nutritional and economic benefits of stockfish in feeding programmes these have to be well planned, executed and monitored; when these conditions cannot be secured, stockfish is not recommended.

The use of stockfish as relief food aid (as in the case of Mozambique) cannot be seen in isolation; it must be seen in the context of a total food aid package, where stockfish should be used in small amounts, as an important supplement for the local staple foods, mainly to balance the protein content of the diet. Stockfish is more suited for institutional feeding programmes - where its use can be controlled - and less suited for emergency relief programmes.

In Ghana all stockfish distributed through WFP and an estimated 25% of the stockfish distributed by the NGOs wer used in food-for-work projects aiming at long-term development effects.

The impact of the programme is very difficult to evaluate in objective terms. It would require a detailed baseline study and also an analysis of the situation after the programme has been completed. None of the two analyses exists.

In both countries the utilization of stockfish was far from optimal. In Mozambique, irregularity of food supplies and, at times, the non-availability of staple foods, as well as the fairly large portions distributed to individuals as emergency food aid, resulted in a low efficiency of its utilization. However, the mission felt that a serious effort was being made to utilize food aid as well as possible.

In Ghana the optimal utilization was hampered by lack of coordination, unclear definition of the most needy as target groups, lack of efforts, resources and at times organizational interests in reaching the most needy ones. The food aid channeled through WFP Ghana served primarily

as budgetary support, and the nutritional aspects came second.

Stockfish is a high value, low weight product. Transport costs per kg protein are low, but the risks of economic losses due to incorrect handling and preparation are comparatively larger than for many other food products.

It was generally felt that the recipient organizations in the countries visited had insufficient knowledge of the particular characteristics of stockfish. Many of the recipient organizations concentrated more on the logistical and distribution aspects than on the actual optimal utilization by the beneficiaries.

Many of the Norwegian and international based NGOs do not have sufficient feedback from the local representatives as to how the stockfish has been utilized, and what the impact has been. There is also a clear demand for the NGOs to instruct their local representatives on how to handle and prepare the stockfish.

It is felt that if proper technical knowledge of the product had been available, the effectiveness of stockfish in the different feeding programmes could have been increased significantly. There is a need for the donor agency to secure that the recipient organizations have this technical information of the product.

The donor should also have a set of objective criteria to evaluate the incoming requests for stockfish. Decisions concerning selection of organizations and size of consignments are made mainly on the basis of information about the organizations in general, but not always on the basis of specific knowledge about their operations in the particular country in question.

This can partly be explained by the limited staff available to the donor agency, the lack of experience with the recently introduced stockfish programme and the urgency for quick administrative procedures.

The cost of the programme can be calculated, but the benefits cannot be quantified. Therefore, it is not possible to make an economic analysis which can be used for comparing alternative uses of funds.

A rough estimate of the economic costs for the Norwegian Government shows that at the price actually paid for the stockfish including transport (approximately 25 NOK/kg), stockfish costs about the same as an alternative use of beans.

This is based on a comparison of a daily ration of 95% maize and 5% stockfish to one with a lower but still good nutritional value, consisting of 66% maize and 33% beans. If the financial cost is used, which includes the 33% reduction given by the stockfish exporters, the price of the daily stockfish ration increases with 15% making it approximately 10% more expensive than the bean ration. Finally, if the economic cost for MDC is used, including only the redistributed 30 million NOK, the cost of the stockfish ration becomes approximately 70% of the bean ration (See Annex 5).

Only the Red Cross of the major Norwegian NGOs had originally showed some interest in using large quantities of stockfish in their projects. Some of the other Norwegian NGOs became interested after being addressed by the MDC. Some of the major NGOs contacted by the mission expressed concern that additional funds allocated from the MDC budget for stockfish could result in a deduction in the funds available for the NGOs. Such a situation would be regarded as unacceptable.

The major NGOs' lack of interest in stockfish was mainly due to:

- high price
- shelflife and storage problems
- limited acceptability
- not suited for many emergency relief situations without institutional feeding.

## 2.2 Mozambique

### 2.2.1 Summary

#### 2.2.1.1 The Country

Mozambique is a poor country; a GNP of US$ 121 per capita/year places its population among the poorest in Africa. Literacy rate, infant mortality rate, life expectancy at birth as well as other socio-economic indicators confirm a very low level of development.

Mozambique is living in an emergency; it is one of the countries hardest hit by adverse climatic conditions in Sub-Saharan Africa during the last five years. Insurgen-

cy, added to the above, has had devastating effects on virtually all economic and social activities in the country.

Valid nutritional data are scarce. They mainly show a widespread growth retardation and a less dramatic stunting of children.

2.2.1.2 Food Situation

The food situation is chaotic. There are no food stocks, and the food production has decreased significantly. In 1985 the marketed production of maize, wheat and rice added up to only 57.7% of the amount marketed during 1984. For the year 1986 there is an uncovered gap of more than 295,000 MT of basic cereals.

- The production of red meat, pork and chicken has gone down to a level where it has no real significance in the diet of the masses of the population.

- Fish is a component of the traditional diet, fresh and/or frozen in urban areas and dried fish in rural areas.

- The non satisfied demand for food concerns all foods, including protein rich foods: meat and fish, as well as beans and other legumes.

- It is highly probable that in the present situation an important part of the population is surviving on a diet of corn with minor additions of whatever is available.

- Continuity of food aid is a must.

2.2.1.3 Organizations Distributing Food Aid

The vast majority of food aid in Mozambique is channeled through and distributed directly by the Department for the Prevention and Combat of Natural Calamities (DPCCN). This government organization handles and coordinates relief aid to drought and flood affected areas.

Only the 6 Southern provinces have been identified as affected by natural calamities. Man-made disasters (warfare) are not dealt with by DPCCN for the time being.

However, the role of DPCCN is being reviewed. It is possible that the mandate for DPCCN will be expanded to include assistance to the war affected areas. It has been reported that as of 1st of May 1986 DPCCN's operations have been expanded to include the 4 Northern provinces.

To strengthen the planning and operational capacity of DPCCN, CARE-Mozambique runs a project providing support to the logistical project unit of DPCCN. Due to the general lack of transport and infrastructure as well as to the need for military protection of transports, DPCCN is in practice the only organization - besides the army - capable of handling any significant amount of food aid outside urban areas.

DPCCN receives regular regional situation reports concerning: number of affected people, climate and food availability. DPCCN coordinates all emergency food aid programmes through monthly meetings with donors.

The mission feels that DPCCN is capable of identifying the affected population, organizing transport and distribution to the provincial and, in some instances, to district level. DPCCN does not have detailed control of the actual distribution of food items at the regional level, which is mostly carried out by local authorities. DPCCN does not always receive detailed feedback as to numbers and groups of beneficiaries. Under the prevailing circumstances and taking available resources into account DPCCN is operating reasonably efficient.

The major part of NGOs hands over its food aid to DPCCN for distribution. The NGOs can, however, decide what type of projects their food aid should be used for. Some NGOs distribute smaller quantities of food items to particular projects in the large cities, and some of the large ones operate development projects as well as food aid programmes.

Due to the frequent change in the security situation and to the lack of suitable transport facilities, NGOs tend to shift their operations from rural to urban areas. The distribution, planning and coordination capacity of the different NGOs vary greatly according to size, resources and managerial staff available.

Where the NGOs hand over food aid to DPCCN for distribution, food items could be supplied directly to DPCCN. This would facilitate coordination as well as decreased administration.

DPCCN possesses a fleet of approximately 230 relatively well maintained trucks. Other means of transport are also used. The available transport facilities are judged to be sufficient for handling existing and even increasing amounts of food. As for the transport capabilities of the NGOs, no generalization can be made since individual capacity varies greatly.

The actual performance of distribution is greatly influenced by the local security situation. Supplies are often disrupted by insurgents.

#### 2.2.1.4 Stockfish in Food Aid

Food aid, including stockfish, is addressed both to the urban and rural population of the six most affected provinces.

Apparently there are no particular problems in the handling, transport and storage of stockfish for emergency purposes, and the whole distribution is done in a relatively short period of time.

Stockfish is an appropriate type of food in the context of food aid in Mozambique.

Particular nutritional considerations have not been taken into account for the selection of beneficiaries.

There is no nutritional expertise in the staff dealing with food aid at any stage.

The proportion of stockfish in the total amount of food distributed in a given place is not constant, but depends on the relative availability of other foods as well as on other operational matters.

At family and individual level the monthly ration of stockfish is eaten in a short period of time, which reduces its nutritional benefit. In group feeding stockfish may be used in a more rational way.

Stockfish is quite different from the locally produced dried fish, and many people do not know how to prepare stockfish. Instructions on its preparation, especially on the soaking time, are badly needed.

There is no feedback information from the field, and concerning emergency food aid no one knows who consumes what; in the present situation there is no way to esti-

mate how much stockfish is contributing to the diet of the beneficiaries.

#### 2.2.1.5 Impact of Stockfish

At the national level the quantity of stockfish has not been enough to affect the prices. Much larger quantities could be delivered without causing a fall in prices, because the need for protein-rich foods is so big.

Neither has it influenced the prices at the local level, because it has been distributed in rural disaster struck areas where the market is almost non-existing. The province of Maputo could be an exception as distances to the capital are short, communications are comparatively good, the population has a higher purchasing power and is comparatively well supplied even with fish.

### 2.2.2 Conclusions

Due to the economic reality, nutritional situation, organization of the food aid and the insignificant influence - if any - on the local fish industry as well as on price formation for stockfish substitutes, it is the mission's view that stockfish can continue to be a useful food aid product both for emergency food relief programmes and for regular institutional feeding projects for disadvantaged groups such as: the poor, the disabled, the sick, the imprisoned, the orphans, etc.

With the recent return of a more normal climatic situation in Mozambique there will be a change in the type of aid needed: the need for emergency relief programmes will decrease, whereas the demand for long-term development projects will increase.

One of the major problems facing the government is that there - in the rural areas - is an almost total lack of consumer goods, which can be bought at official prices. Farmers are, therefore, hesitant to sell their surplus production to government organizations.

Furthermore there is an almost total lack of protein foods in the rural areas, and it will take a relatively long period to reestablish the traditional cattle herds. In this period stockfish could be sold, or bartered, by government marketing organizations to farmers in exchange for agricultural products. In this way stockfish could serve three purposes:

a) help fill the protein gap, particularly important to children as well as to pregnant and lactating women,

b) be a useful incentive for farmers to increase and sell their excess production,

c) decrease the dependency of foreign food aid by using the proceeds for development projects.

However, care should be taken that stockfish is received by the organization before the harvest period, since most of the marketable surplus grain is mainly bought right after harvest. The infrequent contact with the farmers - in some instances only once a year - might limit the amount of stockfish which can be absorbed by the farmers.

The mission's view is divided concerning the possibility of successfully implementing such a project. The majority is of the opinion that it could compare favourably to other more traditional development programmes, which are very difficult to implement in the present situation. Others have the view that due to organizational difficulties such a programme will have a limited effect.

Where stockfish is used for food aid programmes, care should be exercised in the way it is used. Distribution to individuals in emergency situations is not recommendable, primarily because they eat their monthly ration in a few days, and, therefore, the food efficiency is low.

Secondarily, it is practically impossible to instruct all individuals or families on how to use it, and finally, individuals often lack necessary utensils and water in emergency situations. Stockfish is best suited for group and institutional feeding.

Instructions as to the use and preparation of stockfish has not been given at present.

Stockfish should not be distributed to areas where fish is landed in larger quantities, and which have an unexploited potential for development.

## 2.3 Ghana

### 2.3.1 Summary

2.3.1.1 The Country

General indicators of the quality of life, life expectancy at birth, crude mortality rate, literacy of adult population, GNP per capita per year, etc. show that Ghana is a little better off than the average of low-income countries in Africa south of Sahara.

2.3.1.2 Food Situation

A widespread famine attacked the country in 1983; it was due to the combined effects of a serious drought plus the unexpected return of 1.3 million Ghanaians expelled from Nigeria. Almost no food was available in the markets, and prices reached sky-high levels.

Different sources of information show that food production has increased significantly in the years 1984 and 1985, but the country is not yet self-sufficient, and food imports continue.

In urban areas food availability is relatively good; but the prices are often beyond the purchasing power of the poor sectors of the population, who cannot obtain a well balanced diet.

In rural areas, particularly in the North, the main problem is the seasonal variation of food availability, reflected in important changes in food intake throughout the year; this in turn implies seasonal variations in body weight, in the prevalence of children malnutrition, undernutrition, anemia, goitre and various types of vitamin deficiencies in the general population.

There is no food shortage in the country, and specialists in nutrition have the "feeling" that the nutritional status of the population is improving, but data are not available.

The basic diet is rather varied, including cereals, tubers, plantain, legumes, green leaves and meat or fish, if available. The composition of the diet varies a lot according to geographical area, ethnic group and period of the year. In the South fish constitutes an important source of protein.

The traditional use of a sauce over boiled cereal lends itself very well for the introduction of bits of stock-fish in the sauce, in the same way as is the use of the locally dried or dried/smoked fish.

### 2.3.1.3 Economic Situation

The economic situation in Ghana is improving, GNP and exports are increasing, trade balance deficit and inflation are decreasing. Food prices are decreasing due to increased production, and salaries are being increased. The combined effect of the two latest factors results in an increased buying power.

The Ghanaian economy still suffers from the effects of a mismanaged economic system during the late 1970s and the drought in the beginning of the 1980s. The biggest problems are: lack of inputs to the agricultural sector, lack of capital to renovate the plantations, an underutilized industrial sector, too many employees in the administration and para-governmental organizations.

In 1985 Ghana had a trade balance deficit in 1985 of approximately 350 million US$ and debt servings of approximately 400 million US$.

To overcome the above problems Ghana has initiated an Economic Recovering Programme (ERP) which is calling for foreign aid amounting to 600 million US$ per year for the period up to 1988. 100 million US$ of these should be food and commodity aid for each of the 3 years in question.

A major problem for the implementation of the ERP is the inability of the administration to handle aid approval procedures efficiently. With the increased amount of aid foreseen the administration does not have sufficient capacity to assure that the aid is used in the intended way.

This is seen as a particular problem for the food aid, because it has to be monitored closely not to have adverse effects on the local agricultural productions.

### 2.3.1.4 Food Aid Policy

The main characteristics of the Ghanaian food aid policy are the following:

a. a supplement to own imports for the rural poor.

b. development support in form of balance of payment support, funds for development projects, and sector programme support.

However, no coordinated effort had been made to implement this policy. Different ministries have very different opinions about the relevance of food aid. No national body for the planning, distribution and control of food aid exists. Only few attempts for an internal coordination between NGOs have unsuccessfully been tried. Individual NGOs consult different ministries and regional authorities when planning the distribution of food aid. Due to the lack of coordination overlapping takes place.

#### 2.3.1.5 Organizations Distributing Food Aid

The food aid distributed by the NGOs visited goes mainly to institutions which do not receive adequate operational funds. A small part is used for development projects as food-for-work. The target groups of the different NGOs vary according to their objectives and interests. It was generally felt that with the exception of the Salvation Army the most needy groups were not being reached.

The planning and implementing capability of the different NGOs receiving stockfish varies greatly according to manpower and economic resources. Of the 5 NGOs visited, the Catholic Relief Services, Seven Days Adventists and the Salvation Army have a relatively clear conception of needs. They also appear to be able to plan and implement their projects and to some extent to monitor the implementation. Star of Hope International Ghana, and Red-Cross Ghana seemed to lack these capabilities. Records for these two organizations were observed to be incomplete and to some extent inconsistent. The management seemed to lack experience, insight and control over important aspects of their activities.

The WFP is the biggest distributor of stockfish in Ghana. The WFP includes stockfish in the food basket of its food-for-work project. 20-25% of the workers' salary is retained in exchange for a food basket with an actual value which is four to five times higher than the 20-25%. The families might sell the stockfish; this, however, is not considered important by WFP, because the project's objectives are mainly economic and to a lesser extent nutritional.

#### 2.3.1.6 Impact of Stockfish

At the national level the deliveries of stockfish have not affected fish prices, because they are too small compared to the domestic fish production.

At the local level stockfish might have influenced the prices in two different ways. If the stockfish had been eaten, it could have caused a decline in food prices. This might have been the case for the markets close to the two WFP projects. If stockfish had been exchanged, the prices of other food products are likely to have risen because the workers of the WFP had indirectly increased their purchasing power, which could increase the demand for other food products. It is felt that the stockfish delivered to the NGOs has not affected food prices, whether the stockfish was eaten or exchanged, because it was distributed in small quantities to many different places.

Stockfish has been exchanged for canned tunafish, which is easier to handle and better accepted. A barter of this type was done by the Red Cross for one fourth of its consignment. The exchanged stockfish might have been sold to Nigeria, where the price is very high.

Artisanal fishermen are very vulnerable to price variations. Presently the conjuncture is favourable to them, which should give them a possibility to improve their equipment and storage facilities. Therefore, stockfish should not be distributed to the fish producing areas, particularly during the peak season.

Stockfish deliveries that last only a few years will not change food habits, particularly where there is a strong tradition to consume other types of fish products. The smuggling to Nigeria reinforces this argument.

### 2.3.2 Conclusions

In Ghana stockfish did not enter into a well structured food aid scheme, and no coherent, coordinated food aid policy exists in the country.

There are no indications that stockfish got to the people in the biggest need. Stockfish was more a kind of economical support or budgetary contribution to the recipient organizations.

The capability of the NGOs to handle food aid programmes varied greatly according to their resources and interests.

Opinions on stockfish, its use and acceptability, heard from the staff of recipient organizations, were all very positive. Less interested opinions pointed out the smuggling of stockfish into Nigeria.

It is believed that Ghana with its present organization of the massive inflow of food aid cannot secure an optimal utilization and avoid adverse effects on the local agricultural production.

## 2.4 Recommendations

### 2.4.1 General

MDC should adopt more uniform and detailed procedures for the allocation, follow up and evaluation of stockfish. (See Annex 6)

MDC should concentrate the donation of stockfish to fewer countries, which can absorb larger quantities. This could facilitate a more detailed planning for an optimal use of stockfish in the total food aid programme of a country.

By concentrating on fewer countries the resources of MDC could be used more efficiently in the planning and follow-up of programmes.

### 2.4.2 Mozambique

Supply of stockfish as food aid for the people of Mozambique should continue.

Stockfish should be supplied in regular periodical consignments matching the national capacity to absorb food aid and preventing the deterioration of the product.

MDC should recommend the national authorities to make more use of the group feeding approach in the distribution of emergency food aid.

Preferably, stockfish should be directed to group feeding, particularly in relatively well supplied towns like Maputo.

Stockfish should not be sent to the main fish producing areas like the cost between Beira and Vilanculos.

The major part of stockfish for food aid should be given directly to CARE/DPCCN to facilitate administration and coordination.

Stockfish could be provided to the Government for its sale/barter in the rural areas, to individual farmers who

have an excess of grains. The income generated should be used to develop artisanal fisheries. In this connection the improvement of the situation of women in the fisheries sector should have a high priority.

In case MDC decides to provide stockfish for sale/barter in the rural areas a project should be set up with AGRICOME, which has expressed interest in receiving stockfish.

It is the view of the mission that such a programme complies with the Norwegian Government criteria for food aid. It compares with a food-for-work project, where food is provided at subsidied rates for long term development objectives. Care should, however, be taken that the programme is large enough to allow for an efficient administration. The programme must also have a sufficient duration (4-5 years) to assure the intended impact on the rural areas. It should be taken into account that the effect on the farmers will be limited in the first couple of years.It will be necessary that MDC sets up a project organization and participates in the implementation of the project.

MDC should invite the Nutritional Division of the Ministry of Health to play an active role in the improvement of stockfish use in food aid.

- Simple guidelines for the preparation of stockfish and its best dietary use, according to the present food situation, should be developed and widely distributed among those in charge of group feeding.

- Also the Nutrition Division should help to monitor the use of stockfish in food aid.

MDC should fund the expenses incurred in the point above.

If the tremendous uncovered gap in the food supply to the people of Mozambique continues, MDC should consider the alternative of devoting part of the money, which could be used for stockfish, for purchasing a much bigger amount of the so much needed staple foods, particularly maize. (See Annex 5)

It is felt that the total amount of stockfish which can be used under the prevailing situation in Mozambique today is as follows:

- CARE - 600 MT in 50 MT monthly shipments to be distributed by DPCCN.

- Red Cross - 100 to 200 MT for institutional feeding programmes in urban areas.

- Agricome. They expressed interest in 1000 MT/year; but the mission feels that in the first 2 years 200-300 MT could be supplied as a trial.

- People to People. 1 container twice a year after they have started their new project: "Canteen for hospital workers".

2.4.3 Ghana

The mission recommends that stockfish to individual NGOs should no longer be used as food aid to Ghana.

# 3. MOZAMBIQUE

## 3.1 The Country, General Information

### 3.1.1 General

#### 3.1.1.1 Area and Location

Mozambique covers about 800,000 km2 in the South East corner of Africa. It has a coastline of 2,500 km. It mainly consists of wide plains and plateaus. It borders to Tanzania in the North, Malawi, Zambia and Zimbabwe to the West, and South Africa and Swaziland to the South.

The country is divided into 10 provinces (see Figure 1):

- North : Cabo Delgado, Niassa, Nampula
- Central: Sofala, Manica, Tete, Zambezia
- South : Inhambane, Gaza, Maputo

The principal towns are located along the coast.

#### 3.1.1.2 Communications

Mozambique has a railway system, which connects its neighbouring countries to the harbours of Maputo, Beira and Nacala. The roads are insufficient and not well maintained. The two main airports are those of Maputo and Beira. There are many small airports or airfields all over the country.

#### 3.1.1.3 History

Mozambique became independent in 1975 after five centuries of Portuguese rule. The Portuguese settlers were never very numerous, 200,000 by 1975, and were mainly established in the towns near the coast.

Portugal was poor and distant and did not have the will and resources to manage the colony properly. Forced labour existed until the 1950s. Illiteracy was in 1975 well above 90%; the rate was important even within the white minority. The production consisted mostly of subsistence agriculture and cash crops for export. Although an effort was made just before the independence, the

infrastructure remained very poor. The country was economically dependent on its powerful neighbours, South Africa and Rhodesia. A large number of workers were employed in the mines, and these two countries shipped a large part of their produce through the harbours of Lourenço-Marques (now Maputo) and Beira.

It was not until the 1960s that a unified liberation movement emerged, the Liberation Front of Mozambique, FRELIMO. Independence came only with the return of democracy in Portugal. Racial strife exploded in the capital on the Eve of Independence, and 90% of the Portuguese settlers left the country, often destroying properties and infrastructure. When the Marxist oriented FRELIMO took over it faced a frightening lack of skills, capital and equipment. In addition South Africa reduced its quota of migrant workers to almost one third.

Since the late 1970s, the Southern and Central parts of the country have been very severely struck by a drought which, at its peak in 1983, killed maybe more than 100,000 people. Still FRELIMO backed by remaining Portuguese and by communist countries, managed to establish a fairly successful health and education policy. On the other hand its major failures in managing the economy, particularly the agricultural sector forced it to adopt a more pragmatic policy.

The worst obstacle to the development of Mozambique is probably the war which has been going on since the independence. The Mozambique National Resistance, usually called RENAMO, systematically terrorizes the population and destroys the economic infrastructure through a "hit-and-run" tactic. In the beginning it was backed by Rhodesia and now, it is believed, mostly by South Africa.

The worsening of the situation led FRELIMO, which had lost control of almost entire provinces (see Figure 2), to seek more aid from the West and to sign the Nkomati accord with South Africa in 1984. Under this agreement of "good neighbourhood", Mozambique expelled the African National Congress, and South Africa promised to stop its support to RENAMO, but apparently did not keep its promise.

Figure 1. Provinces and Railways of Mozambique

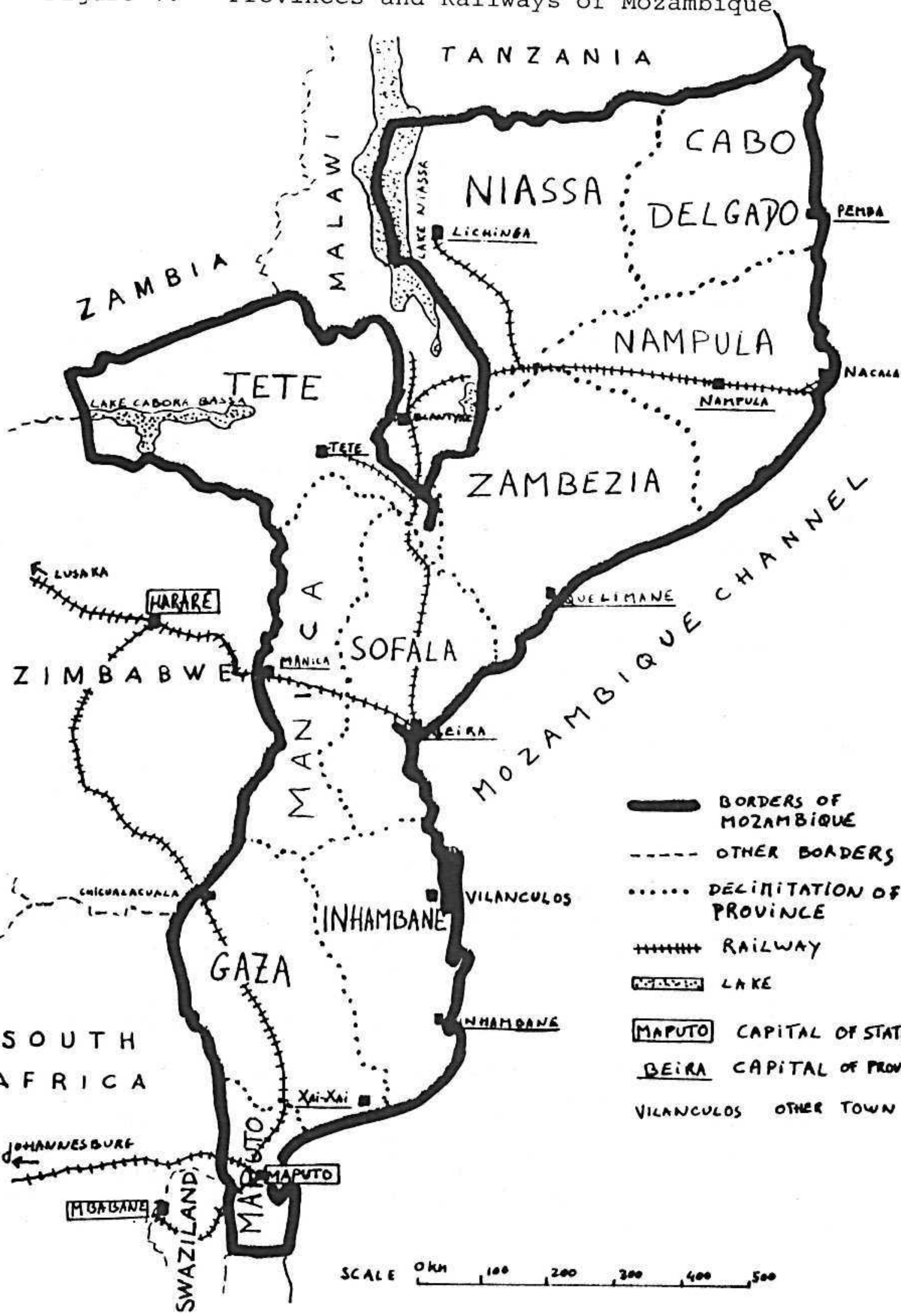
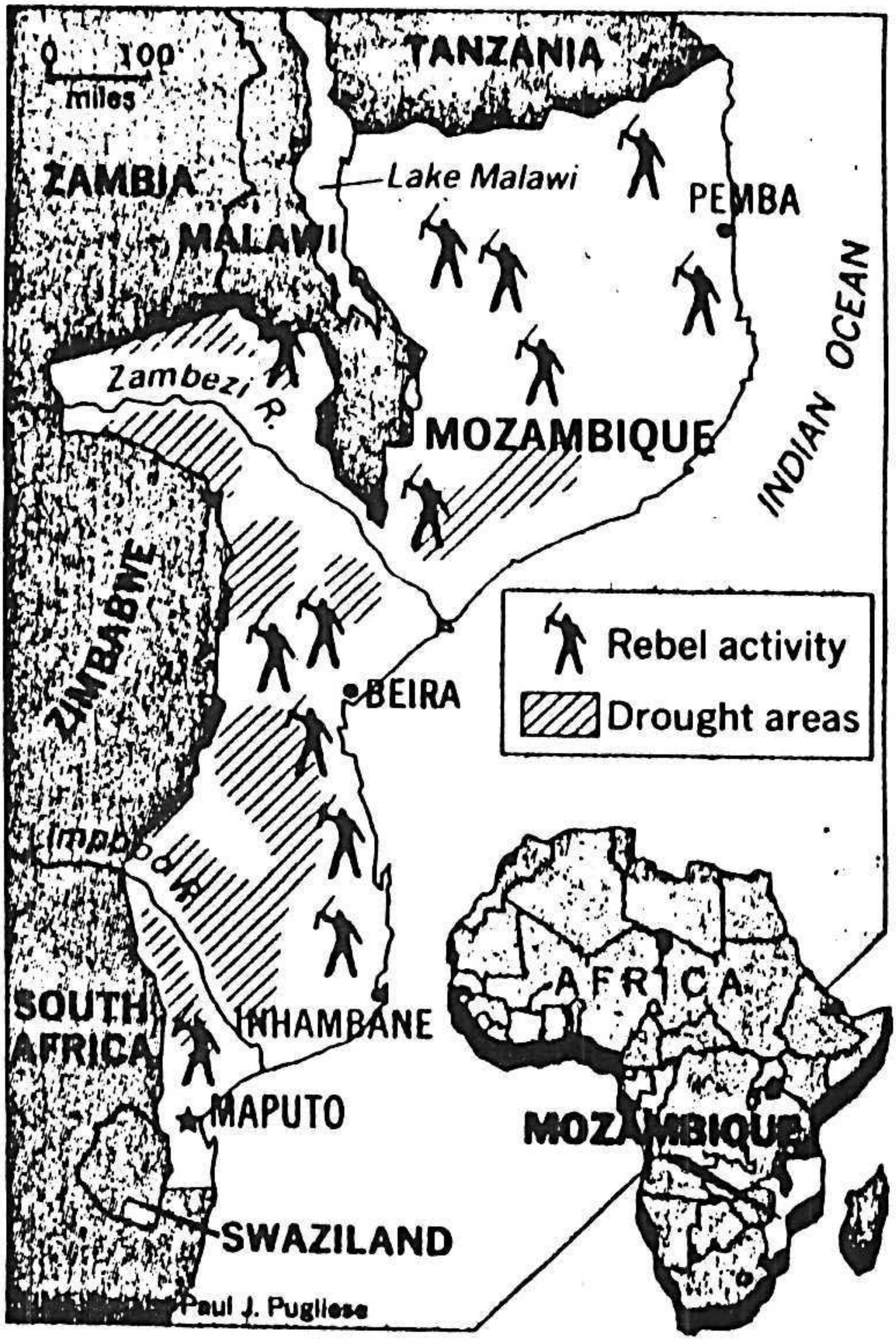


Figure 2. Areas Affected by Rebel Activity and by Drought



### 3.1.1.4 Current Situation

Mozambique has been one of the countries most severely hit by adverse climatic conditions in Sub-Saharan Africa during the last five years. The combination of drought, flood, cyclone and insurgent activities has had devastating effects on virtually all economic and social activities in the country.

The 1984-85 rainy season ended a four-year drought. However, the return of the rains did not imply a return to an adequate food supply. Prolonged drought had reduced farmers' assets severely; people has been displaced from their traditional homes, leaving the most basic agricultural inputs, such as seeds and simple tools, behind them; clean and reliable water resources are inaccessible to large parts of the population; some of the crops were decimated by floods, etc. While agricultural production rose in the South it fell in the North far below projections.

Insurgency aggravated the whole situation and converted the food problem into an acute food shortage. Insurgency has isolated communities, forced families to migrate and abandon agricultural land, destroyed health units, schools, agricultural extension services, railroads, and interrupted transport, supplies, marketing and communications. Insurgency makes many areas of the country inaccessible to both regular projects and emergency assistance.

As a consequence, more than 2 million people in six provinces continue to be affected by the results of both natural disasters and the armed conflict, (Table No. 1). UNHCR (United Nations High Commissioner of Refugees) estimates that 280,000 persons have fled to neighbouring countries.

Table 1

Affected Population in Mozambique

| Province | Total population | Affected population | % affected population |
|---|---|---|---|
| Gaza | 990,000 | 436,000 | 44.0 |
| Inhambane | 997,000 | 462,400 | 46.4 |
| Manica | 641,000 | 305,500 | 47.7 |
| Maputo | 491,000 | 235,000 | 47.9 |
| Sofala | 1,065,000 | 382,500 | 35.9 |
| Tete | 831,000 | 324,800 | 39.1 |
| Total | 5,015,000 | 2,146,200 | 42.8 |

Economic recession and weak management of the state sector have caused a scarcity of foreign exchange. External debts have mounted leading to a sharp reduction in the resources available for internal services. The expansion of health and education services has all but stalled.

There is a fundamental lack of managerial capacity and administrative experience at all levels, the inheritance of the colonial rule which has not yet been overcome in the 10 years after independence.

Presently, it seems that the drought is over although some residual effects remain. Economic recovery can, however, only start with the return of peace. An agreement between FRELIMO and RENAMO is difficult to reach, and each of them is too weak to win, therefore the war will most likely continue.

### 3.1.2 Basic Information on the Population

Mozambique has a population of almost 14 million people, unequally distributed, and with a predominance of young people: 47% are under 15 years, and life expectancy at birth is 43.6 years. In all age ranges the female population is bigger than the male one. Rural life predominates; in 1985 the ratio urban/rural was 17/83, but it tends to decrease due to migration to urban centres; the rate of urban growth has been estimated to be 8.2%.

Literacy is low (27%); it is much higher for men than for women. Mozambique is a poor country with a GNP/capita/year of US$ 121 (see Table 2).

Table 2

Basic Information on the Mozambican Population

| | |
|---|---|
| Population (1985) | 13,809,700 |
| - Population density | 16.6 pers/km2 |
| range | 4.3 in Niassa to 32.2 in Nampula |
| - Child population (0-15 years) | 6,500,000 |
| - Male/female population (1980) | 48.6/51.4 |
| - Urban/rural population (1985) | 17/83 |
| - Rate of population increase (1985) | 2.6% |
| - Urban growth rate (1985) | 8.2% |
| Life expectancy at birth (1975-1980) | 43.6 years |
| - Mortality rate (1975-1980) | 20.6 o/oo |
| Adult literacy rate | 27.0% |
| - Adult literacy rate, male | 36.8% |
| - Adult literacy rate, female | 18.2% |
| GNP (1985) | 121 US$/capita/year |

### 3.1.3 Economic Situation

The economic situation in Mozambique has deteriorated rapidly since 1981. The country's export has virtually stopped. The combination of a rapid decrease in railroad and port fees, together with a decrease in workers remittances, has led to an acute shortage of foreign exchange. Imports of spare parts, raw materials and consumer goods are largely inadequate. As a result, industry only operates at 20-25% of its capacity making consumer goods extremely scarce in the cities and almost non existent in the rural areas. Transport and distribution of goods are hampered by lack of fuel and spare parts, as well as disruptions by armed bandits.

The scarcity of goods in combination with the controlled price system makes the "metical"* virtually worthless, and most transactions, apart from food sold under the rationing system, take place at "market prices" in the parallel markets.

* official exchange rate: 1 US$ = 40 meticais
parallel market rate: 1 US$ = 1,600 meticais

There is a large disproportion between exports and imports. Exports are only 20% of imports, and there is a trade deficit of 350 million US$. The debt service ratio of 245 million US$ indicates that the country is totally dependent on foreign aid, and a substantial amount of foreign loans must be obtained to maintain its current level of economic activities. For improvements, additional investments will be needed.

3.1.3.1 GDP by Sectors

Mozambique's GDP is estimated to have declined, on average, by about 2% per annum in real terms between 1973 and 1983, or nearly 5% per capita. Table 3 below shows a major decline in 1973-76 followed by some recovery in 1976-80, which again was followed by a major decline in 1980-83.

Table 3

Evolution of GDP by Sectors, 1973-83

(percentages based on constant 1980 prices)

| | Average Annual Growth a/ | | | | GDP Shares |
|---|---|---|---|---|---|
| Sector | 1973-83 | 1973-76 | 1976-80 | 1980-83 | 1983 |
| Agriculture | -1.5 | -1.3 | 1.1 | -9.5 | 48 |
| Industry b/ | -3.4 | -17.8 | 3.2 | -7.8 | 14 |
| Other c/ | -1.6 | -17.3 | 4.7 | -0.7 | 38 |
| GDP | -1.9 | -9.8 | 2.5 | -6.3 | 100 |

a. Trend rates based on least square estimates.

b. Includes manufacturing, mining, construction, electricity, gas and water.

c. Includes transport, storage and communications, wholesale and retail trade, banking, insurance, real state, public administration and defense.

Since 1980 the Government has incurred in budgetary deficits of approximately 30% of total expenditures, equivalent to 11% of GDP. With the deterioration of the economy the tax base has decreased. The tax revenues in 1984 covered approximately 50% of total current and

investment expenditures. The remaining balance has been made up by foreign grants and loans (75%) as well as domestic bank financing (25%). Current expenditures increased rapidly with an average annual rate of 13% in the period 1980-84. In 1983 defense expenditure reached 39% of total, health and education 28%, central administration 15%, local administration 12% and interest 6%.

### 3.1.3.2 Employment

The census of 1980 indicated that the economically active population was about 5.5 million people, 84% in agriculture, and 5% in manufacturing and energy.

These figures do not include Mozambicans working in South African mines who, numbering about 120,000 at Independence, were reduced to about 41,000 by 1977 and have since remained close to this level. Although reliable figures on unemployment and underemployment do not exist, the displacement of these migrant workers, the droughts, and the armed conflict have added to unemployment problems. This has been exacerbated by overemployment of unskilled workers in the public sector - at wages much higher than their opportunity cost - which has encouraged rural-urban migration.

### 3.1.3.3 Agriculture

Agriculture is the most important economic sector in the Mozambican economy accounting for 84% of the total employment, 45-50% of GDP and 70% of foreign exchange earnings.

The sector has been heavily influenced by the poor macroeconomic performance in recent years, particularly the disincentives for small farmers to increase production due to the controlled price system. Farm prices for agricultural products have been kept largely unchanged, whereas consumer prices have been increased rapidly. This has eroded the exchange relationship between farm products sold and consumer goods bought.

Many farmers try to improve their terms of trade by selling to other buyers at black market prices. However, the deciding factor in determining to whom a farmer sells his crops is, in most cases, that the prospective buyer can supply him with scarce farm implements or with consumer goods. AGRICOM, a governmental trading organization has a virtual monopoly on the sale of agricultural imple-

ments. It has recently begun selling consumer goods supplied by the Government, in order to attract farmers to sell their marketable surplus. Despite this advantage, farmers also sell to private traders, prefering barter to money whenever possible. Such transactions effectively determine the real prices at which goods are exchanged in rural areas.

It would appear that private trade in food crops is increasing in rural areas, and that AGRICOM is competing for the limited quantity of food that is finally marketed. AGRICOM estimates that, in 1983, it accounted for about 44% of the total marketed production of maize, 63% of the market of sorghum, 10 percent of the market for rice, and about 15% of the total marketed production of copra. Private traders accounted for the rest. However, given the probable underreporting of the private trade, AGRICOM's share is likely to be overstated, and the private traders' share correspondingly understated.

Little is known about the total agricultural production in the country, only the part which is marketed is fairly well documented. Official figures are shown in Table 4.

Table 4

Marketed Agricultural Production at Constant 1980 Prices, 1973-83

| Item | Of total | | Annual Growth Rates a/ | | | | Production 1983 |
|---|---|---|---|---|---|---|---|
| | 1973 | 1983 | 1973-83 | 1973-76 | 1976-80 | 1980-83 | 1973-100 |
| Food Items | 37 | 41 | -8 | -13 | -2 | -17 | 33 |
| of which: | | | | | | | |
| Rice | 9 | 4 | -16 | -15 | -11 | -24 | 14 |
| Maize | 6 | 9 | - 5 | -10 | - | - 3 | 46 |
| Potatoes | 2 | 2 | -16 | - 8 | -21 | - 6 | 21 |
| Beans | 2 | 2 | -10 | -10 | - 8 | -25 | 24 |
| Vegetables | 1 | 3 | 3 | -26 | 17 | 7 | 114 |
| Beef | 10 | 10 | -10 | - 8 | - 7 | -17 | 31 |
| Export Crops | 63 | 59 | - 9 | -16 | - 4 | -24 | 27 |
| of which: | | | | | | | |
| Cashew | 11 | 3 | -16 | -15 | -11 | -40 | 9 |
| Cotton | 12 | 9 | - 6 | -32 | 8 | -28 | 20 |
| Tea | 5 | 10 | 1 | - 7 | 8 | -15 | 65 |
| Copra | 3 | 5 | - 6 | - 1 | -12 | - 9 | 45 |
| Timber | 9 | 7 | -13 | -18 | 3 | -23 | 24 |
| Citrus | 1 | 4 | - | - 9 | 8 | - 3 | 84 |
| Sisal | 22 | 20 | -12 | -14 | -15 | -27 | 26 |
| Total | 100 | 100 | - 9 | -15 | - 3 | -21 | 29 |

a. Trend rates based on least square estimates.

Although there has been a slight increase in vegetable production, the staple food products have decreased drastically.

The agricultural sector in Mozambique has a large potential of both unexploited resources and improvements of existing performance. Less than 3 million ha are presently cultivated out of approximately 15 million ha cultivable land; 83,000 ha are irrigated at present, whereas the potential goes up to approximately 3 million ha. To exploit these resources a large capital investment is required, which presently can be generated only through foreign assistance.

### 3.1.3.4 Fisheries

In 1978 there were 44,000 licensed fishermen and 18,000 fisherboats of which 1% were motor-boats, 19% sailing boats and 80% rowing boats. In Beira there are a few large motor-vessels. In Maputo there are only 500 small-size fishing boats. An unknown number of fishermen does not have a licence. They angel or use rowing boats.

The most productive coasts are the ones of Inhambane, Sofala and Nampula. Beira is the most important fishing centre. There is some fishing in the lakes of the Tete and Niassa provinces.

The average total catch is approximately 20,000 MT (1984) of which half is "carapao" (horse mackerel). Foreign industrial fishing fleets are allowed to fish in Mozambican waters. These fleets operate far from the coast and have little influence on the Mozambican fishing industry.

As the equipment (boats, nets, hooks etc.) of the fishermen is poor, the productivity is low, especially for the artisanal fishermen. However, the licensed fishermen can improve their equipment through their cooperative preferencial prices when available.

There are some cold store facilities, mainly in Beira. In the Northern and most of the Central provinces there is a tradition of smoked and/or dried fish always with salt. Fish is dried or smoked to facilitate transport to the inland. PESCOM, the national agency responsible for the commercialization within the country, has at its disposal 50 refrigerated lorries of which only 20 are operational.

Licensed fishermen must sell a part of their catch through the official market where the prices are lower than in the open markets. An important part of their catch is self-consumed. Fishermen without license self-consume their catch, sell or barter with acquaintances.

The production of fish is far below the need of the country, and Mozambique sells its catch of high quality products like prawns in order to obtain larger quantities of fish of lower quality.

### 3.1.3.5 Industry

There are about 300 manufacturing enterprises in Mozambique of which two-thirds in light industry. The rest are heavier industries such as metal, paper and petroleum producing units. Around 85% of all industries are centred around Maputo and Beira.

The industrial sector only accounts for 14% of GDP and employs 5% of the working population. The only processed goods exported are agricultural and fish products, which constitute a fairly important foreign exchange earner.

The industry is suffering from lack of trained and skilled labourers which adversely affect efficiency. The ongoing war, lack of capital and lack of spare parts in combination with economic mismanagement continue to hamper the recovery of the industry which only operates at 20-25% of its capacity.

On the basis of current knowledge of its economically exploitable resources, Mozambique's main potential at the present stage is in agriculture. While the country is endowed with coal and other minerals, natural gas, timber and possibly petroleum, the potential for the large-scale industrial exploitation of these resources remains to be determined. Yet, industry and agriculture must expand in a coordinated fashion: industrial expansion must be supported by presently unsatisfied demand for consumer goods in rural areas, while the goods themselves provide the incentive for increased agricultural production. In the long term balanced expansion of industry and agriculture could help to ease the country's severe foreign exchange constraint by substituting import and generating new exports. Provided an environment conducive to efficiency can be established, agro-industries and simple consumer goods offer good possibilities for industrial development in Mozambique.

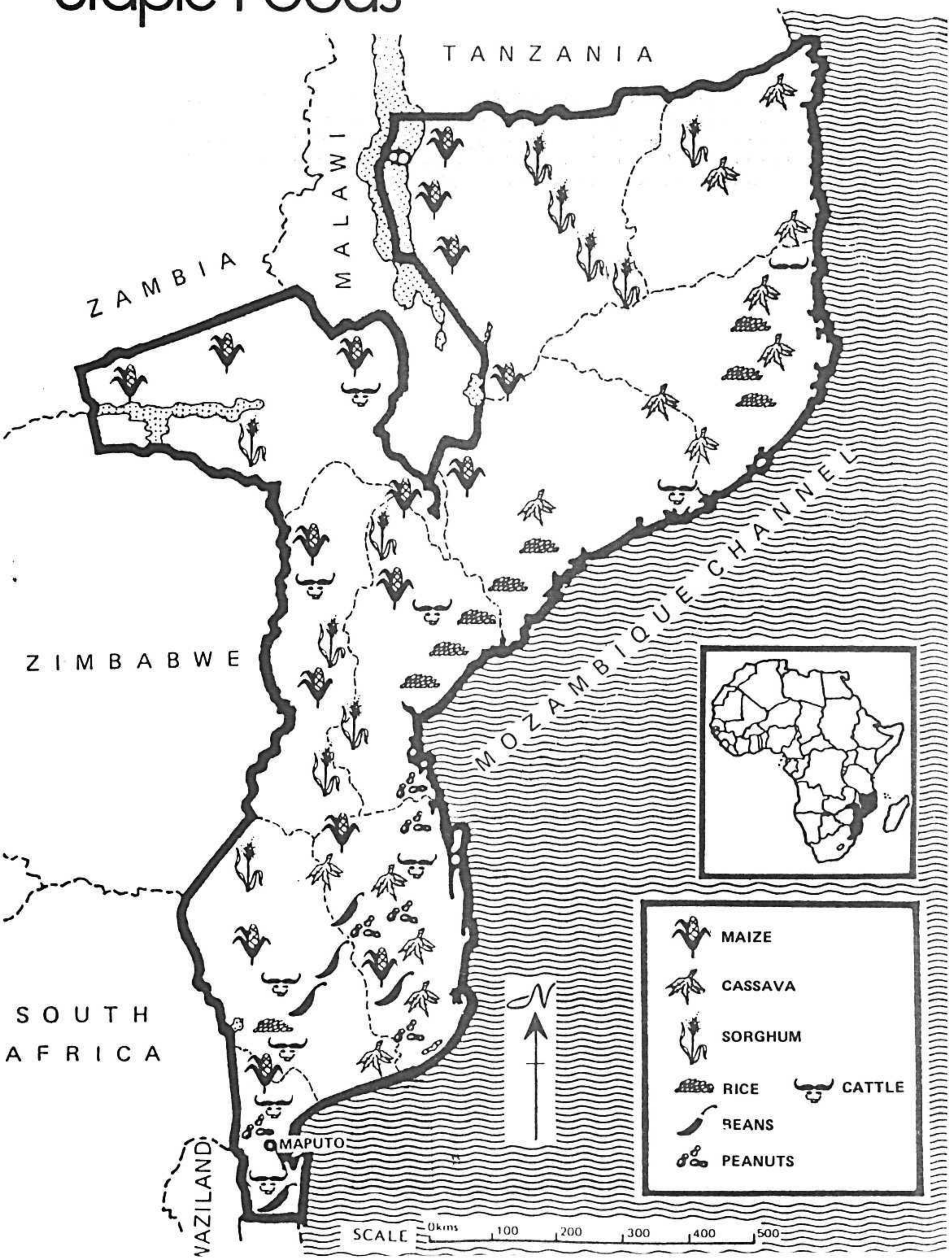
## 3.1.4 The Traditional Diet

Information on the traditional diet in Mozambique is very scarce. Apparently it has been constituted by a basic staple food - mainly corn - plus some beans, tubers, nuts, vegetables, plus some meat or fish when available.

There are important differences as to the staple foods in the regions: cassava and rice are more abundant near the coast, while corn and sorghum predominate in the hinterland, the Northern provinces are the main areas for sorghum cultivation. See Figure 3.

Figure 3.

# Staple Foods



The Nutrition Division of the Ministry of Health has done some punctual dietary surveys, two of them are presented as examples of rural and urban diets in the years of 1978 and 1979. In the rural diet maize is the most important cereal, while rice and wheat take the biggest share in the urban diet. The rural population consumes more tubers and vegetables, and less cereals, animal products and fats compared to the urban population. The two diets are poor; the urban population's diet is much better than the rural one (Table 5), but it is still short in energy.

It must be noted that the urban dwellers do not eat dried fish, but consume an important amount of fresh fish; rural people consume small amounts of both fresh and dried fish. However, these results must be taken as indicative and descriptive and cannot be generalized to the whole country.

Because of the present situation in the country (see 3.1.1.4) nothing can be inferred about the composition of the diet nowadays. It is highly probable that an important part of the population is surviving on a diet of corn with minor additions of whatever is available (see 3.1.5).

Table 5

Composition of the Diet (g/person/day) in a Rural Village and a Quarter of Maputo (1978-79) (7)

| | Communal Village Gaza | A quarter of Maputo City |
|---|---|---|
| CEREALS: | | |
| Rice | 25 | 191 |
| Maize, grain | 65 | - |
| Maize, meal | 85 | 48 |
| Maize, pasta | 3 | 4 |
| Maize, bread | 10 | - |
| Wheat, bread | - | 114 |
| Sorghum, meal | 23 | - |
| ROOT CROPS | | |
| Cassava | 4 | 22 |
| Sweet potatoes | 109 | 4 |
| Potatoes | - | 43 |
| LEGUMES AND NUTS | | |
| Beans | 10 | 19 |
| Groundnut | 18 | 14 |
| Cashew | 7 | 1 |
| VEGETABLES AND FRUITS | | |
| Cacana (Momordica) | 41 | - |
| Pumpkin, fruit | 172 | - |
| Pumpkin, leaves | 64 | 13 |
| Cassava, leaves | 15 | - |
| Beans, leaves | 7 | - |
| Tomatoes | 10 | 51 |
| Onions | 2 | 26 |
| Cabbage | - | 31 |
| Lettuce | - | 10 |
| Fruits | - | 32 |
| ANIMAL PRODUCTS | | |
| Fish, dry | 3 | - |
| Fish, fresh | 2 | 58 |
| Meat and poultry | 5 | 24 |
| Milk | 3 | 6 |
| Eggs | - | 2 |
| MISCELLANEOUS | | |
| Oils and fat | 2 | 24 |
| Sugar | 40 | 48 |
| Salt | ? | 14 |

### 3.1.5 The Food Situation

#### 3.1.5.1 At the National Level

Mozambique has 15 million hectares of cultivable land, but only a small fraction is presently under cultivation; according to one estimation it may be 1/5 of the total (5), other reports refer to 1/10 of the arable land (2). What is clear is that in present years, drought combined with economic decline, and attacks by groups trying to destabilize the Government have led to a drastic drop in agricultural production (see 3.1.1.4), which can be explained by a reduction in the area under cultivation as well as by reduction in the yields.

The food balance sheet (9) for the period 1979-1981 showed that the availability of food at national level was already very precarious, the information available for 1982 is even slightly worse. It must be taken into account that those years (Table 6) were relatively prosperous compared with the present situation.

Table 6

Food Supply in the Period 1979 to 1982 (9,10)

| | 1979-81 | 1982 |
|---|---|---|
| Cal/person/day | 1870 | 1841 |
| Protein g/person/day | 32.4 | 31.5 |
| Fat g/person/day | 34.4 | 33.8 |
| Cal. as % of requirement | 79.9 | 78.7 |

Official statistical data (1) inform about the yearly supply of foods for the country up to 1984. Table 7 shows the supply for 1980 and 1984. It may be seen that many items have decreased in absolute terms, particularly important are the reductions shown in the foods supplying high-quality protein: meat, fish and beans, as well as in the energy suppliers: sugar and oil. The supply of foods deteriorated both in quality and quantity, and at the same time the population was increasing at a rate of 2.6% per year.

Table 7

Food Supply in 1980 and 1984 (in 1000 MT) (1)

| | 1980 | 1984 |
|---|---|---|
| Corn flour | 34.4 | 58.1 |
| Corn | 93.0 | 120.2 |
| Wheat flour | 88.3 | 64.4 |
| Rice | 97.7 | 63.3 |
| Sweet potatoes | 21.8 | 8.7 |
| Fish | 39.5 | 20.0 |
| Meat, beef | 11.7 | 2.6 |
| Meat, pork | 1.5 | 1.6 |
| Meat, chicken | 3.5 | 1.3 |
| Eggs (million units) | 28.3 | 37.0 |
| Onions | 5.4 | 5.6 |
| Sugar | 115.0 | 50.3 |
| Oil | 18.0 | 8.2 |
| Condensed milk | 2.3 | 4.0 |
| Salt | 48.7 | 21.5 |
| Beans | 12.0 | 2.1 |
| Spaghettis | 5.6 | 8.9 |
| Tea | 54.3 | 31.8 |
| Sweets (million units) | 7.0 | 18.6 |
| Soft drinks (million litres) | 25.4 | 6.2 |

Table 8

Agricultural Marketing Production of Cereals

Preliminary Results 1985 (MT) (11-13)

| | Maize | | Rice | | Sorghum | | Total | |
|---|---|---|---|---|---|---|---|---|
| Province | 1984 | 1985 | 1984 | 1985 | 1984 | 1985 | 1984 | 1985 |
| Cabo Delgado | 11,151 | 9,000 | 1,064 | 300 | 546 | 560 | 12,761 | 9,860 |
| Niassa | 15,470 | 6,200 | 54 | 20 | 7 | 16 | 15,531 | 6,236 |
| Nampula | 13,263 | 9,300 | 2,295 | 1,400 | 1,203 | 450 | 16,761 | 11,150 |
| North Zone | 39,884 | 24,500 | 3,413 | 1,720 | 1,756 | 1,026 | 45,053 | 27,246 |
| % | 100 | 61.4 | 100 | 50.4 | 100 | 58.4 | 100 | 60.5 |
| Zambezia | 27,146 | 10,000 | 1,346 | 1,800 | 223 | 100 | 28,715 | 11,900 |
| Tete | 12,990 | 5,000 | 1 | - | 90 | 150 | 13,081 | 5,150 |
| Manica | 1,062 | 3,500 | - | - | 5 | 20 | 1,067 | 3,520 |
| Sofala | 112 | 1,000 | 38 | 400 | 67 | 30 | 217 | 1,430 |
| Central Zone | 41,310 | 19,500 | 1,385 | 2,200 | 385 | 300 | 43,080 | 22,000 |
| % | 100 | 47.2 | 100 | 158.8 | 100 | 77.9 | 100 | 51.1 |
| Inhambane | 805 | 500 | 19 | - | - | 10 | 824 | 510 |
| Gaza | 562 | 1,500 | 14,272 | 8,600 | - | 4 | 14,834 | 10,104 |
| Maputo | - | - | - | - | - | - | - | - |
| South Zone | 1,367 | 2,000 | 14,291 | 8,600 | - | 14 | 15,658 | 10,614 |
| % | 100 | 146.3 | 100 | 60.2 | | | 100 | 67.8 |
| Total | 82,561 | 46,000 | 19,089 | 12,520 | 2,141 | 1,340 | 103,791 | 59,860 |
| % | 100 | 55.7 | 100 | 65.6 | 100 | 62.6 | 100 | 57.7 |

Table 9

Marketed Production by Sector (MT) (11-13)

| | Maize | | Rice | | Sorghum | | Total | |
|---|---|---|---|---|---|---|---|---|
| Sector | 1984 | 1985 | 1984 | 1985 | 1984 | 1985 | 1984 | 1985 |
| State Sector | 46,115 | 15,850 | 15,133 | 7,300 | 392 | 70 | 61,640 | 23,220 |
| Cooperative Sector | 962 | 750 | 333 | 300 | 102 | 50 | 1,397 | 1,100 |
| Private Sector | 3,742 | 1,400 | 443 | 1,500 | 19 | 20 | 4,204 | 2,920 |
| Family Sector | 31,742 | 28,000 | 3,180 | 3,420 | 1,628 | 1.200 | 36,550 | 32,620 |
| Total | 82,561 | 46,000 | 19,089 | 12,520 | 2,141 | 1,340 | 103,791 | 59,860 |

Table 10

Food Situation: 1st of May 1985 - 30th April 1986 (14)

| | Maize | Wheat | Rice | Total |
|---|---|---|---|---|
| Normal market 350 gr/p/d | 206,263 | 92,979 | 74,810 | 374,052 |
| Rural population 350 gr/p/d | 274,152 | 0 | 0 | 274,152 |
| Total requirement | 480,414 | 92,979 | 74,810 | 648,204 |
| Stocks | 0 | 0 | 0 | 0 |
| Internal Marketing | 59,859 | 0 | 17,500 | 77,359 |
| Milling losses | | | 5,775 | 5,775 |
| Net supply | 59,859 | | 11,725 | 71,584 |
| Commercial Imports | 20,000 | 33,500 | 33,900 | 87,400 |
| Total supply | 79,859 | 33,500 | 45,625 | 158,984 |
| Milling losses | 11,979 | 5,025 | | 17,004 |
| Net supply | 67,880 | 28,475 | 45,625 | 141,980 |
| Food deficit | 412,534 | 64,504 | 29,185 | 506,223 |
| Total food aid | 125,439 | 57,148 | 55,461 | 238,048 |
| Milling losses | 18,816 | 8,572 | | 27,388 |
| Net food aid | 106,623 | 48,576 | 55,461 | 210,660 |
| Uncovered Gap | 305,911 | 15,928 | (26,276) | 295,563 |

For planning purposes most attention is given to cereals which constitute the bulk of the diet. Table 8 shows the production of cereals being marketed in the years of 1984 and 1985, by province and zone. Compared to the year of 1984 the marketed volume of corn was 55.7%, rice was 65.6% and sorghum was 62.6%. The three cereals together added up to 57.7% of the amount marketed the previous year.

Table 9 shows the marketed production of cereals according to sectors of production for the same years. It may be seen that the family sector continues to be the backbone for agricultural production in the country. (The family sector is constituted by 2.5 million of small holdings with an average size of 1.5 hectares (5)). Their decline in production was inferior to the drops shown by the private, cooperative and state sectors. In the year 1985 the family sector produced 54.5% of the total marketed production of cereals.

Some producers manage to sell them through the hard-currency market. During visits to markets it could be noted that prices are about the same for a given product in a given day. Table 11 lists the products offered and their prices.

Table 11

Price of Some Foods Offered in Open Markets in Maputo (April 1986)

| | Meticais* |
|---|---|
| Dried fish | > |
| Dried small shrimps | > 100 per measure of around |
| Dried regular shrimps | > 180-200 g |
| Dried fish regular size | 400 a piece |
| Coconut | 150 a unit |
| Oil | 58 a bottle of 1/4 lt |
| Sweet potatoes | 150 to 250 per kg |
| Other tubers | 200 per kg |
| Tomatoes | 1000 per kg |
| Bananas | 350 per kg |
| Onions | 1000 per kg |
| Lemon | 100 per kg |
| Oranges | 200 per kg |
| Avocados | 200 per kg |
| Papayas | 300 per kg |
| Green beans | 1000 per kg |
| Green leaves | 100 a bunch of around 200 g |

* 1 US$ = 40 meticais

The food situation for the year 1985/86 is chaotic. Assuming that the rural population, which has not been affected by the current problems (drought, floods, insurgency), is self-sufficient, the supply of food should take care of a population of 5,074,000 persons: 2,928,000 which is the normal market (urban) population plus 2,146,000 persons, rural people, formerly self-sufficient, that has been affected by calamities and cannot produce their own food (14).

To supply only basic cereals to the 5,074,000 persons referred to above, the total requirement is 648,204 MT. The net supply (production plus imports) is only 141,980 MT leaving a deficit of 506,223 MT. Part of this deficit is covered by food aid, but still there is an uncovered gap of 295,563 MT according to the Ministry of Internal

Trade (Table 10). UNDP and WFP informed the mission that the total food aid in the period May 1985 to April 1986 might increase to 440-450,000 MT, still leaving an uncovered gap of 50 to 100,000 MT.

To complete the picture it must be pointed out that stocks of cereals do not exist (Table 10), and the production of red meat, pork and chicken has gone down to a level where they have no significance in the diet of the masses. (Table 7). Fish is of some importance, but the total capture in 1985 attained only 14,485 MT (15).

3.1.5.2 At Family Level

The urban family has three possible ways to obtain their food:

- the rationing card
- the open market, and
- the hard-currency market

Every month each person has a quota of basic goods (mainly cereal products, sugar, oil, soap and matches) which is listed in the rationing card and is bought at officially fixed prices in cooperative shops. There is no certainty that all the listed items are available every month. As an example, information published in the local newspaper mentioned the urban ration for April 1986: 1 kg sugar, 0.5 l oil and 0.5 kg of frozen fish per person.

The open markets offer vegetables, tubers, fruits, fresh and dried fishery products. Meat and eggs are not available in the markets, they are scarce and highly valued.

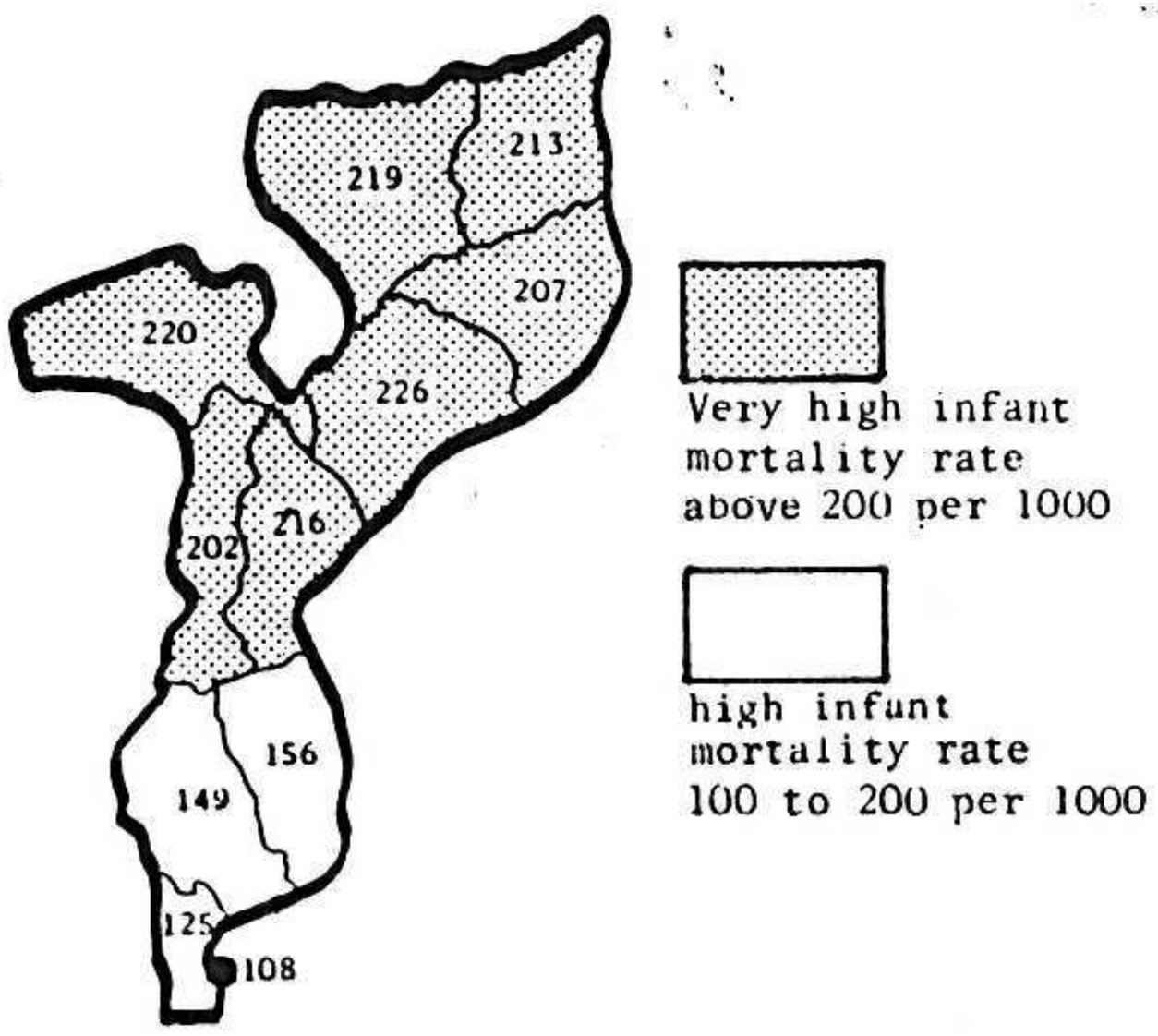
The mission had no opportunity to get first hand information on the hard-currency market, but heard that all kinds of food were available, including infant foods, dairy products, meat, eggs, beans etc. The US$ in the black market is 1600 meticais, i.e. 40 times the official price, and, therefore, the foods become extremely expensive. For a family having a nutritionally sound diet it implies an enormous amount of meticais spent on food, an amount much higher than the present salaries; minimum salary is 2000 MT, and average salary is 5000 MT/month.

3.1.6 The Nutritional Situation

The aggregate national infant mortality rate (IMR) was estimated at 159 o/oo in 1980 (5); disaggregation showed

interprovincial variations of up to 226 o/oo. (See Figure 4). Since that time Mozambique has experienced years of war and natural disaster; data on infant mortality rates in recent years do not exist, but indicative information from Tete provincial hospital in mid-1984 showed that in the worst pre-harvest month of 1984 every 9 out of 20 children admitted to the hospital were dying from malnutrition and related causes. 87% of children live in the rural areas, where IMR is very high, and only 13% of them live in towns where IMR is around or below 130 o/oo (5).

Figure 4. Infant Mortality Rate by Province in 1980 (5)




The critical factors affecting the ability of children to survive and develop are:

- food shortage and uncertainty at family level, the most important factor affecting child survival
- decline in household and large-scale agricultural production, with consequent effects on income, employment and access to essential foods
- declining primary health care coverage
- low family literacy rates and limited schooling opportunities
- poor access to safe water sources
- scarce public resources because of economic recession
- insurgency, fractured communications and distribution system, the isolation of communities and scattering of families
- lack of capacity of the Government to plan and implement development programmes (2)

In overall terms, the top five killers of young children are:

- low birth weight, generally as a consequence of a deficient nutritional status of the mother,
- neonatal tetanus
- malnutrition
- measles, and
- diarrhea, which in turn aggravates malnutrition

Valid nutritional status data are very scarce in Mozambique. Only recently information has begun to accumulate through concerted efforts of the Ministry of Health, NGOs and UNICEF. Still, there are wide variations in reports that do not accurately reflect the reality. While some of these differences may be due to seasonal variations, the main problem concerns data reliability and comparability.

Anthropometric assessments conducted by the Nutrition Section of the Ministry of Health in the years 1984 to 1986, are listed in Table 12. The results show a widespread growth retardation; the percentage of "stunted" children may be as high as 63% of the sample, as in the case of Estima in Tete province. The percentage of "wasted" children, i.e. those having less weight than what is due for their height, is less dramatic, but may still go up to 36% of the sample, as in Misaua in Tete province. These data cannot be used to establish comparisons through time, because they were obtained from different samples of population.

Table 12

Percentage of Malnourished Children - Results of Anthropometric Surveys performed from 1984 to 1986 (16)

| | Date | Number of children | MALNOURISHED Height/age % (*) | Weight/height % (**) |
|---|---|---|---|---|
| MAPUTO | | | | |
| 1. Green zones | April 84 | 100 | 8 | 1 |
| 2. Green zones | April 84 | 80 | 17 | 6 |
| 3. 7 "bairros" | Oct. 85 | 561 | 23 | 3 |
| 4. Malanga | Jan. 86 | 403 | 30 | 3 |
| GAZA PROVINCE | | | | |
| 1. 3 villages | Oct. 83 | 387 | - (***) | 12 |
| 2. 4 villages | April 84 | 1304 | - | 4 |
| 3. 3 villages | Jan. 86 | 454 | - | 4.4 |
| 4. Chicualacuala | Jan. 86 | 250 | 17 | 2.4 |
| INHAMBANE PROVINCE | | | | |
| 1. 2 camps | Oct. 83 | 269 | - | 28 |
| 2. 4 villages | Aug. 85 | 198 | 31 | 2 |
| 3. 4 villages | Oct. 85 | 363 | 33 | 1 |
| 4. 5 villages | Dec. 85 | 497 | 47.1 | 1.6 |
| MANICA PROVINCE | | | | |
| 1. Machaze | April 84 | 37 | - | 5 |
| 2. Dombe | April 84 | 100 | - | 10 |
| 3. 1 "bairro" | April 84 | 164 | - | 3 |
| 4. 1 "bairro" | April 84 | 122 | - | 5 |
| 5. 4 villages | May 85 | 214 | - | 4 |
| 6. 4 villages | Nov. 85 | 263 | 35 | 8 |
| 7. Machaze | Febr. 86 | 141 | 32 | 7 |
| SOFALA PROVINCE | | | | |
| 1. 2 villages | July 84 | 161 | - | 20 |
| 2. Nhamatanda | Feb. 86 | 231 | 29 | 7.4 |
| TETE PROVINCE | | | | |
| 1. Misaua | April 84 | 56 | - | 36 |
| 2. 9 villages | Nov. 84 | 1014 | - | 3 |
| 3. 4 villages | Nov. 84 | 325 | - | 5 |
| 4. 3 villages | March 85 | 280 | 35 | 5 |
| 5. Estima | Dec. 85 | 227 | 63 | 8 |
| 6. Changara | Jan. 86 | 318 | 42 | 5 |
| ZAMBEZIA PROVINCE | | | | |
| 1. Quelimane | Aug. 85 | 607 | 32 | 6 |

(*) A child having not attained the right height for his age is "stunted"; this indicates malnutrition in the past.
(**) A child with a height inferior to what is expected for his height is "wasted"; this indicates present malnutrition
(***) The information is not available.

### 3.1.7 The Health Situation

Mozambique was a pioneer in implementing an excellent primary health care approach; but in the last 3 to 4 years, the PHC (Primary Health Care) system has come under increasing stress from warfare, drought or floods and unavailability of foreign currency. Insurgents destroy health units as priority targets and kill staff where possible. Of 285 health centres existing in 1980, only 220 were reported operational in 1983, and in the same period, the percentage of births covered by health institutions fell from 29.0% to 27.9%. Not surprisingly, recruitment for training of front line village health workers has declined markedly; 303 trained in 1980, 218 in 1982, 85 in 1984 and none in 1985.

Immunization coverage has also declined in the same period: aggregate data from Ministry of Health sources indicate 96% coverage of the target population in 1980, 48% in 1982, and only 44% in 1984.

The distribution and handling of basic drugs and equipment for the primary health care system are also problematic. The major constraint faced is lack of foreign exchange to purchase drugs and equipment. Raw materials cannot be purchased: in 1984, the ORS (Oral Rehydration Salts) factory in Beira, given shortages of materials and malfunctioning of newly-installed machinery, produced only 501,385 packets, 25.1% of its 1984 target of two million.

### 3.1.8 Women in Mozambique

Women form 51.4% of the total population, and 53% of the working force. Results of a survey (5) show that out of 100 women, 86.4% are working, 0.5% are unemployed, 3.7% are students, 7.5% are housewives, or domestic servants, and 1.9% are invalid or their occupation is unknown.

The mother is the key to the assurance of food security at family level, not only through performance of her intra-household roles, but also through her productive position in the economy.

In Mozambique, the woman has a central economic role. Over 90% of farmers in the subsistance peasant agricultural sector (the "family sector") are women; in spite of government efforts towards cooperativisation and large-scale state farming, the family sector is still the major sector in the production of food crops and, therefore, in the attainment of household food security.

Even where cooperativisation has taken hold as in the Green Zones around Maputo and other major cities, women are playing a dominant role. In 181 cooperatives with 10,500 members, 95% are women. Also in food markets most vendors are women.

The limitations facing such working women at present are not only material and financial. In order to increase their skills, capacity, knowledge and self-sufficiency; they require access to literacy training and technology, capacity to organize their active participation and to exercise leadership in production decisions.

Such access - and its effects on women's roles and self-awareness - is the means by which they will redefine their traditionally subordinate role, and by which mothers will be enabled to take better care of the family.

Living conditions do not contribute to alleviate women's work. For example, fetching water is often very arduous and time-consuming. On an average, women walk 3.8 km/day collecting water, but many women walk much further. Less than 4% of rural families have water at their homesteads.

### 3.1.9 Food Aid Policy

Mozambique requires approximately 600,000 MT of food per year for the affected population and urban areas, see Table 10. It is estimated that the country produces a marketable surplus beyond what is self-consumed of approximately 50-100,000 MT. This leaves a gap of about 500,000 MT of food to be imported. Mozambique does not have the economic means to import this quantity of food and depends, therefore, largely on foreign aid. This is reflected in the food aid policy, which up till today has concentrated on receiving as much aid as possible to cover the gap, but which has not in practice dealt with the finer aspects of the impact of food aid.

As the climatical situation improves there is, however, a tendency to shift from emergency relief programmes to long term development programmes. This is done in an attempt to increase local production and hence decrease the dependency on foreign food aid. Due to the instability of the security situation a coherent plan for the restoration of the agricultural sector is very difficult, and projects are carried out on a case-to-case basis.

## 3.2 Organizations Dealing with Stockfish

### 3.2.1 Organization of Food Aid in the Country

The Department for the Prevention and Combat of Natural Calamities (DPCCN) is the government organization in charge of the reception, coordination and distribution of emergency food aid. It is en executing agency of the Ministries of Planning and Internal Trade.

Above DPCCN there is a Coordination Council having representatives of all ministries and relevant state secretariats (directorates), which coordinates all emergency and development activities.

Man-made disasters (warfare) was not dealt with by DPCCN, therefore DPCCN did not operate in the 4 Northern provinces. It has been reported by CARE-Norway that in May 1986 DPCCN was also authorized to operate in the 4 Northern provinces, and that offices are being established there.

To strenghten the logistical operations CARE-Mozambique operates the logistical project unit which is part of the DPCCN. DPCCN is also assisted by the Coordinating Emergency Unit of UNDP, whose role is to keep track of information concerning food aid, and report to the UN Organizations, to other donors and to interested agencies.

Through monthly meetings DPCCN coordinates with all the donors concerned with emergency food aid. With the assistance of CARE-Mozambique a monthly report is produced; it covers: incoming commodities per donor, availability of stocks, description of the progress made, difficulties encountered etc.

Due to lack of transport, infrastructure and facilities, as well as to the need for military protection during transport, in practice DPCCN is the only organization (besides the army) able to handle any significant amount of food aid outside urban areas. For this reason most NGOs do not distribute, but hand over their food consignments to DPCCN for distribution. The NGOs can decide where their food aid should be used.

DPCCN, as well as CARE, has its own provincial representatives. Radio communication exists between the provincial offices and the headquarters in Maputo. Also DPCCN has a representative in each district, and in most cases he is a member of the local administration. DPCCN receives reports on the regional situation: number of

affected people, meteorological information and food availability.

DPCCN has a fleet of around 230 relatively well kept trucks able to reach all affected areas in the 6 Southern provinces; besides, railroads, ships, beach landing crafts and airplanes are used. The mission feels that the available transport facilities are sufficient for handling the existing amount of food aid and could also cope with an increase in volume of aid.

An important factor influencing the actual performance of distribution is the local security situation. Although transport capacity is available, planned regular supply of food items is often disrupted by insurgents with the effect that actual delivery of food items often becomes irregular. In some cases intervals of 3 months or more have been reported.

DPCCN is capable of identifying the affected population, organizing transport and distribution to the provincial and, in some instances, to the district level. They do not have detailed control of the actual distribution of food items at the regional level, which is mostly carried out by the local authorities.

DPCCN does not always receive detailed feed back as to number and groups of beneficiaries and does not have any influence on the composition of the food rations.

Rehabilitation and development programmes are handled directly by the respective ministries and individual NGOs.

### 3.2.2 NGOs

More than 25 different NGOs operate today in Mozambique. Their objectives, organization, resources and staff vary considerably. The mission only contacted the ones receiving stockfish and the Red Cross-Mozambique.

#### 3.2.2.1 CARE-Mozambique

CARE-Mozambique does have a competent staff. There are 17 persons employed, out of which 6 are placed in the main office in MAPUTO. All have counterparts.

CARE has operated with DPCCN since October 1984 advising and training DPCCN staff. CARE's main task is to improve the flow of material aid and to a lesser extent the flow of information. Furthermore, it is to strengthen particu-

lar areas such as control and accountability, which indirectly imply strengthening of the DPCCN personnel's capabilities and disciplin.

All commodities received by CARE are distributed by DPCCN. CARE is funded by USAID as well as CARE: France, USA, Italy and Norway. The budget for 1985 was 2.9 million US$. The new budget is estimated to 3.9 million US$.

Through CARE-Norway CARE-Mozambique received 200 MT stockfish distributed through DPCCN. No exact information about the number of beneficiaries and the duration of the distribution to individuals exists, impact can, therefore, not be assessed.

It is felt that of the NGOs CARE has the best available information on present needs. However, CARE does not apply its own criteria when selecting beneficiaries for the food handed over to DPCCN.

### 3.2.2.2 Lutheran World Federation - Mozambique (LWF)

LWF has two main activities in Mozambique. It receives food donations - which are distributed through DPCCN - and it assists in funding different development projects operated by and large by the various ministries. The food donations represented a value of approximately 2.5 million US$ in 1984, and the development assistance 1,7 million in 1985. The 1986-budget for development assistance is around 775,000 US$ indicating a significant decrease in activities.

Through monthly meetings with DPCCN and the Director for Health and Social Action LWF coordinates where and to whom the emergency donations should be distributed. The amount of food LWF can make available to DPCCN depends more on how much LWF receives in a given month than on a long-term plan.

According to the Norwegian Church Aid a request for 100 MT of stockfish was made after LWF-Mozambique had expressed that stockfish could positively be used as food aid in Mozambique. However, the mission was informed by LWF-Mozambique that the request for stockfish did not originate from them.

LWF does not have provincial nor regional representation. They depend on DPCCN for identification of beneficiaries and local needs.

No detailed information could be obtained for the total number of beneficiaries, daily rations, duration of the programme etc., except for the first 18 MT of stockfish received in October 1985. Concerning this shipment the place of distribution, food items and number of beneficiaries are shown in the following Table 13. It seems that there is no accordance between the number of beneficiaries and the amount of stockfish.

Table 13

Food Distribution List

| Place | Milk powder | Cheese | Stockfish |
|---|---|---|---|
| GAZA-PROVINCE | | | |
| Hatihati Centre<br>2,500 children<br>Chibuto District | 200 cartons | 60 cartons | 100 bales |
| Dindiza Centre<br>Chiculacuala<br>3,000 children | 300 cartons | 100 cartons | 100 bales |
| Changanine Centre<br>4,000 persons<br>Chibuto District | 200 cartons | 100 cartons | 100 bales |
| Nwachimicho<br>5,000 persons<br>Chibuto District | 40 cartons | 100 cartons | 100 bales |
| Central de Infancia<br>Manjacaze District<br>300 children | - | 100 cartons | - |
| MAPUTO PROVINCE | | | |
| Hospital Polana Centre<br>100 patients | 9 cartons | - | - |
| Workers | 1 carton | 3 cartons | - |
| | 750 cartons | 463 cartons | 400 bales |

Source: LWF-Mozambique

The total amount of food donations received in 1985/86 was reported to be as follows:

| Item | Donor Country | Quantity Mt. | No. of receiving locations |
|---|---|---|---|
| Stockfish | Norway | 100 | 4 |
| Stockfish | Iceland | 19 | 4 |
| Meat | Sweden | 40 | 10 |
| Vegetal oil | EEC | 15 | 10 |
| Milk powder | EEC | 20 | 4 |
| Milk (powder) | Sweden | 10 | |
| Meat | Sweden | 80 | 8 |
| Dried fish | EEC | 51 | |
| Tents, clothes, shoes | Sweden | 10 | |
| Blankets | GDR | 17,000 pieces | |
| Total | | 366 | |

Source: LWF-Mozambique

In addition to these items some maize has been purchased from Zimbabwe.

LWF executes most of its programmes through goverment organizations. For the emergency food aid it is DPCCN, and for the development programmes it is the relevant ministries. LWF-Mozambique is assisted by the Lutheran World Service office in Maputo, which is also funding the major part of the operational and project expenses. Although permanent technical assistance to some of the field projects exists, most of the project assistance is carried out by staff placed in the Maputo office. It is felt that LWF does not possess the same qualified staff as e.g. CARE.

The mission feels, however, that LWF is capable of handling the administrative matters related to clearance and of handing over the emergency food aid to the DPCCN. But since they do not have their own staff in the field to identify needs, supervise the implementation of emergency food programmes, provide nutritional advice and instructions, control the use of foods and give feedback to the office in Maputo, it is felt that emergency relief food aid could just as well be channeled directly to DPCCN.

The mission was not informed about food donations being used in LWF's own development programmes as e.g. food-for-work. It was, however, informed that some food was given to guards, workers and soldiers.

3.2.2.3 Development Aid from People to People

This organization operates different activities in a centre situated approximately 8 km from Maputo.

The main activities are:

- Primary school for approximately 400 children, a substantial part of which are children of the workers employed in the centre.

- Secondary school.

- "Vocational school", where young people receive "on the job training" in different crafts (e.g. mechanics, boat building etc.)

- Workshops producing 6 to 7 different products (furniture, clothes, boats etc.) are organized and managed in a commercial way. The workers are paid, and the profit generated is used for the non-profit activities of the centre.

- The centre operates a canteen, where both workers and pupils eat. The workers pay 20 - 22 meticais per meal.

Approximately 350 workers are employed at the centre, and there is a staff of 25; many of them are voluntary workers under training from one of the Scandinavian educational institutions, sponsors and founders of the Development Aid from People to People.

The organization is funded by different sources. EEC contributes to the educational activities. Scandinavian organizations supply food, clothes etc. The centre seemed well managed, but technical knowledge on stockfish was lacking.

The organization received 4,000 kg stockfish in September 1985. The stockfish was given by the Norwegian stockfish producers, and MDC paid the transport. The mission was told that stockfish is used 2 to 3 times a week in the canteen for children and workers; the last ones pay for their consumption.

Approximately 30% of the stockfish was still in storage, and although the storage facilities looked adequate, many bales had been attacked by insects (See photos pp. 61, 62). This had not been noticed by the management. The mission was informed that in spite of the infestation stockfish was consumed and appreciated. With proper technical information the centre will be able to handle the product correctly.

The mission did not have the opportunity to go through the financial situation of the centre's different activities. It is, therefore, not known if the profit generating activities together with the combined donations and the EEC funding leave a positive balance or just cover the expenses of the non-profit activities.

The supply of stockfish must be viewed as a budgetary support to the operation of the centre and not as a needed supplement to the basic diet for the poorest segment of the population. It has, therefore, no relevance to speak about selection of beneficiaries.

The centre is planning to expand its activities and open a canteen for 2,000 hospital workers and their families. Payment for meals will be about 22 meticais. The organization plans to apply for stockfish for this activity.

With a consumption of 30 g/day 3 days a week for 2,000 persons, the weekly consumption could be 180 kg. A container of 9 MT would last 12 months; a too long period for storage.

Assuming 1,000 persons in the centre and 2,000 in the canteen and that each one each consumes 50 g/day a 9 MT container would last 60 days, which is a reasonable period to store the fish, but not the most efficient way of using the stockfish.

It is, therefore, doubtful if the organization is big enough to receive stockfish. From a practical point of view it is not possible to ship less than one container.

#### 3.2.2.4 Norsk Folkehjelp (Norwegian People's Aid)

This organization did not have any representative in Maputo. The stockfish had been distributed in Tete province, and the mission was not in a position to visit that province due to security reasons.

Apparently the stockfish had been handled by PESCOM; but the director of PESCOM informed the mission that PESCOM had only stored the stockfish and subsequently handed it over to DPCCN for distribution. DPCCN did not recall the details of this particular operation. The mission is, therefore, not in a position to comment on the delivery of stockfish in the Tete province, but must refer to the "Report from Visit to Tete 27/5 to June 1985" prepared by Norsk Folkehjælp. The main conclusion of the report is sceptical about the benefits of using stockfish for emergency relief programmes.

### 3.2.2.5 Mozambique Red Cross Society and Red Cross League

The mission was informed that Mozambique Red Cross Society (MRCS) and the Red Cross League (RCL) had provided monthly relief assistance in form of food and clothing to some 120,000 persons, mainly in the provinces of Gaza and Inhambane. An additional average of 160,000 persons per month had received "once only" distributions. In total a number of 280,000 persons received monthly distributions.

MRCS/RCL did not receive stockfish under the current Norwegian Government programme; but they had received 240 MT from the Norwegian Red Cross in 1984.

MRCS/RCL coordinate with DPCCN, but operate their own programmes. They have regional representatives and adequate means of transportation. Due to the changing security situation Red Cross has faced increasing difficulties distributing emergency food aid to remote rural areas, because it cannot protect its convoys with military escort.

For this reason Red Cross plans to change its relief operations to more regular programmes in urban areas in the future.

It is believed that particularly the RCL has a well functioning organization, which operates more independent programmes than some of the other NGOs. The Red Cross, therefore, has a possibility of reaching groups of persons which other organizations relying on DPCCN's distribution system do not reach.

### 3.2.3 United Nations Agencies

#### 3.2.3.1 UNICEF - Mozambique

In 1985 UNICEF applied for 200 MT stockfish for their different ongoing children feeding programmes. Upon a more realistic assessment of the characteristics of the product in relation to the feeding programmes the 200 MT were changed to 18 MT intended to be used in a development project.

#### 3.2.3.2 WFP- Mozambique

WFP has not received or requested stockfish. It has received 1 bale from Red Cross - Mozambique for a trial. The experience with the stockfish raised many of the same questions as specified in items 8 to 13. One of the major objections for using stockfish was that WFP could not secure the distribution of goods from Maputo to the project sites in less than 6 to 10 months, which would eliminate stockfish as a suitable food item.

WFP assists 130 primary school feeding centres in all 10 provinces of Mozambique.

Among the different programmes of the WFP the school-feeding programme was the only activity where stockfish could be used because it is only considered appropriate for institutionalized feeding, but due to the above-mentioned transport limitation WFP would not request stockfish for Mozambique.

It is worth noticing that once WFP had the possibility to supply dry salted fish the government (DPCCN) declined because of lack of storage and short shelf life.

WFP distributes all emergency food aid through DPCCN.

## 3.3 Stockfish in the Context of Food Aid

The paramount goal of the Norwegian official development assistance (ODA) is to contribute to lasting improvements in the economic, social and political conditions of the population in developing countries; aid must be addressed to the poorer sectors of the population and must strengthen their capacity to satisfy basic needs. Emergency situations, as is the present case of Mozambique, are also being considered; disaster relief ought, to a

great extent, to be combined with long-term development assistance (17).

All that follows is concerned with the particular situation of Mozambique today - a chaotic situation, where the survival of the population is the main goal.

### 3.3.1 Beneficiaries and Amount of Food Aid

According to the first paragraph above, stockfish should be directed to the poorest people, and one could expect a set of criteria for the selection of beneficiaries. In Mozambique the beneficiaries of the emergency food aid are selected according to the criteria of the local authorities, following site specifications of the local needs. These criteria are generally not known at central level, or the mission was not able to obtain that information.

One would like to secure that the most vulnerable (pregnant, lactating women and children) among the poor receive food aid. However, due to the present conditions in the country this is not possible. Food is delivered to the most affected people in six provinces, as much and as frequent as possible, and all logistic efforts are not enough to satisfy their needs. For example, in the year 1985, some provinces got 12 monthly consignments, while others got only 3 or 4 (11). The actual food distribution is strictly related to the availability of transport and to the feasibility of covering a given distance (insurgency), and not so much to the planning and logistic approach.

As a consequence, one cannot expect neither regularity of deliveries nor regularity in the composition of the food aid basket.

### 3.3.2 Appropriateness of Stockfish in Food Aid

In strict sense, we cannot speak of acceptability because it means the approval of the food by the people, its social legitimization (18); moreover, this must be judged throughout a relatively long period of time, under "normal" living conditions. The mission had no chance to observe the use of stockfish, therefore it had to limit itself to ask questions regarding the use of stockfish and to study the reactions of the cooks, consumers and personnel concerned with food aid, mainly the staff of DPCCN, NGO's and UN Agencies.

The situation of the consumers is very abnormal, and the term "acceptability" has, therefore, less relevance. The mission prefers to judge the use of stockfish on the basis of its appropriateness in disaster relief food aid.

On the whole, the answers received to our questions are as follows:

1. It is good food
2. It is very much needed
3. It is tasty
4. When well prepared it is preferred to canned fish
5. In group feeding it would be welcomed 2 or 3 times/ week
6. People eat their monthly ration in a few days
7. It does not pose any particular problem if it is distributed in a period of two or three months after arrival
8. It poses problems for the portioning
9. It poses problems for transport and storage, because it is bulky
10. It needs a lot of water for its preparation (a serious problem in water-deficient areas) and also too much fuel
11. It attracts cockroaches
12. People do not know how to prepare it
13. People lack other ingredients for the cooking

Some of these answers deserve to be commented. Number 7 above fits with what has been observed in the field in other countries (19): stockfish has a shelf life of two to three months in hot and humid weather. After that period it is spoiled, mainly due to insect infestation. The mission saw infestation of stockfish stored for six months; apparently the insects are Dermestides and Bostrichides, the same insects attacking FPC in W. Africa (18). Only skin and bones are left after the insects have attacked. See attached pictures.

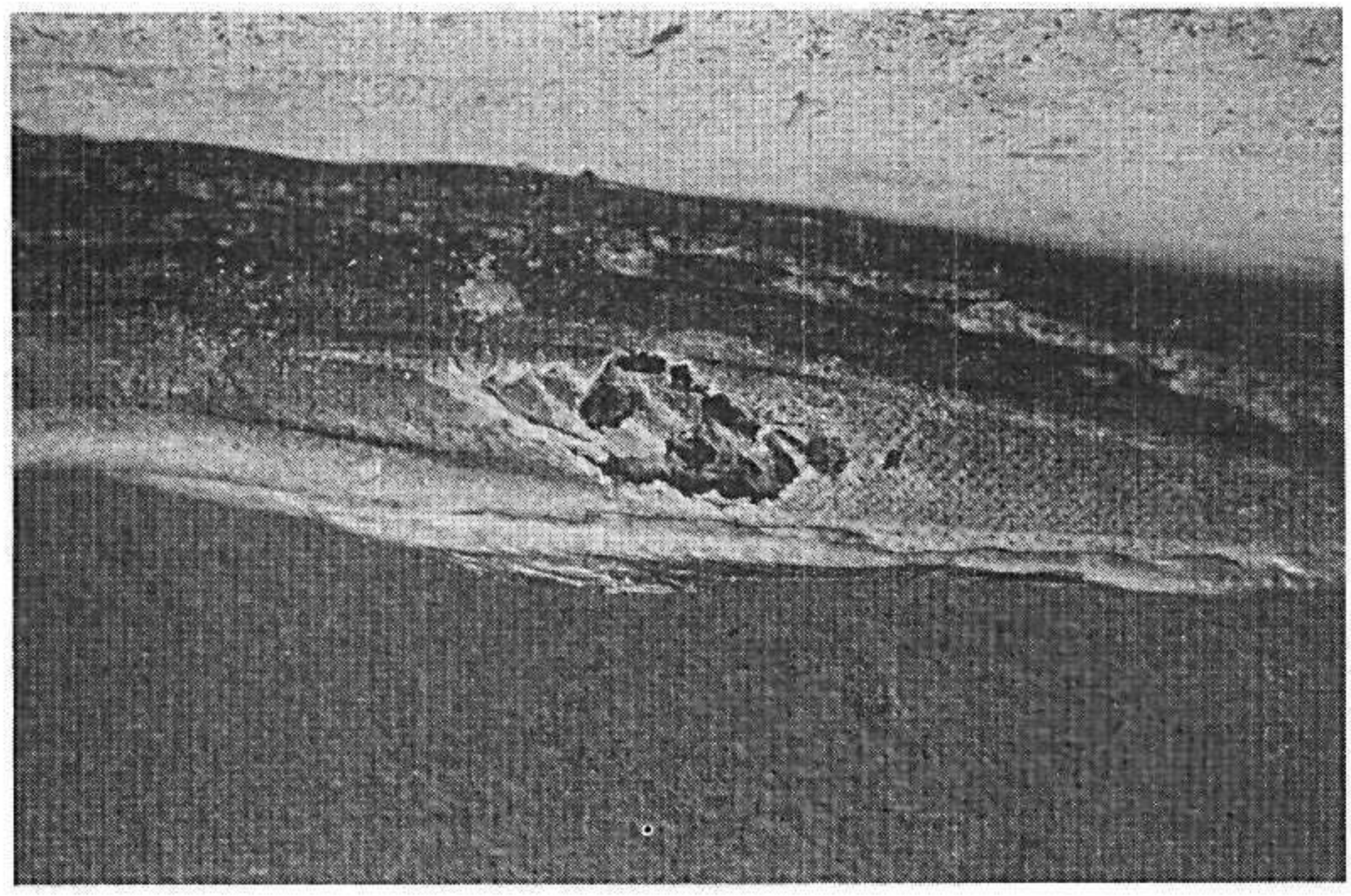
Number 6 above, although it appears as a positive argument, has a very negative nutritional connotation. If people eat their monthly protein supply in a few days, during those days part of the protein supply is burned for energy, a very expensive way to provide energy, and thereafter they survive on corn till next food distribution. This is related to the generalized hunger of the beneficiaries as well as to the difficulties for portioning stockfish (Argument 8 above).

Generally, it is assumed that a population that likes fish is prone to accept fish products; besides, if this

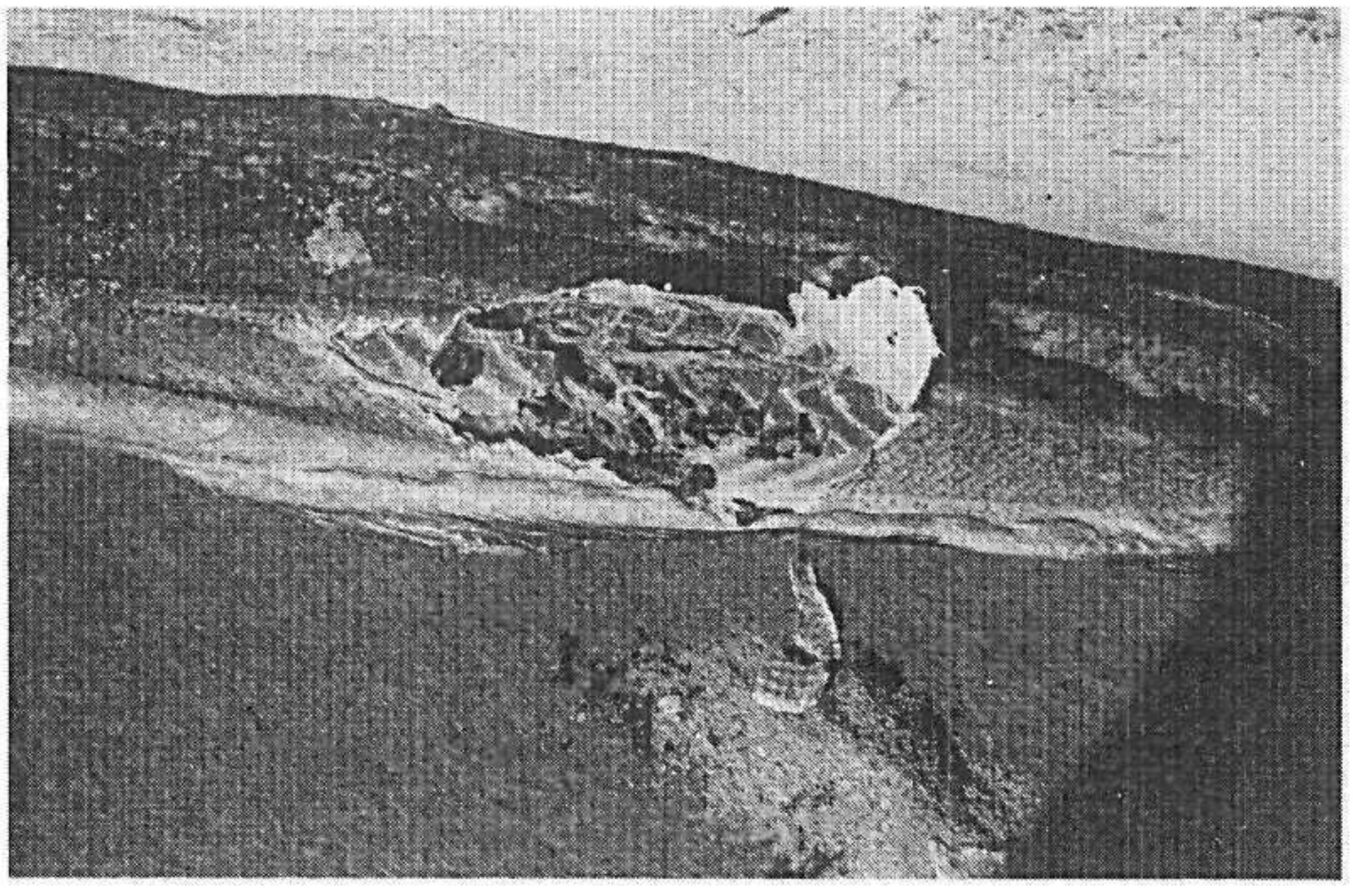
population eats sun-dried fish, it would be better prepared to use stockfish. Moreover, in the case of Mozambique, there is the Portuguese inheritance of the use of "bacalao". In spite of all this, the mission heard many times that in Mozambique people do not know how to prepare stockfish (Answer 12).

It is true that the "bacalao" was eaten by the Portuguese in Mozambique and also by the well-to-do local population. "Bacalao" was and is a very expensive product, and, therefore, it is completely unknown to the actual food aid beneficiaries.

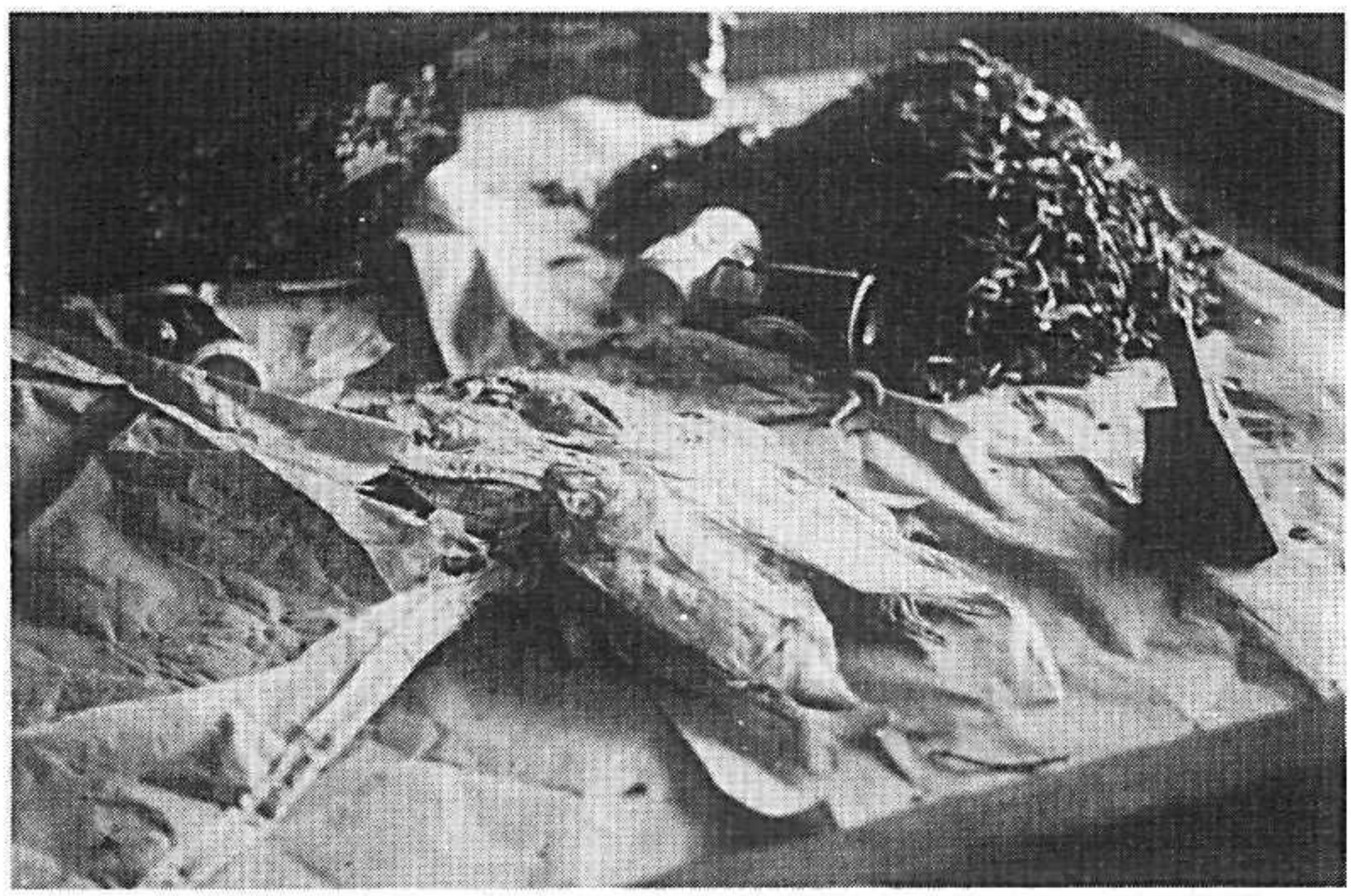
Pictures



Stockfish stored approx. 6 months. The meat is eaten by insects, only skin and bones remain.



Pictures



Dried local fish on sale in Maputo.

Furthermore, the population eats sun-dried fish (3.1.4), but this is the result of partial drying of species of small sizes. Therefore, the dried fish may be eaten directly or cooked without any previous treatment. The hardness of stockfish is completely unknown to many.

Insufficient soaking of stockfish implies long cooking hours (Answer 10), and a final product which is still too hard to chew, eventually non edible for small children. Instructions on how to prepare stockfish according to local conditions are badly needed.

## 3.4 Impact of Stockfish

No analyses of the impact of food aid in general and stockfish in particular can be made. The lack of production, marketing and distribution data is so large that it is virtually impossible to make any formal economic evaluation. The following observations are based on the mission's best estimates.

### 3.4.1 On Fish Prices

The deliveries of stockfish for food aid have not affected the fish prices in areas which do not produce fish. These markets are in a severe shortage of protein-rich foods. Relevant quantities of stockfish have not been delivered to the fish producing areas with the possible exception of the province of Maputo. In 1985 this province received 132 MT of fish, which may have included stockfish.

The province of Maputo produces very little fish in comparison with the needs of its population plus the needs of the town of Maputo. Still, for economic and political reasons, the availability of fish is relatively good in the capital, and its population eats 36.4 grams of fish per capita per day, while the national average is only 13.4 grams (13). Therefore, a supplementary amount of fish introduced to the private market of Maputo can very well cause a fall in fish prices.

For the beneficiaries of the province of Maputo it might be tempting to sell stockfish to the capital, where the population has a higher purchasing power; furthermore, distances are short and communications comparatively good.

### 3.4.2 On Other Food Prices

Stockfish for food aid has not influenced the prices of other protein-rich foods, because there is a very limited availability of beans and an almost total lack of meat, milk and eggs. Persons receiving stockfish have, therefore, not been able to substitute other food products for stockfish.

### 3.4.3 On The Fish Industry

According to Tenreiro de Almeida, from the Secretariat of Fisheries, much larger quantities of fish for food aid could be utilized without damaging the fish industry. Fish for food aid could even be distributed to the major towns like Maputo, but not Beira and other production centres, where it could have negative effects.

### 3.4.4 Possible Creation of Demand

Mozambique will have an economy of survival for years to come. Therefore, it is highly improbable that within a short period of time a demand for stockfish will be created.

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# 4. GHANA

## 4.1 The Country, General Information

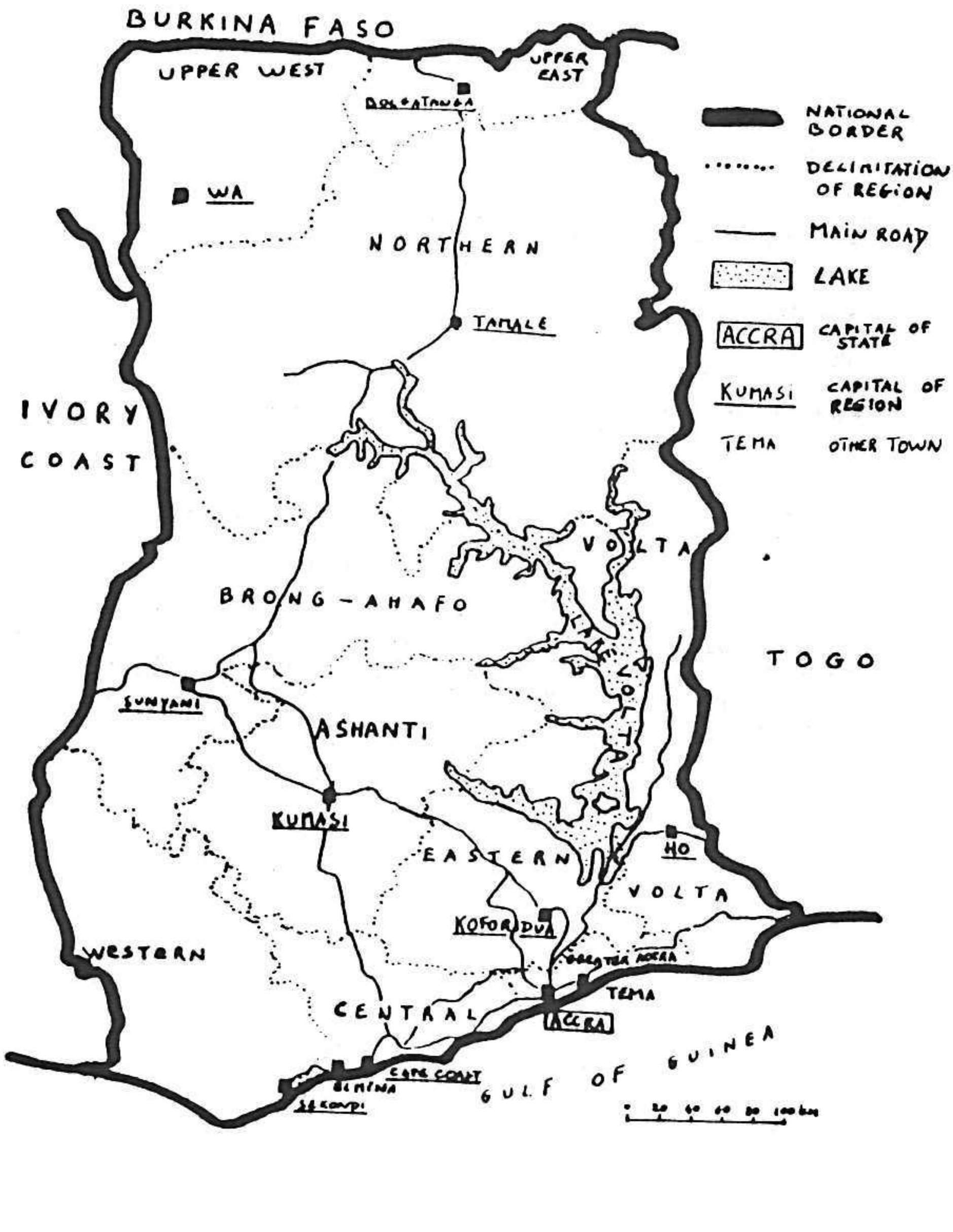
### 4.1.1 Description

Ghana is a West African country of 238,000 km2 bordering the Ivory Coast to the West, Burkina Faso to the North, Togo to the East and the Gulf of Guinea to the South. The coast is 540 km long. The country is divided into 10 regions:

- North: Upper East, Upper West and Northern Regions
- Centre: Brong-Ahafo, Ashanti, Easter and Volta
- South: Western, Central and Greater Accra

The Southern part is a fertile plain originally covered by a tropical forest. The Nothern and Central parts are formed by a plateau. Towards North the climate becomes progressively semi-desertic. In the Eastern part, the construction of a dam has generated the Lake Volta, which is the world's biggest artificial lake.

Figure 5. Regions of Ghana



### 4.1.2 Basic Information on the Population (1-3)

The population of Ghana was more than 12 million at the 1984-census. It is unevenly distributed throughout the 10 geographical regions, with densities ranging from 17 persons/km2 to the Nothern Region, up to 548 in Greater Accra. The average density for all regions is 53.7 persons/km2 (1,2). Like most African countries Ghana has a young population: 47.9% is under 15 years of age. Around 40% of the population live in urban centres, and these are growing at a rate of 5% per year.

General indicators of the quality of life: life expectancy at birth, crude mortality rate, literacy of adult population and GNP/capita/year (Table 14) show that Ghana is a little better off than the average of low- income countries in Africa South of Sahara (1). Compared to Mozambique, Ghana is in a privileged situation.

Table 14

Basic Information on the Ghanaian Population

| | |
|---|---|
| POPULATION (1984) | 12.206.000 |
| - Population density | 53.7 pers/km2 |
| - Range | 17 to 548 pers/km2 |
| - Child population | 5.846.647 |
| - Male/female population (1980 | 49.8/50.2 |
| - Urban/rural population (1981-1983) | 38.1/61.9 |
| - Rate of population increase (1981-1983) | 3.1% |
| - Urban growth rate (1981-83) | 5.0% |
| LIFE EXPECTANCY AT BIRTH (1981-1983 | 58.9 years |
| MORTALITY RATE (1979-1981) | 13.4% |
| ADULT LITERACY RATE (1980) | 33.0% |
| - Range | from 7.4% in Upper regions to 50.9% in Greater Accra |
| GNP (1984) | 350 US$/capita/year |

### 4.1.3 Economic Situation

The economic problems of Ghana were exacerbated in 1983 by the drought and by the unexpected return of the Ghanaians living in Nigeria. The drought caused bush fires and destroyed large areas of cash and food crops. The fall of the hydroelectrical production and the fuel shortage affected the industrial production. The food shortage worsened with the return of the 1.3 million Ghanaians (above 10% of the population) expelled from Nigeria. Almost no food was available in the market, prices reached sky-high levels. A widespread famine broke out.

The government put in application bold reforms (see 4.1.3.3) and by the end of 1983 the downward trend was stopped.

The rains of 1984 produced a good harvest, especially for maize. Food prices declined and consequently inflation decelerated. The return to a normal level of the hydro- electrical production helped the recovery of the industrial activity.

The economic situation has continued to improve slowly. The recovery programme of the government has entered into its second phase of rehabilitation and construction. Still under- and unemployment continue to be a problem. Ghana depends substantially on foreign aid, of which approximately 20% is food aid. Despite the positive growth rate of production in most sectors of the economy it will take many years for the GNP per capita to recover to its 1978 level (1).

### 4.1.3.1 Recent Economic History

The Gold Coast became independent from Great Britain in 1957 and took the name of Ghana. In the beginning of the 1960's Ghana was the richest country of West Africa.

Mismanagement, several coups d'Etats, corruption, brain drain and shortage of skills, a strong demographic growth, the rise of the oil price and the fall of the cocoa price have led to an economic decline.

"From the early 1970s to 1982 the economy experienced a steady downtrend characterized by growing price distortions, which distroyed incentives to domestic production and exports." (1)

GDP fell by 0,5% per year from 1970 to 1983. In the same period income per capita fell by 30%, export earnings by 50% and import volumes decreased to 33% of the 1970 level. The country's economic and social infrastructure almost collapsed.

### 4.1.3.2 The Structure of the Ghanaian Economy

Agriculture is the most important sector of the Ghanaian economy producing 51% of GDP and occupying approximately 57% of the labour force (1984). Agriculture

and forestry are the biggest foreign export earners amounting to approximately 500 million US$ annually, equivalent to 70% of the total export. The service sector produces 40% of the GDP and employs 27% of the labour force. Industry and mining produce 8,5% of GDP and 15% of the labour force is employed in these sectors, which account for 28% of the total export, or approximately 200 million US$.

#### 4.1.3.2.1 Agriculture

The agricultural sector can be divided into two major subsectors, one producing industrial crops such as cocoa, palm oil, cotton, tobacco, rubber, ground nuts and coconut; the other producing food crops like maize, rice, sorghum and starchy staples. Cocoa is by far the most important agricultural crop, accounting for approximately 24% of the value of the total agricultural production and 67% of the total Ghanaian export earnings.

Industrial crops are grown at large farms (estates), whereas the main part of the food crops are grown by small semi-subsistance farmers, using slash-and-burn techniques. Due to population pressure the rotation period becomes shorter and shorter adversely affecting the yields.

The agricultural sector has been influenced by government-controlled low prices to the producers, whereas prices for inputs and consumer goods have increased rapidly, causing an erosion of the exchange relationship. The effect of this policy is still being felt, although the government is changing the price policy for agricultural products.

The sector suffers from lack of inputs, transport and credit facilities. The industrial plantations have been neglected for a long time and require a large amount of capital to be restored to the 1970-level.

Agro industrial processing plants have been run down and suffer from lack of maintenance and reinvestment in up-to-date process technology. It is estimated that the agro-processing industry operates at only 30% of its capacity.

4.1.3.2.2 The Fisheries Sector

The Ghanaian fishing industry is predominantly an artisanal canoe operated fishing industry. The total annual catch lies around 240,000 MT, of which 200,000 are marine catch and 40,000 are obtained from rivers and lakes; 68,000 MT are produced by a deep-sea fishing fleet, tuna fish makes up to around 50% of this catch.

The sector employs directly 13,000 fishermen in the industrial deep-sea fishing fleet and 84,000 in the artisanal canoe sector. An estimated 20,000 could be fully or partly employed in river and lake fishing. To this should be added and unknown number of persons, particularly women, in processing, selling and distribution of fish products. The total number of persons might, therefore, be as high as 180-200,000.

The catch is unevenly distributed throughout the year, with approximately 55% of the total catch in July to September. This creates a major problem because of insufficient processing and storage facilities; prices drop in this period, and waste is substantial.

Fishing technology is good, but the sector lacks inputs, spare parts and credit facilities to purchase outboard motors, nets, etc. The government has set up a core import programme using Japanese grants channelled through the African Development Fund, for the purchase of the required inputs. This programme, as well as efforts to increase smoking capacity in connection with cold store facilities, can in time result in an increased total catch and increase the amount of processed fish.

A large part of the catch is marketed fresh; a relatively small part through the intermediary of cold storage. Another substantial part is sun-dried, salted or smoked. Smoking is done all along the coast, and along the banks of Lake Volta and its major tributaries (White and Black Volta, Oti River, etc.). Smoking is done mainly in traditional cylindrical ovens covered with one or more layers of wire-netting on which the fish is placed for several days of smoking from selected fuelwood. This processing is done by women. Fish smoked along the shores of Lake Volta is mostly sent to Accra (2).

4.1.3.3 Economic Recovery Programme (ERP)(1)

The main components of the ERP includes:

- a flexible exchange rate policy
- incentives for increasing agricultural production; in particular increased prices for: cocoa, cotton and tobacco
- the gradual removal of price and distribution controls
- adjustment of administered prices to reflect changes in the exchange rate and real costs
- successive increases in public sector wages and salaries to restore partially the severe erosion in real wage earnings
- budgetary policy adjustments to increase domestic resource mobilization and to reduce dependency on inflationary bank financing
- the pursuit of flexible interest rate policies with a view to ensuring positive real interest rates by mid 1986
- sector rehabiliation and infrastructure programmes to improve efficiency of the public sector administration and management.

4.1.3.4 Recent Economic Recovery Performance

There has been a significant turn around in the economy as measured by leading economic indicators (Table 15). However, it will take some time before the impact of recent actions such as management changes, and foreign investment incentives, can be discerned (4).

Table 15

Main Economic Indicators (4)

(Average Annual Change: %)

| | Consumer Price Index | REAL GDP Total | REAL GDP Per Capita | Exports | Imports | Maize Output |
|---|---|---|---|---|---|---|
| 1980 | 50.1 | 1.2 | -1.4 | 3.6 | 12.5 | |
| 1981 | 116.5 | -3.8 | -6.3 | -35.6 | 5.1 | -1 |
| 1982 | 22.3 | -6.1 | -8.5 | -9.8 | -38.2 | -8 |
| 1983 | 121.9 | -2.9 | -5.4 | -31.5 | -1.8 | -50 |
| 1984 | 40.2 | 7.6 | 5.0 | 28.9 | 23.2 | 233 |
| 1985* | 20.0 | 5.3 | 2.6 | 7.8 | 18.0 | -5 |

*) estimated

Preliminary data for 1985 indicate that real GDP would rise by 5.3% with agriculture expanding by 3.9%, industry by 13.7% and services by 5.0%. This follows a real GDP rise of 7.6% in 1984. Production of maize in 1985 is expected to be lower than the bumper harvest of 1984. Farmers reacted to the low prices induced by abundance of supplies and reduced their planting. However, cocoa production increased by 14% in response to the incentives provided. There were sharp increases, admittedly, from a low base in the production of other export products.

An important factor to take into consideration, evaluating the aid requirements and its effect on the ERP, is the very slow disbursement rate experienced so far. This is partly due to lack of administrative capacity to handle the aid commitments, partly due to the fragmentation of aid, and finally due to the foreign donors' different approval procedure. Only approximately 33% of new commitments are disbursed within a year and 70% within 2 years.

As the total amount of aid increases there is a raising concern as to the administration's capability to deal effectively with its growing amount (Table 16).

The slow disbursement of food aid poses a particular problem; when commitments are agreed upon there is a shortage; by the time the food aid is disbursed, the local production might have picked up and covered the gap. This was the case in 1985 when Ghana exported maize to neighbouring countries and had an overproduction of

palm oil. Additional food aid of those two commodities depresses prices and thus creates a disincentive for local producers. Unless additional incoming food aid is handled very carefully it might slower the ERP by indirectly creating disincentives for the local production.

Table 16

Schedule of Commitments and Disbursements, 1984-88 (US$ Million)

| | Project | Programme/ Sector | Food/ Commodity | Total |
|---|---|---|---|---|
| 1984 | | | | |
| Undisbursed Balance 12/31/83 | 253 | 60 | 22 | 355 |
| New 1984 Commitments | 81 | 211 | 116 | 408 |
| Disbursements from Pipeline | 70 | 35 | 15 | 120 |
| Disbursements from 1984 Commitments | 9 | 91 | 38 | 138 |
| Total Disbursements | 79 | 126 | 53 | 258 |
| Exchange Rate Adjustments | -23 | - 5 | - 2 | -30 |
| 1985 | | | | |
| Undisbursed Balance 12/31/84 | 232 | 140 | 83 | 455 |
| New 1985 Commitments a/ | 230 | 208 | 27 | 465 |
| Disbursements from Pipeline b/ | 94 | 80 | 15 | 189 |
| Disbursements from 1985 Commitm. b/ | 25 | 59 | 15 | 99 |
| Total Disbursements | 119 | 139 | 30 | 288 |
| 1986 | | | | |
| Undisbursed Balance 12/31/85 | 343 | 209 | 80 | 632 |
| New 1986 Commitments | 200 | 300 | 100 | 600 |
| Disbursements from Pipeline | 127 | 142 | 56 | 335 |
| Disbursements from 1986 Commitm. | 20 | 120 | 60 | 200 |
| Total Disbursements | 157 | 262 | 116 | 535 |
| 1987 | | | | |
| Undisbursed Balance 12/31/86 | 386 | 247 | 64 | 697 |
| New 1987 Commitments | 250 | 300 | 100 | 650 |
| Disbursements from Pipeline | 154 | 146 | 45 | 345 |
| Disbursements from 1987 Commitm. | 25 | 120 | 60 | 205 |
| Total Disbursements | 179 | 266 | 105 | 550 |
| 1988 | | | | |
| Undisbursed Balanced 12/31/86 | 456 | 281 | 59 | 797 |
| New 1988 Commitments | 275 | 300 | 75 | 650 |
| Disbursements from Pipeline | 183 | 148 | 41 | 372 |
| Disbursements from 1988 Commitm. | 28 | 105 | 45 | 178 |
| Total Disbursements | 210 | 253 | 86 | 550 |
| 1989 | | | | |
| Undisbursed Balance 12/31/89 | 521 | 328 | 48 | 897 |

Note: Disbursement data exclude technical assistance
a/ Includes commitments likely to be signed by the end of 1985.
b/ Includes expected disbursements to be made by the end of 1985

EEC-Mission Ghana

4.1.3.5 External Assistance for the ERP

A crucial element in the success of the ERP is that it has to be supported by foreign aid amounting to approximately 600 million US$. Import requirements for 1986 are estimated at 875 million US$ and exports 705 million US$, which leaves a trade deficit of approximately 170 million US$.

Amortization and interest payment amount to 408 million US$. Other payment obligations add up to 143 million US$. Ghana proposes to finance 164 million through medium term borrowing on commercial terms. The remaining approximately 600 million US$ is anticipated to be obtained from ODA (Official Development Assistance). A break down is shown in Table 17.

Table 17

Summary of Government External Accounts, 1986

Million $

| Uses | | Financing | |
|---|---|---|---|
| Trade gap | 170 | ODA | 595 |
| Interest and amortization long and medium term loans | 408 | IMF (net) | -19 |
| Arrears payments | 60 | Medium term borrowing | 104 |
| Others (net) | 83 | Supplementary borrowing | 41 |
| Total | 721 | | 721 |

Source: EEC-Mission, Ghana

Ghana will also continue to request food aid to cover shortages of wheat, rice, milk powder, sugar, fish and meat products. These would otherwise have to be imported commercially and paid for with Ghana's own limited resources of free foreign exchange. Furthermore, maize imports could also be needed in the context of a possible food security programme. Both food and commodity aid, however, should be kept under constant review as part of the aid coordination effort to avoid depressing local producer incentives.

### 4.1.4 Food Aid Policy

Food and commodity aid constitutes an important part of the total aid provided by the international community to Ghana. The total value is around 100 million US$ per year, which is between 17 to 20% of the total aid planned. The main stated policy is to supplement own imports to provide food for the rural poor.

The main use of food aid is for budgetary support, whereby food is sold directly to the consumers by government organizations. Funds generated are used for the current budget of the government as well as special counterpart funds earmarked for particular development projects. Another way of using food aid for budgetary support is by supplying institutions with food which otherwise should have been provided by the government. Food for work is widely used for promoting the export sector, particularly roads, railways, forest and palmoil plantations. 1040 villages and small towns are embrased in the food-for-work programmes.

The government's policy towards the NGOs is that they are largely free to import commodities as they like. However, in principle the Ministry of Trade should approve any particular food commodity. The approval should depend on: a) the product, b) actual stock, and c) the time frame.

The government states that it tries to discourage imports of products which are produced in the country. This, however, was not the case for maize, rice, vegetal oil and fish. All these products are currently imported, and there was a surplus production of maize and vegetal oils in 1985.

The International Department of the Ministry of Finance and Planning negotiates and handles food aid. There is no national body which coordinates the planning and the distribution or controls the effects of food aid. Several ministries, in particular the Ministry of Agriculture and Fisheries, did not feel that the current food aid policy paid enough attention to the effects on the local productions.

It is evident that the current food aid policy places a strong tool in the hands of the government to regulate the prices of agricultural products. Seen from the producers' point of view it could have been more relevant if the Ministry of Agriculture had been in charge of handling food aid.

The representation of the Ministry of Agriculture and the Director of the Department of Fishery expressed directly that they did not feel the need for importing neither agricultural nor fishery products. They did, however, wish an increased project assistance as well as food-stuffs for the development of the animal sector.

### 4.1.5 The Traditional Diet (2,3,5)

The basic diet of Ghanaians is generally rather varied, comprising mainly of cereals and derivatives (maize, sorghum, millet, rice, bread), roots and tubers (cassava, yams, cocoyam) and platains, taken with a sauce made from fish or meat (if available), beans, cowpeas or ground nuts, leafy or other vegetables (mainly okra, egg plant, tomato and onion). Fats, oils and fish are consumed mainly in the Southern half of the country. Two or three meals are eaten daily except in time of food shortage. The main meal usually takes place in the evening.

In the Northern zone there is a dominance of cereals, with only one main growing season and a marked lean pre-harvest season. There is generally a cycle of about 7 years, in which good years are followed by 1 or 2 drought years, which seriously affect the composition of the diet.

In the South fish constitutes an important protein source, while in the North more dried legumes are eaten. Orraca-Tetteh (6) has surveyed the diet of several villages surrounding Legon, near the coast. He has found that a lot of fish is eaten; fish is an important component of the daily diet, around 40 g/adult person/day (Table 18).

Table 18

Fish Consumption in Southern Villages (6) by Age and Physiological State of the Consumer

| | g/person/day |
|---|---|
| 1 to 6 years | 15 - 16 |
| 7 to 15 years | 20 - 28 |
| Adults | 28 - 39 |
| Pregnant women | 43 |
| Lactating women | 44 |

In the South the seasonal food shortages are relatively short and mild; in the North they are long and severe. Variations in eating habits from one ethnic group to another even in one ecological zone are substantial (5).

The traditional use of sauce over boiled cereal, similarly to several other Western African countries (7) lends itself very well for the introduction of bits of stockfish in the sauce, in the same way as is the use of their locally dried or dried/smoked fish.

### 4.1.6 The Food Situation

#### 4.1.6.1 At National Level

Since 1985 there has been no shortage of food in Ghana (6,8,9), and all predictions for the coming crops are promising.

The country has three well defined agro-ecological zones: the costal savannah, the forest and the Northern savannah; their main productions are shown in Table 19.

Table 19

Agro-Ecological Zones and Their Main Products

| Zone | Crops |
|---|---|
| Coastal savannah | Maize, cassava, plantain, beans, vegetables, fish, some livestock. |
| Forest | Plantain, cassava, cocoyam, leafy vegetables, meat. |
| Northern savannah | Millet, sorghum, some maize, yams, beans, groundnut, leafy vegetables, meat. |

In Ghana there is a much felt need for reliable recent statistical data. The mission was informed that there is no recent analysis of supply versus demand of food. Moreover, different estimates (1,2,8,9) arrive to a diversity of figures for food supply. Another study (10) points out that in the period 1983-1985, corn production increased to 220%; rice +110%; cocoa +26%, and cassava +37%; also the mineral production showed important positive changes.

For the purpose of the mission the important fact is that all sources show an increase in the total food production (Table 20); even in the agricultural year 1984/1985 the country was able to export 15,000 MT of maize (8).

The country is not yet self-sufficient (8,11,12), and imports of food continue. Total estimated food imports to Ghana in 1986 add up to 235,216 MT, out of which 87,698 MT are food aid (9).

The relative "abundance" of food was reflected in the price of staples. In 1983 the prices were extremely high and decreased in 1984, and even more in 1985 (Table 20). In the same period, there was no defined price trend for non-staple foods, each one behaving in a different way, i.e.: eggs moved from 20,254 to 27,623; groundnuts almost maintained its price (72,300 vs 72,624), whereas onions increased from 49,000 to 76,093 per MT (9).

During these years the exchange rate of the national currency, the cedi, changed considerably (10). In April 1983 1 US$ was 2.75 cedis, and in December 1984 it was 50 cedis. During 1985 the exchange rate became 60 cedis, and in April 1986 it is 90 cedis.

Table 21

National Wholesale Prices (in cedis) of Staple Foods Per Metric Ton (9), from 1983 to 1985

| | 1983 | 1984 | 1985 |
|---|---|---|---|
| Maize | 38,576 | 23,378 | 20,379 |
| Millet | 48,866 | 47,838 | 31,904 |
| Sorghum | 62,273 | 47,473 | 29,054 |
| Rice | 66,377 | 72,363 | 56,151 |
| Cassava | 16,466 | 9,306 | 8,741 |
| Plantain | 22,011 | 19,565 | 17,214 |
| Cocoyam | 30,874 | 22,421 | 11,447 |

The fish catch also increased after 1983. The information obtained by the mission varies according to the source. Table 22 gives the IBRD figures. At the coast fish is abundant during two months per year, August and September. Much is spoiled and wasted; by then the price may be so low as 1/10 of its price in the lean season, because there is no capacity to cope with the catch.

Table 20

FOOD BALANCE SHEET OF STAPLE FOODS (2)

| | 1984 | | | 1985 | | | 1986 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Maize | Rice paddy | Cassava | Maize | Rice paddy | Cassava | Maize | Rice paddy | Cassava |
| Gross cropped area (Ha) | 491,400 | 67,270 | 482,940 | 532,970 | 81,414 | 506,367 | 595,619 | 101,865 | 529,066 |
| Production (MT) | 413,550 | 89,030 | 4,227,520 | 502,376 | 116,424 | 4,498,896 | 644,276 | 160,791 | 5,048,810 |
| Less: Seed Requirement (MT) | 14,741 | 3,700 | - | 15,989 | 4,478 | - | 17,869 | 5,603 | - |
| Feed (MT) | 24,813 | - | 422,752 | 30,143 | - | 449,890 | 38,657 | - | 504,88? |
| Waste (MT) | 41,355 | 4,452 | 422,752 | 50,238 | 5,821 | 449,890 | 64,428 | 8,040 | 504,88? |
| Domestic availability | 322,640 | 80,878 | 3,382,016 | 406,006 | 106,125 | 3,559,116 | 523,322 | 147,148 | 4,039,048 |

Assumptions: (i) Seed rate 30 kg/ha for maize, 55 kg/ha for rice
(ii) Feed 6% of production for maize, 10% of production for cassava
(iii) Waste 10% of production for maize, 5% of production for rice, 10% of production for cassava

Table 22

Fish Catch in Recent Years, in Thousand Tons (1)

| | 1983 | 1984 |
|---|---|---|
| Fish catch | 248 | 271 |
| Marine | 205 | 223 |
| Volta Lake | 43 | 48 |

4.1.6.2 At Family Level

In urban areas food availability is relatively good, but the prices are often beyond the buying power of the poorer sections of the community, especially the lower and medium salaried workers, who cannot possibly obtain an adequate diet for their salaries. The purchasing power of the population is low, in April 1986 the minimal wage is 95 cedis per day. In rural areas food availability is very much affected by the seasons, and the seasonal variations are more marked in the North than in the South (see 4.1.5).

Table 23

Seasonal Variation of Caloric Intake as Per Cent of Requirements (6)

| Zone | Jan.-Feb. | Mar.-Apr. | May-Jun. | July-Aug. | Sept.-Oct. |
|---|---|---|---|---|---|
| Forest | 84 | 80 | 75 | 68 | 78 |
| Coastal plains | 80 | 73 | 78 | 72 | 83 |
| Fishing village | 100 | 92 | 66 | 68 | 77 |
| North | - | 118 | 67 | 75 | 60 |

4.1.7 The Nutritional and Health Situation

Most available information is very old. The only comprehensive assessment of the nutritional status of the population was the 1961 National Nutrition Survey; this was a cross-sectional survey with a national sample of 43,000 persons of all ages in 71 towns and villages. This study lacked information on the effect of seasonal varia-

tions on food production and food intake, an extremely important factor conditioning the nutritional status of the Ghanaian population, particularly the rural one.

In 1962, a longitudinal study (on a small scale) was conducted to inform mainly on seasonal variations. Table 23 shows the variation of caloric intake throughout that calendar year in four different ecological conditions; this is accompanied by a clear-cut seasonal variation in weight loss or gain affecting both adults and children, which implies a seasonal variation in the prevalence of children malnutrition, undernutrition, anaemia, goitre and various types of vitamin deficiencies in the general population (3,6,13). Seasonal variations and their effects are more marked in the north than in the rest of the country.

In the last 24 years there has been a number of studies with varying degrees of representativity and quality, and their results cannot be extrapolated to the national level, nor to the regional ones (6). Their results tend to indicate inadequate intakes in pre-school and school ages, pregnant and lactating women, particularly for calories and proteins. School children appear as the worst group having the poorest intake compared to requirements. Pre-schoolers are the second worst followed by pregnant and lactating women (3).

Adult men, non-pregnant and non-lactating adult women have the best intakes often exceeding their requirements. For example, in Accra, 40 per cent of female traders were found to be overweighed and some of them grossly so.

Another survey conducted in May 1984 in the Eastern and Brong Ahafo Regions confirms the above findings. There is also the clear indication that lactating women are nutritionally better off than pregnant women. This fact may be partly explained by cultural factors which condition the feeding procedures. For example:

Some foods are restricted during pregnancy e.g. certain animals, birds or fish, but such restrictions appear to be limited to particular localities or families, except for major taboos such as pork for muslims.

Dietary intakes are not significantly increased during pregnancy or lactation.

Certain local practices are followed to promote better lactation, e.g. an oil-rich soup given to women after parturition.

Intrafamily distribution of meals does not favour the most vulnerable, but privileged the father and the young males (14).

Other aspects to consider under nutrition and health are:

- Infectious and parasitic diseases (malaria, diarrhoea and respiratory diseases, measles etc.) and hookworms often play an important part in provoking or aggravating malnutrition in the country.

- Vitamin deficiencies. Vitamin A deficiency has been said to occur in the North, and deficiencies of vitamin B (thiamin, riboflavin and niacin) also occur in all the ecological zones. Vitamin C deficiency might occur seasonally in the North.

- Mineral deficiencies. Anaemias are widespread, and the majority of persons at all ages are anaemic, predominantly of iron-deficiency type; but other factors also play a part. Endemic goitre has been reported from Upper, Northern and Ashanti Regions, but no recent data are available.

- Obesity and cardiovascular diseases occur in upper and middle classes and should not be ignored as health and partly nutritional problems.

Infant mortality rate was estimated at 101 o/oo, and mortality rate in preschool age at 18.9 o/oo in the years 1979/1981 (3). Overall Ghana, in the period 1978 - 1980, 2 - 4% of preschoolers were estimated to have severe protein energy malnutrition, and about 50% of them mild to moderate protein-energy malnutrition (4).

Both national (6,13,15) and foreigners (8,14) working in health and nutrition have the impression that the nutritional status of the population is improving, but data are not available.

### 4.1.8 Women in Ghana (3)

The economic independence of women is a striking feature of Ghanaian society. Women enjoy a high degree of equality with men and bear a large share of responsibility. In addition to their domestic roles, they yield an exceptional economic contribution, especially in the fields of agriculture and trading. They take part in lineage affairs, in political and even military organizations and possess equal legal status with men.

Women in Ghana have always been able to hold responsibility for family land and in some parts of Ghana own property. Women particularly the "fishmama" fish vendors also often finance canoe fishing teams.

As more men moved into cash-crop farming and wage-earning occupations, the burden of growing food crops tended to fall more heavily on women, and they were left in the subsistence and technologically traditional sector of the economy. They also have traditionally the day-to-day responsibility of providing food and fuel, fetching water, sweeping, washing clothes etc., and caring for children.

In terms of formal education, women are still lagging behind, especially with respect to higher educational attainments. In recent years, however, efforts have been made to increase female enrolment in schools. The proportions (female/male) are still low at the secondary and university levels. It is estimated that there were 30.7% of females in secondary schools in 1980, only 18% in universities in 1982/83 compared to about 44.4% in primary schools in 1980/81.

In view of their low educational attainments women's participation in the modern sector of the economy is very low.

## 4.2 Organizations Dealing with Stockfish

Only two organizations received stockfish in 1985/86. WFP and Star of Hope International Ghana.

In 1985 Star of Hope International Ghana received a total of 6 containers, 1 in May and 5 in September. Before the dispatch of stockfish Star of Hope had sent a representative to select a number of NGOs, which could handle the distribution of stockfish to the beneficiaries; 5 NGOs were selected, and each one received approximately 10 MT of stockfish. The mission visited all five, but concentrated its evaluation on Star of Hope International.

No coordination exists among the NGOs. Attempts to coordinate the aid between the NGOS have so far been unsuccessful. This results in overlapping of food aid given to different institutions. One institution received stockfish donations from three different NGOs.

### 4.2.1 Star of Hope International Ghana (SHIG)

SHIG is funded by two Evangelic churches. They operate 4 day care centres (DCC) in different parts of the country with approximately 1400 children and a staff of 29. They also have one agricultural farm of approximately 20 ha with 4 permanent employees.

SHIG has a board of directors with 7 members and receives a monthly contribution of 2,500 US$ for the DCCs from Star of Hope Norway, and 300 US$ for the church work. Presently this contribution is being renegotiated, and it is anticipated that it will rise to 4,000 US$ a month. The funds are being raised in Norway and Sweden by a subscription to a foster parent scheme, which at the moment has 199 Norwegians and approximately 600 Swedish participants paying a monthly fee of 100-125 kr. (NOK) In addition, funds are being raised in Accra by regular collection among parents and church followers. In Kumasi the largest of the two DCCs, with 600 children, is entirely operated on fees paid by the parents.

The farm is supposed to supply the DCCs with staple foods and vegetables, but so far it has not been very successful.

The children receive one meal a day consisting of rice with a sauce in which stockfish might be included (the mission could observe the distribution of a source containing stockfish in one of the centres). Two of the three DCCs being visited were orderly run, whereas the main DCC of Kumasi lacked both facilities and staff. There were 10 teachers for 600 children or only half the norm prescribed by the Ministry of Social Welfare, and the mission does not feel that the DCC could fulfil any educational purpose.

Star of Hope Internatonal Ghana does not have its own trucks nor storage capacity. It uses the storage facilities of the Presbytarian Boot Depot-Tema.

Out of the 200 bales of stockfish received in the second shipment 23 bales are still in stock; the remaining have been distributed as follows: (detailed distribution list attached in Annex No. 7)

| | | |
|---|---|---|
| Institutions (total) | 127 bales | |
| SHIG DCC | 25 bales | Workers and personnel |
| of the ministries | 13 bales | |
| Board of directors SHIG | 12 bales. | |

37 different institutions have received stockfish, approximately half of them are in Accra, 5 in Kumasi and the remaining in other areas. Out of the 37 institutions receiving stockfish, 17 had collected the fish themselves and acknowledged receipt by letter or by signing a warehouse voucher. These 17 institutions had received a total of 84 bales. The remaining 20 institutions had been supplied directly by SHIG, which had signed the weigh-bill themselves. A total of 85 bales had been distributed in this way including SHIG's own supply to the 4 DCC.

As mentioned earlier overlapping has been taking place. For example Star of Hope International Ghana had distributed:

| | |
|---|---|
| Accra Rehabilitation Centre | 22 bales |
| S.O.S. International | 5 bales. |

For the same two organizations the Adventist Development and Relief Agency had distributed 15 and 20 bales respectively. Other overlappings might have taken place, however, the mission was not aware of this.

Taking the case of the Accra Rehabilitation Centre with approximately 200 persons, the amount consumed (as reported) would imply that over a period of 4 months each person would have received 70 g stockfish per day 7 days a week, which by far exceeds the recommended daily ration.

The mission felt that Star of Hope International Ghana lacked sufficient experience to organize and operate the distribution of stockfish. It did not have coherent records of the distributions and did not apply sufficient effort to reach the most needy segments of the population.

The stockfish supplied to the institutions as well as SHIG's own DCC is a direct budgetary support to an organization which already receives external and internal funds. This is even more so when the 20 ha farms come into full production.

### 4.2.2 Adventists Development and Relief Agency (ADRA)

In 1985 ADRA had 622 food-for-work projects which in order of importance were in the following fields: construction, agriculture, water, health, adult education and small rural industry. From 1984 a total of 9,545 MT of food had been distributed.

ADRA is financed by USAID and receives substantial donations from other donors out of which the Netherlands have been the largest one.

The organization is capable of planning, distributing and to a certain degree controlling and evaluating the distribution of food.

It has a main office in Accra staffed with a full-time expatriate director assisted by a national deputy director as well as other administrative staff. It has its own field inspectors and agricultural technical officers.

ADRA possesses 6 trucks, 3 light vehicles and 10 motorcycles. It has approximately 6,000 sq.m. of storage space covering all 10 provinces. The activities are being changed from disaster relief to long time development projects using food-for-work programmes. Particular emphasis is placed on the Northern regions where the fluctuation in the agricultural production is the biggest.

Out of the 200 bales of stockfish received, 102 have been distributed to 11 institutions, most of which are in the Greater Accra region. 98 have been distributed as Disaster Relief as follows:

| | |
|---|---|
| Upper East & West | 40 bales |
| Northern | 18 bales |
| Ashanti | 11 bales |
| Brong Ahafo | 10 bales |
| Ho | 10 bales |
| Greater Accra | 9 bales. |

Although ADRA claims that they tried to use the stockfish in regions where there is protein deficiency, such as the Northern and Upper Regions, only 58 bales or approximately 25% arrived at these places. One explanation to this was the difficult transportation and the need to distribute the stockfish quickly.

### 4.2.3 Salvation Army Ghana

The Salvation Army has worked for many years in Ghana. It has a staff of 142, which at least in theory is paid by the government. In addition it has 14 expatriate nurses and midwives, plus administrative staff paid by own funds. The Salvation Army Ghana operates 6 clinics plus 3 nutritional rehabilitation centres of which 1 is exclusively for children. Each rehabilitation centre is attached to a clinic. The clinics are mainly maternity

clinics, but they also function as normal outpatient clinics. Each clinic receives from 1 to 2,000 maternity cases and 6 to 7,000 outpatients a month.

Out of an annual number of 348,405 visits, 89,221 persons received food distributed through the clinics. Most of the stockfish was distributed through the clinics and only a minor part through the rehabilitation centres.

During 1985 a total of 12,648 cases of malnutrition had been observed in the clinics, and approximately 1,500 cases were admitted in the rehabilitation centres. During the same period 146,000 cases were observed having various diseases, 73,000 received dressings and injections, 100,000 were maternity cases and 28,000 received vaccinations.

The malnutrition cases constitute approximately 5% of all visits made to the clinics excluding the maternity cases. It is not known whether the patients visiting the clinics come more than once for repeated treatments. The 5% malnutrition cases should, therefore, not be taken as a figure for the total amount of malnutrition compared to other diseases.

The malnutrition situation is improving, and only in few cases is it caused by lack of food. It is mostly caused as a consequence of diseases such as: TB, liver and stomachs disorders.

In the rehabilitation centre for children the child is accompanied by an adult, who receives training in sanitary and nutrition subjects.

The Salvation Army receives food aid from different donors. In 1985 they received: WSB, Sorgum, DSM, milk-powder and stockfish.

The biggest advantage of the free distribution of food in the clinics - is according to the Salvation Army - that the mothers bring the children regularly to the clinics so both preventive and curative treatment can be administered. The mothers pay 50 cedis per month for the food. Approximately 50% of this is used for local transport.

The Salvation Army has its own means of transportation at each clinic as well as at the main office in Accra. They also have a 7 MT truck in Accra. Part of the food received is delivered by the Catholic Relief Services (CRS). The Salvation Army pays CRS for local transport.

The Salvation Army does not have the administrative possibility to control how the food distributed in the clinics is used. They do not know if it is consumed at once or over a long period. They also do not know if some is bartered for other types of goods.

It is the mission's view that the Salvation Army Ghana is competent, has orderly records, and has the organizational ability as well as transportation means to distribute the stockfish received. Furthermore it deals - at least partly - with people specifically mentioned as priority groups under the Norwegian food aid policy.

### 4.2.4 Ghana Red Cross Society (GRCS)

The Red Cross Ghana distributed food aid during the drought period. Due to lack of food donations this practice has stopped. GRCS received 40 bales of stockfish in May and a further 200 bales in November 1985. No precise records exist as to the distribution of the first shipment. Concerning the last 200 bales they have been distributed as shown in the following (Table 24).

Table 24

Distribution of Stockfish Done by the Ghana Red Cross Society

| Date | Region | Quantity | |
|---|---|---|---|
| 12/12/85 | Eastern | 10 bales | |
| 13/12/85 | Greater Accra | 10 bales | |
| 16/12/85 | Volta | 10 bales | |
| *20/12/85 | Headquarters | 4 bales | |
| 20/12/85 | Brong Ahafo | 10 bales | |
| 20/12/85 | Kwamoasco | 50 bales | exchanged for local tunafish prod. 150 cartons of 48 cans, tuna flakes |
| 23/12/85 | Upper West | 10 bales | |
| 10/01/85 | Western | 10 bales | |
| 10/01/85 | Central | 10 bales | |
| *16/01/86 | Headquarters | 3 bales | |
| 27/01/86 | Ashanti | 10 bales | |
| *26/03/86 | Headquarters | 1 bale | |
| 02/04/86 | Brong Ahafo | 4 bales | |
| 02/04/86 | Ashanti | 1 bale | |
| 14/04/86 | Upper East | 14 bales | |
| | | 157 bales | |
| Balance at warehouse | | 43 bales | |
| | | 200 bales | |
| | | ========= | |

* Headquarters = 8

Labour = 1
Volu Workcamps = 1
Youth Leadership = 1
Prisons = 1
Public Relations = 3

Table 25

Stockfish in Stock of Ghana Red Cross Society from November 84 to February 86

| | |
|---|---|
| Nov. 84 | 87 |
| Jan. 85 | 7 |
| Feb. 85 | 5 |
| Mar. 85 | 2 |
| Apr. 85 | - |
| May 85 | 14 |
| June 85 | 14 |
| July 85 | 16 |
| Aug. 85 | 14 |
| Sep. 85 | 14 |
| Oct. 85 | 14 |
| Nov. 85 | 208 |
| Dec. 85 | 93 |
| Jan. 86 | 60 |
| Feb. 86 | 60 |

The distribution has been carried out through the regional and district Red Cross first aid trained personnel. They have distributed some to the "mothers' groups". The role and function of these groups are not well defined. The groups have paid a minimal price for the stockfish. The price paid has varied and no clear information could be obtained. The 50 bales distributed on the 20.12.85 to the region called Kwamoasco have not been distributed but sold (exchanged) for 150 cartons of 48 cans of tunafish flakes. The reason given for this exchange was that for Christmas tunafish was more appreciated than stockfish. No records could be obtained for the actual distribution of the tunafish cans. Finally some stockfish has been used as food-for-work to the voluntary workers carrying out various tasks for the GRCS, for the construction and renovation of Primary Public Health Clinics.

43 bales were kept in stock. The reason for keeping this fairly large quantity of bales for four and a half month after receiving the stockfish was that GRCS wanted to have a reserve for emergency purposes. No precise answer was obtained as to how long they were going to keep the 43 bales in stock.

From the stock records shown in Table 23 it can be seen that of the first 40 bales received in May 1985, 14 or 35% had been kept in stock for 6 months, which is judged far too long.

GRCS has 2 trucks for transport of its own goods, however, these are also rented for generation of funds, so they are not always available. The management of GRCS is assisted by an expatriate from Red Cross Society, Geneva.

GRCS's main activities in 1986 are: a) support to construction, renovations and supply of transport facilities for rural health clinics, b) a youth programme, c) relief and disaster preparedness programmes, and d) training and operation of first aid personnel.

GRCS has budgeted an amount of 3,5 million cedis for "relief and disaster preparedness supplies" for 1986. This amount equals approximately 25% of GRCS' total budget for 1986 and , therefore, constitutes an important part of GRCS activities.

The mission feels that stockfish should not be supplied to GRCS in the future for two main reasons. Firstly, stockfish is not suitable for keeping as an emergency stock. Secondly, the mission had 2 meetings with GRCS; during the first meeting no orderly records showing the distribution of stockfish could be obtained. No clear definition of target groups was presented and the management could not explain in a satisfactory way who actually had received the stockfish. To clarify these questions a second meeting was arranged. During this meeting the mission only received the above distribution list, but no further explanations could be obtained, because the responsible person was absent. It is the mission's impression that the management lacks experience and planning capabilities to organize a proper distribution programme to the most needy segments of the population.

### 4.2.5 Catholic Relief Services (CRS)

CRS have operated in Ghana since 1958. It has a staff of 87 persons with own supervisors in each region. The main activity of CRS is food distribution.

At present supplementary food is distributed to:

a) 386 mother and child centres with a clientele of approximately 250,000 children under 5 years of age. The weight of the children is monitored periodically. The mothers receive informal nutritional training, and cooking demonstrations are performed.

b) Day Care Nurseries with a total of approximately 20,000 children.

c) Primary schools with approximately 50,000 children.

d) 16,000 recipient families in food-for-work programmes mostly in agricultural projects and irrigations schemes.

It is estimated that a total of 390,000 individuals receive food aid in various forms through CRS.

Food is distributed free of charge and the Ghanaian government pays internal transport costs. Total food distribution in 1986 is planned to reach 17,671 MT, of which approximately 8,900 MT sorghum, 6,100 MT enriched wheat and soya milk, 2,200 soya bean oil, 9 MT stockfish and 500 MT DSM. USAID and EEC are the biggest donors.

The stockfish have been distributed to:

- children wards (malnutrition)
- children in day care centres
- food for work programmes.

The two first categories receive group feeding, whereas the last category has received the stockfish unprepared.

CRS reckons that the maximum shelf life of stockfish in Ghana is 3 months. The stockfish rations distributed are 30 g per day per individual.

It was not possible to compute a comprehensive list of all centres and the number of persons who had received stockfish. However, generally CRS enforces a strict control and reporting system, which each centre has to comply with. In case a centre does not submit the required documentation, the invoice of food is suspended for a three-month period during which the missing documentation should be arranged. If not, the centre will be cancelled from the distribution list. The centres are responsible for losses, and if they occur the centres

have to repay to CRS. According to CRS losses have decreased from 10 to 3 per cent mainly due to this regulation.

When a new centre applies for assistance, the CRS regional supervisor inspects the centre and investigates the food situation in the locality. The local government is contacted, and a decision made upon an evaluation of all factors involved.

It is the mission's view that CRS is capable of planning, organizing and distributing food aid. Their direct control stops, however, at the centre/project. They do not control the actual daily distribution to the beneficiaries, but through their supervisors they are periodically kept informed about the operation of the programmes and projects. They have their own nutritionist, who is the vice-director of the organization and participates in planning and supervision of the programme.

Criteria for selection of beneficiaries are rather broad. They are not confined to small very needy target groups. Generally, they concentrate on children and mothers.

### 4.2.6 WFP Ghana

WFP had its last emergency relief program in 1983. Presently WFP only carries out food-for-work projects linked with the governments export sector rehabilitation programmes.

The following list (Table 26) shows the operational projects. All projects may be continued up to 1988. They are not supposed to be extended.

Table 26

LIST OF WFP OPERATIONAL PROJECTS IN GHANA

| Project No. and title | No. of Beneficiaries | Duration | Total Commodities commitments | | Total Cost to WFP | Areas covered |
|---|---|---|---|---|---|---|
| GHA 2075 Forestry Rehabilitation Exp. II | 6,000 | 4 years | MTN<br>Bulgur wheat<br>DSM<br>Veg. oil<br>D/Canned Fish | <br>10,125<br>1,012<br>1,350<br>1,013 | US$<br>9,250,000 | The whole country |
| GHA 2258 Rehabilitation of Oil Palm Plantations and Rubber Estates | 11,500 | 3 years | Bulgur wheat<br>DSM<br>Veg. oil<br>Canned Fish | 12,555<br>1,076<br>1,076<br>1,086 | 10,029,250 | Eastern Central, Western and Ashanti regions |
| GHA 2714 Rehabilitation of Railways, Ports and Feeder Roads | 27,800 | 2½ yrs. | Bulgur wheat<br>Veg. oil<br>D/Canned Fish<br>Sugar | 16,100<br>1,210<br>1,210<br>805 | 11,372,000 | Western, Ashanti, and Greater Accra regions (whole country) |
| * GHA 2752 Rehabilitation of Export Sector | 38,500 | 3 years | Bulgur wheat<br>Veg. oil<br>D/canned fish<br>Sugar | 55,980<br>4,125<br>4,125<br>2,750 | 51.5 million | Ashanti Western, Greater Accra Eastern Central and Brong Ahafo. |

Source: WFP

* The project comprises support to three subsectors, namely gold, timber and cocoa. The number of beneficiaries (i.e. 38,500) stated above are in the gold and timber sectors. Assistance to the cocoa sector, which comprises about a third of the total $ 41.5 million for the project, is under discussion between WFP and the Government.

The total programme cost is about 75 million US$ giving an annual average cost of approximately 25 million US$. The average annual distribution of fish products (dried or canned) amounts to 2,400 MT. WFP does not feel that this amount will disrupt the price formation for local fish products, but this has not been analysed.

The large amounts of bulgur wheat is being changed to rice, because it was felt that the wheat was competing with maize, and in 1985 Ghana was self-sufficient in maize. Cooking oil is being looked into, because the country is self sufficient in palm oil, but no decision has been made so far.

The daily food ration distributed monthly consists of: 30 g fish, 30 g oil, 20 g sugar and 400 g grain. According to the number of dependents some projects distribute 5 rations, others 3 per working family member. This means that the forestry project distributes 2.25 kg fish product per month, whereas the oil palm plantation project distributes 3.9 kg per family per month.

The ration is evaluated at 25% of its market value and is deducted from the workers' salary. In this way the food ration serves three functions. Firstly, as budgetary support to the governments development programmes. Secondly, as an indirect mean of government wage control, and thirdly, as an incentive to attract workers, who will not be available if they are only being paid the minimum government wage, because it is today probably below their opportunity cost to work in agriculture. Because the market value of the food ration is bigger than the cash amount received, a fair amount of trade is taking place with the distributed food items. WFP does not interfere, because they regard the food as a wage, which the recipient is free to spend as he wishes.

WFP informed the mission that there had been rumours about smuggling stockfish to Nigeria. WFP could not confirm this.

WFP reported different attitudes concerning stockfish. In the oil palm project dry salted fish was preferred to stockfish. Others liked canned fish better, because it is much easier to prepare. The mission could not draw any conclusion based on those different statements except that there are regional differences, when a choice exists. Where stockfish is not preferred there is a possibility that it is sold or bartered for other goods. WFP reckons that the shelf life of stockfish in Ghana is 2 to 3 months. They claim it takes 1 to 1.5 month to

clear a shipment. WFP's monthly consumption of fish is 200 MT. Therefore, they do not see any major problem in using stockfish in their programme.

## 4.3 Stockfish in the Context of Food Aid

### 4.3.1 Demand and Use

If requests for stockfish are expressions of demand, undoubtedly there is a demand for stockfish in Ghana. However, it is curious to discover that some of the organizations having already received stockfish are asking for more, although some of them still have an important portion of the previous consignment in storage, and there is no evidence of its regular use in the immediate past. Also other organizations having received no stockfish are now asking for it.

The mission has tried to understand the reasons behind the requests, and we have the following arguments:

- stockfish is free and relatively easy to get
- it is an expensive product
- it keeps well compared to the locally dried fish*)
- it is considered a precious food in Nigeria. (The last two arguments lead to the following ones:
- once in the local store, it becomes a "reserve" contributing to the feeling of food security
- it is partly eaten in sauce or stew
- it implies an economic contribution to the already existing budget.

Apparently these arguments apply to both the institutions as well as to their staff in the cases where it has been used for family consumption.

Several facts make the whole interpretation very confusing. In some places where they "were using" or "had used" stockfish, the staff referred to it as KAKO, which is the local name for salted/dried fish. The question that follows is: Did they really know the product? There were also some important differences concerning the description of the preparation, particularly the time of soaking. Moreover, figures given in relation to the amount used per person, per meal, frequency of use, number of months in use, did not match with the amount received.

*) The locally smoked/dried fish may have up to 50% water content.

The mission could only once observe the distribution of one meal including stockfish. This was in a day care centre, and the meal was prepared when they were announced of our visit. The menu was rice plus palm oil sauce; stockfish fits well in this sauce. It was observed that the amount of stockfish used was well below what has been reported, the size of the bits of stockfish was very irregular, and as a rough visual estimation it could be said that the individual portions moved around 4 to 5 g.

### 4.3.2 Opinions on the Product

Opinions obtained from the staff of the recipient organizations were all very positive: it is distributed all over the country, it is much liked. It is good for sauces, it is eaten by everybody, etc. However, less interested opinions pointed out the smuggling of stockfish into Nigeria, where it is sold for around the equivalent of US$ 10 a piece.

### 4.3.3 Beneficiaries

In Ghana stockfish is distributed through:

- hospitals
- orphanages
- children's homes
- leprosaria
- behavioural rehabilitation centres
- health posts
- emergency refugees
- women's clubs
- day care centres
- school lunch programmes
- malnutrition clinics
- mother and child health centres
- food-for-work projects

The Evangelic Mission Star of Hope (international) in Ghana received an amount of stockfish that by far exceeded its capacity in handling and absorbing. Therefore, all what followed was a kind of discharge of stockfish through many channels without a well planned approach. Stockfish did not enter into a structured food aid scheme.

No nutritional or socio-economic consideration was taken as criterion for the selection of beneficiaries of stockfish. In general, the beneficiaries were those who al-

ready ate at or attended the place before the arrival of stockfish. In the case of the Evangelic Mission's own day care centres, children were not really selected, but their attendancy resulted from an invitation addressed to the parents belonging to their church. Therefore, there are no indications that stockfish arrived to the people in biggest need. Stockfish was more a kind of economical support, a budgetary contribution to the recipient organizations.

In the case of WFP stockfish (or canned fish or dried/ salted fish) is included in the food basket of food-for-work projects, aimed at increasing the families purchasing power; 20 to 25% of the workers' salary is retained and in exchange they receive a food basket whose actual price is much higher. The workers' families might not eat but sell the stockfish; this is not considered a problem, because the project's main objectives are economic and not nutritional.

## 4.4 Impact of Stockfish

No precise analyses have been carried out in Ghana showing the economic impact of stockfish or other food aid items. Such analyses are complex, and the mission did not have sufficient time to make its own evaluation. The following observations are the mission's assessment of possible influences of food aid at different levels.

### 4.4.1 On Prices

The deliveries of stockfish can influence the price of fish and other food items according to the behaviour of the beneficiaries. The beneficiaries can consume the stockfish or exchange it for other products. In both cases they increase their purchasing power, directly or indirectly.

#### 4.4.1.1 Stockfish Consumed by the Beneficiaries

The deliveries of stockfish from May 85 to April 86 amount to 304 MT (250 MT to the WFP, 54 MT to the NGOs). Due to the relatively small amount of stockfish delivered compared to the local production (1.3 o/oo) it is felt that the stockfish in general has not influenced the local market price. The annual Ghanaian fish production is around 240,000 MT.

The stockfish given through the NGOs is not believed to have caused a fall in local prices, because it was distributed in small quantities at many different locations.

The WFP distributed their stockfish to few locations, and consequently the price of fish, and even more so that of other food items, may have been affected. It is of little importance whether the WFP projects are situated in isolated areas or not, because vendors can be temporarily stationed in the project area.

#### 4.4.1.2 Stockfish Exchanged by the Beneficiaries

The exchange of stockfish can be a valuable alternative for the beneficiaries or organizations, if they prefer to have other types of fish, other foods or consumer goods.

If the stockfish delivered through the NGOs has been exchanged it is most likely that this has had no effect on the national market because of the small amounts distributed.

Various sources have mentioned that the beneficiaries of the WFP might exchange their stockfish. Among the NGOs the Red Cross accepted to exchange one fourth of its delivery (50 bales out of 200) against tunafish. The terms of the barter were: one bale of stockfish = 3 boxes of 48 cans of tunafish.

One can contains 180 g of tunafish, therefore 25.92 kg of tunafish were bartered against 45 kg of stockfish. For the Red Cross it might have been advantageous to obtain a product which is easier to handle and which is better accepted by the beneficiaries.

In terms of money, one bale of stockfish was worth 21,600 cedis in the exchange, and one can of tunafish cost 150 cedis at the retail market. The stockfish might have been sent to Nigeria where, according to Christen L. Berseth from Unistock, one kg stockfish is sold for 32 nairas or more (1 US$ = 1 Naira).

### 4.4.2 On The Fish Producers

The conjuncture is presently favourable to the fishermen. Inflation is now kept at a moderate level. This is partly due to the fact that food prices, which were very high in 1983, are gradually decreasing. Fish prices did not rise so much during the drought, because the catch was good.

In the meantime, salaries have gone up. The combined effect of decreasing food prices and increased salaries should have resulted in an increased purchasing power. Therefore, people might try to eat more protein-rich food. In this situation, the demand for fish could increase. Consequently fish prices might decrease more slowly than the price of grains. This means that in relative value fish prices will increase slightly.

This trend is favourable for the artisanal fishermen. Therefore, it is very important that the deliveries of stockfish do not perturb the favourable conjuncture of this sector.

It is difficult to say whether the deliveries of stockfish have affected the fish prices, because no information is available. Maybe this is not the case, because the NGOs did not distribute stockfish in the peak fishing season (July - September). Still, one has to be extremely careful when delivering stockfish to the coastal areas and around the lake Volta. Artisanal fishermen are very vulnerable to price variations, and they badly need assets for improving their equipment, in particular out-board engines and storage facilities. With more smoking ovens (which UNICEF is presently helping to build) and cold stores they - during the peak season - could save a substantial part of their catch, which is otherwise wasted. This will reduce the dramatical price variation between the peak and the lean season.

### 4.4.3 On Food Habits

Stockfish deliveries that last only a few years will not change food habits, particularly where there is a strong tradition for eating other types of fish products. The smuggling to Nigeria reinforces this argument.

### 4.4.4 Impact of Food Aid on the National Economy

Three main types of food aid are used in Ghana today:

A) Food commodity sales. The proceeds are used for budgeting support or special counterpart funds.

B) Food-for-work.

C) Free distribution of food to organizations, institutions and individuals.

It is not possible to analyse separately the effect on each programme, but the combined effect is believed to be significant. Total food aid is around 235,000 MT. It is estimated that approximately 200,000 MT are cereals. Compared to the local availability of maize and rice of approximately 625,000 MT (rice included as 2/3 of rice paddy) the food aid constitutes 32% of the locally produced cereals. It does, however, constitute a much larger percentage of the local marketable surplus and, therefore, influences the market price of locally produced agricultural products significantly. The main effects will be described in the following:

Budgetary Support: All three types of food aid are a form of budgetary support. A and C directly and B indirectly.

Import Substitutes: It is not known how much food there would be imported if no food aid was given, but according to government officers some cereals and DSM would have to be imported. The food aid releases the government of spending the scarce foreign currency on some food imports.

Price Control: By having a large inflow of agricultural products, sold or distributed mainly in the urban areas, agricultural producers' prices are kept lower than they otherwise would have been. By releasing the imported stocks at e.g. harvest time or in lean seasons the government can influence the producer prices according to political objectives.

Inflation: By keeping food prices lower in the urban areas than they would otherwise have been, inflation will also be lower, other things equal.

Wages: When food prices and inflation are moderate the demand for increased wages will be reduced.

Export Earnings: By importing large amounts of food, locally produced food can be free for export. 15,000 MT of maize were exported in 1985. Many of the food-for-work programmes aim at rehabilitating traditional export commodities e.g. palm oil and cocoa. Others improve infrastructure, which indirectly will facilitate export of commodities. Some of the special counterpart funds are used for export oriented projects. From an economic point of view, many of these effects are positive.

What is not known is the influence on the agricultural production. Prices have been decreasing over the past three years, and production has gone up. The continuation

of this trend depends largely on the government's ability to improve infrastructure, marketing and input supplies to the agricultural sector in order to improve the productivity of the farmers. It is felt that too little attention in the government's ERP is given to the local agricultural production. If not handled very carefully the massive food aid can have the opposite effect.

In case agricultural prices become too low, farmers will stop producing for the market and return to a subsistance economy. This will increase the migration to the urban areas, and the buying power in the rural area will decrease.

## 5. COSTS

### 5.1 Prices of Stockfish Compared to Other Fish Products Used in Food Aid

Price of food commodities varies over time and according to locations. In what follows the WFP average budgetary prices (as per 31st December 1985) have been used, and when there is no WFP price the EEC budgetary figures for 1986 were considered.

Table 27

| Commodity | WFP FOB Price/MT US$ | EEC FOB Price/MT US$ | % Moisture | Protein content % | Price/NOK* per kg protein |
|---|---|---|---|---|---|
| Stockfish | 3,300 | | 15 | 79.0 | 33 |
| Dry salted fish | 2,200 | 1,600 | 40 | 39,0 | 45** |
| Canned sardins in tomato sauce | 2,000 | | 64 | 18,7 | 86 |
| FPC | 790 | | 10 | 70,0 | 9 |
| Beans | | 850 | 12 | 24,0 | 27 |
| Pulses | 500 | | 12 | 20,0 | 20 |

* Exchange rate: 8.00 NOK = 1 US$

** If the EEC price of 1,600 US$ is used the price per kg protein beomes 33 NOK or the same as for stockfish.

The diverse products shown in Table 27 are not interchangeable: their chemical composition is different, and, therefore, the amounts used in the diet are quite different. All of them are protein suppliers, but their protein concentrations move in the range of 18% to 79%. Therefore it seems logical to compare them in terms of the price of one kg protein (last column in Table 27).

The price of the protein from stockfish compares favourably with that of other fish products commonly used in food aid; however, it is 3.7 times higher than that of FPC, a product that is quite similar from a nutritional point of view.

Protein from stockfish is more expensive than those supplied by beans and pulses, but this comparison is not orthodox, because of important differences in protein quality.

Comparisons can only be made between diets containing the different protein-rich foods, taking into account their nutritional characteristics as per example:

| | P%* | NPU* | NDpCal%* | US$/MT |
|---|---|---|---|---|
| Corn + stockfish (95% + 5%) | 13.6 | 68 | 9.2 | 340 |
| Corn + beans (66.6% + 33.3%) | 16.0 | 44 | 7.0 | 365 |

* See explanations in Annex No. 5.

The combined corn/stockfish ration turns to be slightly cheaper than the mixture corn/beans; besides, the first one is more advantageous from the nutritional point of view (protein value, as NDpCal%, of 9.2 versus 7.0); however, corn/stockfish may be less acceptable or less desired than the traditional corn/beans mixture.

Annex No. 1

## Characteristics of Stockfish

Stockfish is unsalted air-dried fish; the clean fish, head and entrails removed, is hung up to dry in the fresh air. The main species converted into stockfish are:

| | |
|---|---|
| Cod | Gadus Morhua |
| Sey | Pollachius Virens |
| Haddock | Melanogrammus Aeglefinus |
| Ling | Molva Molva |

Five kg of raw material yield one kg stockfish; head, entrails and water loss account for the difference. The water content of stockfish is 15%.

One hundred grams of stockfish supply the following:

| | | |
|---|---|---|
| Calories | 330 | g |
| Protein | 79 | g |
| Fat | 1.4 | g |
| Calcium | 100 | mg |
| Iron | 2.5 | mg |
| Thiamin | 0.03 | mg |
| Riboflavin | 0.1 | mg |
| Niacin | 9.0 | mg |

366.B

Annex No. 2

1.2 The Current Situation of Stockfish

Presently the stockfish exporters have about 11,500 tons of stockfish in stock. In addition there are about 2,000 tons in the hand of the producers giving a total of 13,500 tons.

Since the beginning of the year a rather substantial quantity has been exported (the total stock was then approximately 19,000 tons). The reasons for the increased exports were partly due to sales to Nigeria and Italy of stockfish destined for West-Africa and partly to food aid donations. NTL (Norwegian Stockfish Exporters Organization) estimates that only a small part of the fish destined for West-Africa complies with the quality standard of the Italian market. The stockfish sold to Italy has been paid at prices between 40 and 50 NOK per kg.

It is difficult to get a clear picture of the proportion of the present fishstock produced in 1981 and 1982. The best estimate is between 55 and 70%.

The stock described above has the West-African market as its only target. A number of import licences is at present in circulation in Nigeria. The payment must, however, be made in local currency, Naira, which is non-convertible. The import licences in circulation are valid only until the 1st of July. The goods must have arrived in Nigeria by that time. It is difficult to predict the quantity of stockfish that Norwegian exporters are able to export in the remaining two months.

In 1983 certain stockfish exporters bought 7,000 tons of stockfish from the producers. The operation was 100% financed by the government through loans, but the exporters are the owners of the fish. The fish serves as the government's security. The government today accepts that when the fish is sold on Naira-contracts the sum of Nairas replaces the fish as the government's security.

The regular sales of stockfish to WFP through NORAD are paid at 1,100 NOK a bale for grade B. That gives 24.44 NOK a kilo. When NORAD bought 1,800 tons recently the price was 1,269 NOK a bale for grade A (28 NOK a kg) and 957 NOK a bale for grade B (21.30 a kg). According to the calculations of NTL these prices are 1/3 below own-expenses.

The alternative use of stockfish is fish meal. The value of 1 kilo stockfish used as fish meal is only 2 NOK. Furthermore, transport shall be deducted.

Stockfish produced in 1981 and 1982 will on an average remain suitable for sale well into 1987.

366.P

Annex No. 3

## Terms of Reference for the Evaluation of Stockfish as Food Aid

### 1. Background

As a follow-up to a decision by the Norwegian Parliament in June 1985 the Ministry of Development Cooperation (DUH) purchased 1,800 tons of stockfish at a price of 40 million NOK for distribution as food aid. The Parliament allocated an additional sum of 20 million NOK as transport costs. A precondition for the delivery was distribution of the stockfish through Norwegian NGOs and the World Food Programme.

As of February 1986 about 847 tons of stockfish have been sent to Algeria, Angola, Ethiopia including Eritrea, Ghana, Mozambique, Togo and Zimbabwe. The Norwegian organizations in charge of the distribution are Norges Røde Kors, Kirkens Nødhjelp, Håbets Stjerne, Norsk Folkehjelp and Caritas Norge. UNICEF has taken 36 tons to Angola and Mozambique, and the World Food Programme 100 tons to Ghana. The Norwegian NGO Adopsjonsforum has planned to distribute 9 tons to the Philippines.

The Ministry of Development Cooperation has decided to undertake an evaluation of the efficiency and impact of the project and in particular of the usefulness and acceptability of stockfish as food aid.

### 2. Mode of Work

To carry out the evaluation task the Ministry of Development Cooperation has appointed the following persons, who constitute the evaluation team:

Maria Angelica Tagle
Claus Perch
Yann C. de Caprona
Torben Foss

In order to obtain the information required, the team shall study relevant documents, interview resource persons and carry out field work in Mozambique and Algeria.

3. Task of the Evaluation Team

The evaluation team shall evaluate the appropirateness of the stockfish to meet the needs of the intended beneficiaries as well as other questions related to the distribution and consumption of the stockfish deliveries from Norway under the above mentioned programme.

The criteria for the assessment should be the objectives set forth by the Norwegian Parliament, Norwegian Development Assistance guidelines in general and guidelines for disaster assistance and food aid in particular. Due consideration should also be given to the recipient countries' policies concerning import of food, food aid, food production and other policies of relevance.

The evaluation team shall assess which groups of people have benefited from the food aid and whether these correspond to the target groups for Norwegian development assistance.

The team shall evaluate:

a. The Role of the NGOs

- capacity to plan and implement the project, including the distribution of stockfish,
- collaboration with authorities in recipient countries,
- how the stockfish deliveries are coordinated with other aid activities
- their knowledge of needs in recipient countries and the capacity of local authorities to undertake relief operations,
- the criteria applied by the organizations for distribution of stockfish,
- differences between the NGOs as to systems of delivery and preparation.

b. Stockfish Compared to Other Food Aid Products

- acceptability among target groups,
- fitness for handling, transport and storing
- preparation, labour requirements, need for water, energy
- price,
- the perspective of a balanced diet for target groups,

c. Impact of Stockfish as Food Aid

- how continued supply affects food prices and thereby the situation of the local male or female food producers,
- in target areas with local fishery production special emphasis should be given to the questions of how the stockfish import can affect local fisheries,
- how continued stockfish deliveries are likely to affect local food consumption, and whether new demands are created which are likely to lead to increased dependency on imported food.

Conclusions and Recommendations

Considering Norway's guidelines for development assistance the evaluation team should present its conclusions on the appropriateness of stockfish as food aid.

4. Reporting

The main conclusions and recommendations shall be drafted by the whole team.

The joint report in the English language, comprising all findings and recommendations, is to be submitted to the Royal Ministry of Development Cooperation before 15th May 1986.

Oslo, 17th March, 1986

R. Skudal
Division Head
2 Planning Division
Royal Norwegian Ministry of Development Cooperation

366.D

Annex No. 4

Tindouf, Algeria

## Introduction

The evaluation team did not manage to obtain permits to travel to the Polisario refugee camps of Tindouf. The following observations and findings are based on an interview with Mrs. Frank, International Red Cross Committee, Geneva, a report from a recent Red Cross Mission to the camps and a report from a joint Norwegian Red Cross/Unistock mission to the same camps. Reports from the trips are included in this addendum.

## Location and Description of the Camps

Tindouf is a small town, situated in the southwest corner of Algeria, about 50 km from the Saharawi and the Moroccan borders. Four refugee camps are located at a distance of 20-30 km from Tindouf right in the desert.

The camps are isolated and totally dependent on external deliveries. The only food the camps produce is some vegetables cultivated with imported water.

The camps are populated by refugees from Saharawi, the former Spanish Sahara. Part of them were nomads, part of them were living along the coast. Most of the refugees came to the camps 8-10 years ago.

The camps of Tindouf are representative as refugee camps in the desert; but they are by no means representative for Algeria, particularly the Northern Algeria.

## Preparation of Stockfish

Until recently the inhabitants of the camps did not know how to prepare stockfish.

A team of two persons from the Norwegian Red Cross and Unistock spent a week in the camps, during April 1986, in order to develop an efficient way to prepare stockfish and to instruct the inhabitants of the camps.

According to the conclusions of the team their efforts were successful. By way of cutting the fish into pieces before soaking, the soaking required less time and less water. Still according to the team's report the fish needed 12 to 24 hours in water before it could be prepared. Water was not a problem though the only water available was the water from the containers shipped by lorries.

Although fish is not an essential part of the traditional diet, stockfish seemed to be appreciated. Actually, stockfish is preferred to (split and dried) codfish, which is much too salty for the refugees.

## Transport and Storing

Neither UNCHR (who once organized the camps) nor Red Cross have any permanent representative in the camps. The administration of the camps is taken care of by Polisario, and the transport of food items from Algeria to the main depot of the camps is in the hands of the Algerian Red Crescent. None of the two teams mentioned before made a close study of the transport system from coast to depot.

Stockfish stored in the camps was inspected by the joint Red Cross/Unistock team. The fish was stored in open air. The team concluded that the fish was in excellent condition. The dry climate as well as the absence of significant amounts of insects made open-air storage possible.

The impressions of the two teams seem to coincide. Polisario is well organized. They possess an effective distribution system, and they do not permit any depletion of their food supply. Consequently it is not likely that large quantities of stockfish are lost during transport or storing.

## Beneficiaries

The camps are mainly populated by women, children and elderly people. Men are, for certain reasons, absent. Therefore, the majority of the people receiving food aid belongs to categories which are generally considered vulnerable and eligible for food aid.

As there is absolutely no self-sufficiency concerning food production in the camps or in the vicinity of the camps, donations are the only source of food. According to the Joint Red Cross Mission (JCRC) food upon arrival at the main depot is classified according to category of food, and not according to donor. It may be assumed that any food reqest for the inhabitants of the camps comes from the food depots, irrespective of whether those

receiving food aid are considered eligible from the donors' point of view or not.

## Supply Situation

Polisario claims that the camps contain 170,000 people. JCRC is of the opinion that the number is considerably smaller, below 80,000, of which 54,000 are children, pregnant or nursing mothers, aged and sick.

Out of the 200 tons of stockfish donated by Norway, 60 tons were still unused during the visit of the Red Cross/Unistock team. It is the plan of Red Cross Norway to request MDC for an additional donation of 100 tons of stockfish. Red Cross Norway intends to revisit the camps in about six months' time to review the situation.

According to JCRC the food supplies in the camps can last for 6 - 8 week. 50 grammes of stockfish twice a week would result in a monthly need for stockfish of approximately 22 tons based on 54,000 people and approximately 32 tons based on 80,000 people.

The two reports do not consider the health and nutritional situation in the camps. The NRC/Unistock team was of the opinion that by appearance the health and nutritional situation was good.

## Political Aspects

The camps serve as the main centre in the Polisario organization. The Polisario exile government is said to be seated in Tindouf.

None of the persons having visited the camps recently saw any signs of the camps being used as training ground for Polisario soldiers or as a base for their guerilla activity. They were not, however, given free access to all parts of the camps. Their observations are limited to the parts of the camps they visited.

For Polisario it is, of course, an advantage to have women, children and elderly people in a safe place, as long as hostile actions are taking place in their home country. There is no evidence that donated food is transferred to Polisario combat units, but neither any guarantee that such transfer does not take place.

## The Role of the Norwegian Red Cross

In the initial phase, when the request for stockfish was made, the Norwegian Red Cross did not request for sufficient background information to be able to judge how efficiently the stockfish would be used.

During a meeting with the Norwegian Red Cross, Mr. Ekornrud revealed that the Norwegian Red Cross assumed that the Red Cross Commission, Geneva, possessed this knowledge and would assure the proper utilization of the stockfish in the camps. This was not the case.

This situation confirms two of the general conclusions of the evaluation mission. Firstly, that the executing organizations (NGOs and others) possess too little technical information of the product and too often assume that the beneficiaries have the sufficient knowledge to prepare and utilize the donated stockfish in an optimal way. Secondly, NGOs tend to concentrate more on the logistical aspects than on the actual efficient utilization of stockfish by the beneficiaries.

## Conclusion

Judged by the information available, the evaluation team assumes that stockfish is suitable as food aid in the refugee camps around Tindouf.

The coast-to-camp transport is apparently well organized. The conditions for storing the stockfish are favourable, and the system of distributing the fish in the camps seems to be acceptable. Whether the donations are to be continued or not is a political question.

If the Norwegian government continues to donate stockfish, the amount given to the present population of the camps should not exceed 35 tons a month.

352.K

Annex No. 5

Diversification of Food Aid for Mozambique

Stockfish - with its high protein content - is ideal to enrich and supplement poor staple foods. In the case of corn, the inclusion of stockfish, at the level of 5% in weight, implies that the resulting mixture has an excellent protein value (see attached Table).

In the present conditions, scarcity of food in Mozambique is so big that there are no indications that staples will be available in the right amount, in the right moment for the beneficiaries of stockfish. A protein concentrate - as is the case of stockfish - is not efficiently used when there is a shortage of basic foods.

Therefore, it would be wise and humanitarian to diversify the food aid to Mozambique: corn and stockfish for areas where stockfish is appropriate, and corn and beans for areas where stockfish may be a disincentive to local fisheries.

Attention must be given to the fact that the two proposed alternatives: corn plus stockfisk (95% + 5%), and corn plus beans (66.6% + 33.3%) cost less than 1/10 compared to stockfish; therefore, the resources allocated to Mozambique as food aid could be converted into a considerably bigger amount of food.

Table

Alternatives for diversification of food aid

| | P%* | NPU* | NDpCal%* | US$/MT |
|---|---|---|---|---|
| Corn + stockfish (95% + 5%) | 13.6 | 68 | 9.2 | 340 |
| Corn + beans (66.6% + 33.3%) | 16.0 | 44 | 7.0 | 365 |

* See Explanations to Table (next page).

## Explanations to Table

When trying to define a diet in terms of protein two aspects must be considered: protein quality and quantity. Both may be expressed together, as their product, in the form of protein value.

NDpCal% = Net Dietary Protein Calories %, is an expression of protein value. It means the percentage of the total calories of the diet provided as wholly utilizable protein.

$$NDpCal\% = \frac{NPU \times P}{100}$$ , where

NPU = Net Protein Utilization, expression of protein quality, is the percentage of the total protein that is retained or utilized by the body.

P% = Protein Calories %, expression of protein quantity or concentration, is the percentage of the total calories provided by proteins.

Theoretically the protein quality, expressed as NPU, moves in a scale from 0 to 100. However, the NPU's of most foods range from 40 to 80. Similarly the protein values, expressed as NDpCal%, move in a theoretical scale from 0 to 15, but the protein values found in most analysed diets range from 3 to 13.

To give some light on the meaning of the last scale, attention must be called on some values:

- 4 NDpCal% is the protein value that allows only for maintenance of body weight in adult healthy individuals but provokes nutritional problems in more vulnerable ones.

- 7 NDpCal% permits an acceptable growth in the young individuals still far from the optimum.

- 9 to 10 NDpCal% are those permitting optimum growth and good nutritional performance in vulnerable states (pregnancy, lactation, early life, etc.)

Annex 6

## Questionaire to be Used by MDC for the Appraisal of Stockfish Requests

In order to have a broad base for deciding whether stockfish is appropriate for a particular project, the following information should be answered as detailed as possible.

1. Organization of Applicant

1.1 Short description of the requesting organization

1.2 Norwegian based offices or contact organization

1.3 International based offices

1.4 Local based offices in the country where stockfish should be used

1.4.1 Number of permanent employed staff

- in main office
- in regional office
- at the project site

1.5 Short general description of ongoing programmes/projects specifying: objectives, No. of beneficiaries, duration of programme, cost of programme

2.0 Infrastructure

2.1 Number of vehicles

2.2 Number of trucks (specify)

2.3 Other means of transport (specify)

2.4 Repair facilities

2.5 Storage - central
- regional
- local/project site

2.6 Physical facilities at project site

- office
- kitchen
- others

3.0 Finance of Operations (Short Description)

Budgetted expenses of stockfich programme

Budgetted transport
Budgetted clearing costs
Budgetted distribution costs
Budgetted project costs
Staff
Material
Others

4.0 Description of Project (Stockfish)

4.1 Project objectives

4.2 Nutritional and socio-economic situation of beneficiaries before starting the programme

4.3 Type of beneficiaries

4.4 Number of beneficiaries per category

4.5 Duration of programme

4.6 Quantity of stockfish to be used per person per meal.

4.7 Number of days per week stockfish will be given.

4.8 Detailed description of the diet.

4.9 Quantity of stockfish required for a 3 month period

4.10 Total quantity of stockfish required for the project.

5.0 Availability of Food in the Country and Prices

Available cereals (MT) retail market price per kg
Available pulses (MT) retail market price per kg
Available fish (MT) retail market price per kg
Available meat (MT) retail market price per kg

6.0 Intended Recording System. Describe

7.0 Intended Reporting System (it is recommended that a quarterly report be submitted to MDC)

366.C

Annex No. 7

## Institutional Beneficiaries of Stockfish in Ghana

Distributed through Star of Hope International, Ghana

| No. of bales | | | |
|---|---|---|---|
| 10 | 1. | Star of Hope Day Care Centre | - Accra |
| 10 | 2. | Manhyia Day Care Centre | - Kumasi |
| 5 | 3. | Star of Hope Day Care Centre | - Osae Krodua |
| 5 | 4. | Princess Marie Louise Hospital | - Accra |
| 6 | 5. | Korle Bu Hospital | - Accra |
| 6 | 6. | Mental Hospital | - Accra |
| 6 | 7. | Star of Hope Day Care Centre | - Kumasi |
| 5 | 8. | Bostal Institute | - Accra |
| 5 | 9. | Osu Children's Home | - Osu |
| 4 | 10. | Mentally Retarded Children's Home | - Accra |
| 2 | 11. | National Day Care Training Centre | - Madina |
| 22 | 12. | Accra Rehabilitation Centre | - Accra |
| 2 | 13. | Girls Industrial School, Osu | - Accra |
| 2 | 14. | Boys Remand and Probation Home | - Accra |
| 3 | 15. | Rehabilitation Centre | - Somanya |
| 3 | 16. | Boys Industrial School | - Agona Swedru |
| 3 | 17. | Junior Boys Industrial School | - Sekondi |
| 3 | 18. | Central Destitute Infirmary | - Bekwai |
| 4 | 19. | Children's Home | - Kumasi |
| 5 | 20. | S.O.S. International | - Tema |
| 5 | 21. | Akropong School for the Blind | - Akropong |
| 2 | 22. | Wa School for the Blind | - Wa |
| 2 | 23. | Wenchi Sec. Integrated School | - Wenchi |
| 5 | 24. | David Livingstone Memo. Foundation | - Accra |
| 5 | 25. | Ankaful Leprosarium | - Cape Coast |

| | | | | |
|---|---|---|---|---|
| 1 | 26. | St. George's Day Care Centre | - | Kumasi |
| 5 | 27. | Tema General Hospital | - | Tema |
| 1 | 28. | Peace Preparatory Day Care Centre | - | Kumasi |
| ½ | 29. | Casely Hayford Memo. Nursery | - | Tema |
| ½ | 30. | Kertie Day Care Centre | - | Tema |
| 2 | 31. | Food Distribution Canteen | - | Accra |
| 12 | 32. | Board of Directors (STAR) | - | Accra |
| 1 | 33. | Apostolic Church | - | Accra |
| 1 | 34. | Kwamco Company | - | Accra |
| 1 | 35. | Additional Day Care | - | Accra |
| 1 | 36. | Kaneshie Cripples Home | - | Accra |
| 1 | 37. | Ministry of Finance Staff | - | Accra |
| 1 | 38. | Ministry of Education | - | Accra |
| 5 | 39. | Ecca Nakunta Hospital | - | |
| 1 | 40. | Ghana Cripples Aid Society | - | Accra |
| 2 | 41. | Remand Home | - | Kumasi |
| 2 | 42. | Edwenaze Rehabilitation Centre | - | Kumasi |
| 4. | 43. | Ministry of Education | - | Accra |
| 1 | 44. | Mami's Day Care Centre | - | Sekondi |
| 1 | 45. | Mobilization Force | - | Beewjiase (Farm Labourers) |
| 2 | 46. | Evangelic Temple | - | Accra |
| 6 | 47. | Manhyia Day Care Centre | - | Manhyia (2nd supply) |
| 4 | 48. | Star of Hope | - | Kumasi (2nd supply) |
| 1 | 49. | Peace Preparatory & Day Care Centre | - | Kumasi |
| 1 | 50. | David Livingstone Memo Foundation | - | Accra (additional) |
| 1 | 51. | Warehouse Keeper - Presbyterian Book Depot and Staff | - | Tema |
| 1 | 52. | Harbour workers | - | Tema |
| 1 | 53. | Labourers hired to off load containers of stockfish | - | |
| 1 | 54. | Ghana Cripples' Aid Society | - | (additional) |
| 1 | 55. | Accra Rehabilitation Centre | - | Accra (additional) |
| 174 | | | | |

Annex 8

## LIST OF PEOPLE MET

### MOZAMBIQUE

### Mozambicans Authorities

Ministry of Agriculture

- Jaime Tohá (Head Agrarian Technical Service)

Ministry of Health

- Andre Alberto (Nutrition Officer)
- Luis Manuel Ubisse (Nutrition Officer - Tete)
- Omowale (Nutrition Consultant)

Ministry of Internal Trade

- Sergio Cassamo (Economic Direction)
- Carlos Canales (Economist)

National Planning Commission

- Americo Fortuna (Head of Directorate for OECD and Latin American countries)

Department for the Prevention and Combat against Natural Calamities (DPCCN)

- Amos Estevao Mahanjane (National Director)
- Issufo Jamalcime (DPCCN - Gaza)

Secretariat of State for International Cooperation

- Chico Verniz Mortar (Assistant Department for Western Europe and America)

Secretariat for Fish

- Tenreiro de Almeida (Production)
- Maria Imelda de Souza (Research)

Pescom National

- Joao Marnuel Desanove (Director Pescoti National)
- Domingos A. Chabela (Commercial Director)
- Altino A.F. Padrao (Engineer)

Agricom

- Jan Runnquist

United Nations Organizations

FAO
- Andre A. Odeurs (Country Representative)

UNDP
- Mary Pat Williams Silveira (Assistant Residence Representative)
- Lisa Stensrud (Liaison Officer)

UNICEF
- Enrique Madueno - Ucar (Programme Officer - Emergency)
- Francisco Coloane (Programme Officer, Development Projects)

WFP
- Roberto Christen (Representative)
- Judy Bauer (Programme Officer)

Governmental Organization

NORAD
- Arthur K. Sydnes ( Resident Representative)
- Thore G. Hem (Assistant Resident Representative)

Nongovernment Organizations

Care Mozambique
- Terry Jeggle (Director
- Charles Allan (Officer)

Lutheran World Federation
- N.G.M. Sawaya (LWF Representative)
- Gunder Søderbäck (Project Officer)

Aid Development from People to People - ADPP
(Ulandshjelp fra folk til folk)
- Birgit Holm (Representative)

League of Red Cross
- Bo Bäckstrøm (Chief Delegate)

Red Cross Mozambique
- Jorge Naftal (Storage Inspector)
- Zacaria Ugueio (Officer)

Caritas Mozambique
- Jaime Marques (Secr. General)

Places Visited

- Several visits to the markets of Maputo
- DPCCN warehouse (near Maputo airport)
- Maputo harbour (including warehouse)
- ADPP farm (near Maputo)
- Village of Chicualacuala, on the border to Zimbabwe, Province of Gaza; met the officials, visited the warehouse and the dispensary and talked with the heads of the village.

GHANA

Ghanaian Authorities

Ministry of Finance and Planning

- Dr. Kwesi Botchwey (Principal Secretary)
- Mr. Sabo (Director, International Dept. Handling Food Aid)
- Mr. Kabu (Desk Officer, in charge of Western European Donors)

Ministry of Trade

- Samuel V. Agyare-Forifi (Chief Director Admin., Principal Secretary)
- B.K. Agbleta (Chief Commercial Office. Director of Foreign Trade)

Ministry of Social Welfare

- S. Agyei Mensah (Director
- Mr. Loko (Vice-Director)
- T.K. Orbusu (Under-Secretary)
- A.R. Chinery (Officer)

Ministry of Agriculture

- Mr. Manzon (Director)
- Mrs. Christine Obeng-Boampong, Chief of Research and Planning
- Mr. Bruce (Chief of Marketing Section)

Ministry of Health

- Dr. Otoo (Chief Medical Service)

Nutrition Division of the Ministry of Health

- Florence Addo (Senior Nutrition Officer)
- J.G. A. Arrah (Senior Nutrition Officer)

University of Ghana-Legon

- R. Orraca-Tetteh (Dean, Faculty of Science. Head of Nutrition and Food Science)

Diplomatic Representation

Consulate of Norway in Accra

- Knut Vigeland (Vice Consul)

United Nations Organizations

FAO
- H. Konuma (Programme Officer for Ghana)
- E. Ossinga (Regional Fisheries Officer)
- E. O. Indusogie (Regional Food Policy and Nutrition Officer)

UNDP

- A.K.K. Mubouta (UNDP Resident Representative)

WFP

- J. Lefevre (Deputy Representative)

Delegation of the Commission of the European Communities

- Vincent G. Dowd (Economic Adviser)

Others

Star of Hope

- Unto Kaksonen (Executive Field Supervisor) - Anthony Kobinson (In charge of Star of Hope International Ghana)

Fish Producers

- The team met artisanal fishermen in Elmina (Central Region near Coast)

Visits

Warehouses

- Tema (Used by the Evangelical Mission - Star of Hope International)
- Jamestown (Used by the Red Cross of Ghana)

Centres of Institution Feeding

- Daycare Centre of the Evangelical MIssion - Star of Hope International, Accra
- ISU's Children Home
- Girls' Industrial School (OSU)
- Rehabilitation Centre (OSU)
- Day Care Centre Training (Madina)
- Manhiya Day Care Centre (Kumasi)
- Annex Day Care Centre (Kumasi)
- S.O.S. Village (Tema)
- Korle Bu Hospital (Accra)
- Leprosarium (Cape Coast)

SWITZERLAND, GENEVA

International Committee of the Red Cross

- Ms. Frank

ITALY, ROME

FAO

- Dir. Krone, Fisheries Division
- Ms. Ronchi-Proja, Nutrition Programmes Services
- Ms. Linnsson, Nutrition Programmes Services

World Food Programme

- Dir. Sintobin

BELGIUM, BRUSSELS

EEC

- Mr. Huky, Food Aid Section

NORWAY, OSLO

Royal Norwegian Ministry for Development Assistance

- Harald Høstmark, FAO-coordinator
- Jostein Leiro, Consultant, 3rd Multilateral Division
- Ove Dambolt, Chief for the Emergency Unit
- Mette Michelsen, Consultant in the Emergency Unit

Norwegian NGOs

Norwegian Red Cross

- Arnulf Torbjørnsen, Head of the International Division
- Ole Jacob Ekornrud
- Reicar Yvenes

Norwegian People's Aid (Norsk Folkehjælp)

- Kari Egge

Caritas Norway

- Gjørmund Høegh

Care Norway

- Torkild Skallerud, Director
- Michael Angstreich, Project Consultant

Star of Hope Norway (Håpets Stjerne, Norge)

- Egil Mentzen, Executive Director
- Kåre Pettersen, Consultant

Norwegian Adoption Society (Adopsjonsforum)

- Berit Grønvold
- Angela Ma. Pangu (works for Adopsjonsforum in the Philippines)

STOCKFISH PRODUCERS

A/L Unistock

- Otto Gern Olsen, Managing Director
- S. Hansen, Vice President
- Christen L. Berseth

Annex 9

# REFERENCES

MOZAMBIQUE


1. Statistical Information 1975 - 1984. National Planning Comission. National Statistical Direction, May 1985.

2. UNICEF. Annual Report 1985. Maputo Office. October 1985.

3. UNDP. Emergency Requirements in Mozambique. UNDP Maputo on behalf of the Office for Emergency Operations in Africa. August 1985.

4. Mozambique. An Introductory Economic Survey. Document of the World Bank. Report No. 5610-Moz. June 1985.

5. UNICEF. Mozambique Country Kit. 1985.

6. UNDP Periodical Information Leaflets. Maputo, March 1986.

7. Snyders, F.L. Actual and recommended diet make-up for the Population of Mozambique. National Institute for Agricultural Research. Internal Document No. 10, Maputo 1985.

8. Lista de culturas e algumas plantes silvestres uteis em Mozambique. Seccao de Pedologia. Instituto Nacianal de Investigacao Agronomica. Maputo. March 1981.

9. FAO Hoia de balance de alimentos, Mozambique. FAO/Roma, 1985.

10. FAO. Country tables Basic data on the agricultural sector. FAO/Rome, 1985.

11. CARE, Maputo. Stock of data. April 1986.

12. AGRICOM, Statistics Department. Maputo, April 1986.

13. Ministry of Internal Trade. Statistics Department. Maputo, April 1986.

14. Canales, Carlos. Ministry of Internal Trade, Maputo, April 1986.

15. De Souza, Imelda. Secretaria das Pescas, Maputo, April 1986.

16. Omowale. Nutrition Section, Ministry of Public Health. Maputo, April 1986.

17. White Paper No. 36 (1984-85). On certain major questions related to Norwegian Development Assistance. The Royal Norwegian Ministry of Development Cooperation. (Translation from Norwegian).

18. Tagle, M.A. Acceptability testing of FPC type B. FAO/TF/INT (NOR) Phase I. FAO, Rome. October 1976.

19. World Food Programme Assistance for Fisheries Development in Third World Countries and the Use of Fish Products in Food Aid. WFP/CFA: 18/INF/7. October 1984.

20. Evaluation of Stockfish as Food Aid. A desk study. Ministry of Development Cooperation, Norway, March 1986.

21. Report from visit to Tete on 27th May - June 1985, Norsk Folkehjælp.

22. The Lutheran World Frederation, Report No. LWS/7/1/0245 of 11th December 1985, Maputo, Mozambique.

GHANA

1. Ghana Towards Structural Adjustment. Document of the World Bank. Report No. 5854. October 1985.

2. National Food and Nutrition Policies and Programmes 1988-1989. National Nutrition Coordination Committee and Joint FAO/WHO/OAU Regional Nutrition Commission for Africa. Accra, September 1984.

3. Situation Analysis of Women and Children. UNICEF Ghana. July 1984.

4. Progress of the Economic Recovery Programme 1984 - 1986, and Policy Framework 1986 - 1988. Government of Ghana. Accra, October 1985.

5. Bailey, K.W., E.O. Idusogie, M. Clark and T.A. Duodu. Food and Nutrition Situation and Programmes in Ghana. Report of a Mission, October/November 1981 and January 1982.

6. Orraca-Tetteh, R. Food, Nutrition and Health Improvement. Programme in Some Villages of Ghana. Unpublished Documents, 1986.

7. Tagle, M.A. Acceptability Testing of FPC Type B. FAO/TF/INT. 120 (NOR) - Phase 1. Rome. October 1976.

8. FAO. Stock of Information. Accra Office. April 1986.

9. Ministry of Agriculture, Accra, April 1986.

10. Le Monde. Dossiers et Documents. Bilan Economique et Social. Paris. 1985.

11. FAO. Food Balance Sheets. FAO, Rome, 1984.

12. Republique du Ghana. Rapport de la Mission FAO/PAM chargé d'evaluer la situation vivrière et agricole. ORSO, Rapport No. 10/84/F.

13. Catholic Relief Service. Accra, April 1986.

14. Salvation Army. Accra, April 1986.

15. Addo, Florence. Nutritional Division. Ministry of Health, April 1986.

Annex 10

# ABBREVIATIONS

## MEASURING UNITS

| | |
|---|---|
| GNP | Gross National Product |
| GDP | Gross Domestic Product |
| MT | Metric Ton |
| NOK | Norwegian Krone |

## ORGANIZATIONS

| | |
|---|---|
| ADPP | Aid Development from People to People |
| ADRA | Adventist Development and Relief Association |
| CRS | Catholic Relief Service |
| DPCCN | Department for the Prevention and Combat against National Calamities |
| FAO | Food and Agriculture Organization |
| GRCS | Ghana Red Cross Society |
| IMF | International Monetary Fund |
| JCRC | The Joint Red Cross Mission |
| LWF | Lutheran World Federation |
| MDC | Norwegian Ministry of Development Cooperation |
| NGO | Non Governmental Organization |
| NORAD | Norwegian Agency for International Development |
| NRC | Norwegian Red Cross |
| NTL | Norwegian Stockfish Exporters' Organization |
| SHIG | Star of Hope International - Ghana |
| UNDP | United Nations' Development Programme |
| UNICEF | United Nations Children's Fund |
| UNISTOCK | Union of Norwegian Stockfish Producers |
| USAID | United States Agency for International Development |
| WFP | World Food Programme |

OTHERS

| | |
|---|---|
| DCC | Day Care Centre |
| DSM | Dried Skimmed Milk |
| FPC | Fish Protein Concentrate |
| ERP | Economic Recovery Programme |
| IMR | Infant Mortality Rate |
| ODA | Official Development Assistance |

Annex 11

# STOCKFISH AS FOOD AID

## The Ethiopian Case

Hagos Tsehay
Addis Ababa

May 1986

C O N T E N T S

## ABBREVIATIONS

Measuring Units:

Br. = Birr, the Ethiopian Currency unit.
United States Dollar one (US$1.00) = Br. 2.07 (buying rate).
Norwegian Krone one (NKR 1.00) = Br. .2558 (buying, 24 April, 1986).
Swedish Krona one (SKR 1.00) = Br. .2929 (buying, 24 April, 1986

GDP = Gross Domestic Product.
Kg = kilogram.
Km = kilometer.
$Km^2$ = square kilometer.

Institutions:

| | | |
|---|---|---|
| ADRA | - | Adventist Development and Relief Association. |
| BME | - | Baptist Mission of Ethiopia. |
| COC | - | Church of Christ. |
| CRC | - | Catholic Relief Center. |
| CRDA | - | Christian Relief Development Association. |
| EECMY | - | Ethiopian Evangelical Church, Mekane Yesus. |
| FCI | - | Feed the Children International. |
| FHI | - | Food for the Hungry International. |
| FM | - | Faith Mission. |
| KHC | - | Kale Hiwet Church. |
| MN | - | Mennonite Mission. |
| MSF | - | Medicins Sans Frontieres. |
| NCA | - | Norwegian Church Aid. |
| NGO | - | Non-Governmental Organization (not a name). |
| NM | - | Norwegian Mission. |
| ONCCP | - | Office of the National Committee for Central Planning. |
| RBE | - | Redd Barna Ethiopia. |
| RRC | - | Relief and Rehabilitation Commission. |
| SHI | - | Star of Hope International. |
| SIDA | - | Swedish Development Agency. |
| SPCM | - | Swedish Philadelphia Church Mission, Addis Ababa. |
| UNICEF | - | United Nations Children's Fund. |
| UNOESE | - | United Nations Office of the Assistant Secretary General for Emergency Operations in Ethiopia. |
| USAID | - | United States Agency for International Development. |
| WV | - | World Vision. |

## 1.0. PURPOSE AND SCOPE

1.1. The purpose of this study is to evaluate the extent of appropriateness of stockfish as food aid in Ethiopia, in terms of mainly, its suitability for handling and acceptability by the intended beneficiaries or target groups and in terms of the probable impact of its continued supply on eating habits of target groups and on the marketing and production patterns of fish and other substitute food products in concerned localities and the country at large.

1.2. The scope is limited to the evaluation of appropriateness of stockfish to target groups made up of people from the poorest and most needy segment of the population and consisting of urban destitutes, poverty stricken low income earning people but mainly disaster affected non-self-supporting people requiring emergency and rehabilitation food aid. It is also limited to the investigation, in terms of handling and ultimate use, of the nine ton sample stockfish delivered by SHI of Norway and received and distributed to given NGOs by SPCM for redistribution to target groups.

## 2.0. THE ETHIOPIAN CONTEXT

2.1. With an estimated (1983/84) real GDP per capita of Br. 210 (barely over US$100) per year, Ethiopia is at a low level of economic development and one of the least developed countries in the world. At an estimated annual average GDP growth rate of about 2%, the pace of development is also slow.

Accounting for about 50% of GDP, 90% of export earnings, 70% of domestic industrial raw material inputs and about 89% of employment, agriculture is the economic base

of the country. Service and industry account for 35% and 15% of GDP each respectively. Agriculture has been experiencing less than 1% real growth per year.

Agriculture is composed of a predominantly subsistence peasant sector which accounts for about 94% of total cultivated area, 93% of total volume of crop production and for almost all livestock production (to a magnitude that makes the country stand first in livestock population in Africa). Only less than 20% of the total arable land is under cultivation. Total land considered suitable for cultivation and pasturage is estimated to make up about two-thirds of the 1.2 million $km^2$ area of the country. There also exist about 6600 $km^2$ of major lakes, 5785 km of major inland rivers and about 1000 km of sea (Red Sea) coastal stretch which are estimated to yield close to 100,000 tons of fish per year. But not even 2% of this potential is produced. At less than one tenth of 1% the share of fishing in the GDP is very negligble.

But besides being predominated by only subsistence peasant sector, agriculture is vulnerable to the vagaries of weather. Drought has intermittently since long and more recurrently, albeit in varying degree of severity, since 1973/74 adversely affected agricultural outputs. The series of droughts has been causing famine in increasingly wider areas, adversely affecting export earnings and flow of raw material inputs to domestic industries, and consequentially contributing to widespread unemployment and destitution.

Agricultural exports have also been the most vulnerable to adverse international economic conditions. Total import values have, since about a decade, been increasing much more progressively than total export values resulting in the fall of the latter to about 40% of the former in

1984. Export volume levels have declined due to droughts and other disasters. And export prices have generally been increasing, rather erratically, to levels much lower than have been marked by import prices thus increasingly augumenting the visible trade balance deficits and aggravating the foreign exchange constraints.

2.2. About 71% of the 1984 estimated total population of 42 million (4.7 million of which is urban) is settled in seven of the 14 administrative regions of the country, viz, Shoa, Harrarghe, Sidamo, Wollo, Gojam, Gondar and Eritrea, and in that order. The greater majority of the population in all regions, however, inhabit the climatically temperate, relatively malaria free and easily defensible (at least in the historic past) highland plateaux. It is, however, in the lowlands where most of the fish bearing water bodies exist. Almost all of the highland settlers are settled agriculturalists while most of the relatively fewer lowanders are pastoral nomads.

Broadly attuned to cultural peculiarities, beliefs or religious discipline, and environmental endowments or provisions, dietary or eating habits vary from one ethnic group, or a category of them, to another. And the Ethiopian population is made up of a number of ethnic groups of varying sizes. For the greater number of the ethnic groups, if not for all, cereals (teff, wheat, barley, maize and sorghum), pulses (peas, beans and lentils) and oilseeds constitute the basic source of food. This is irrespective of income levels. Meat (almost solely beef and mutton), poultry and milk products are also consumed, frequently by those who can afford and sporadically by those who can less afford. Fish consumption is much less widespread and a rare

occurrence. Fish is taken as major part of food source by the few people who dwell adjacent to water bodies but who do not have ready alternative in meat and similar substitutes. It is also consumed in few bigger towns, but mainly Addis Ababa and Asmara. In the towns, and to a certain extent elsewhere, coptic christians with purchasing power frequently eat fish (in lieu of meat and chicken) during lent and other fasting seasons. The consumption pattern of people in the bigger towns is at any rate relatively more foreign influenced than that elsewhere and fish does appear as an occasional alternative in the menu of those who can afford.

Data on domestic production or supply of fish (even in the formal economy) are not readily available. Commercial import volumes have, however, been as shown below. Almost all of the imported fish has ended up in the urban centers, mainly the bigger ones.

TABLE 1 : FISH IMPORTS

( in tons )

| | 1972 | 1973 | 1974 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 |
|---|---|---|---|---|---|---|---|---|---|
| (1) | 4.1 | 43.2 | 160.0 | 9.1 | 154.0 | 2.6 | 1.6 | - | 0.3 |
| (2) | 321.9 | 688.1 | 256.0 | 334.2 | 344.9 | 343.1 | 29.1 | 3.8 | 67.5 |
| Total | 326.0 | 731.3 | 416.0 | 343.3 | 498.9 | 345.7 | 30.7 | 3.8 | 67.8 |

(1) Fresh, frozen, dried, salted or smoked fish.

(2) Preserved or prepared (canned) fish.

2.3. The economic base of the country, agriculture, is marked by low productivity and production volume, providing inadequate surplus to the other sectors and thus depressing development. Recurrent droughts and other disasters, more

critical and pressing in their own right, have aggravated the situation. And the recurrent nature of the droughts prolongs, in a cummulative way, the situation worsening or retarding after-effects.

To simulatneously tackle the problems of disasters and their consequences and the problems of the longer run low level socio-economic development, the government has frameworked and reframeworked institutional measures (in policies, plans and programmes, organizations and administrative controls) which attend to the rationalization of resources mobilization, conservation and development; is engaged in the implementation of relief, rehabilitation and other development efforts; and has sought and obtained multilateral, bilateral and non-governmental external assistance.

The Ten Year Perspective Plan lays explicit emphasis (in objectives, strategies, priorities and targets) on the development of agriculture, the peasant sector really, and such sector development enhancing activities to attain self sufficiency in the very basic necessities but primarily food. Emphasis is laid mainly on the increase of the productive capacity and production of the traditional products, viz, grains, livestock, poultry and horticultural products. Attention is also accorded to fishery development but not to the scale of the other food sources. Of the total planned investment the highest share, 23%, is allocated to agriculture. All resources are planned to be mobilized and are being mobilized in such a way as to contribute to the development of agriculture but with due regard to the rational exploitation, conservation and development of particularly water, soil and forests. Forests, whose products are used as fire wood and construction material, are reduced

to a very critical level. By customs tariff and regulations, import-export legal notice, and National Bank's foreign exchange control, utilization of the constrained foreign exchange is strictly restricted to the importation of products which are of vital importance to the national economy and which are considered essential for local consumption (medicine, for instance). Various governmental organizations like the Ministries of Agriculture, State Farms and Foreign Trade and Agencies or Corporations under them (e.g., fishery development department, fishery marketing corporation, import-export corporation, etc.), the National Bank, RRC and the ONCCP (to plan, provide implementation guidelines and to monitor implementation) are responsible for implementation. Mass associations like the peasants associations and the urban dwellers' associations are also invdlved in the development efforts.

By proclamation, RRC is responsible for the distribution of relief aid to disaster affected people, rehabilitation, settlement and resettlement of same and other displaced or otherwise landless people, seeking the necessary domestic and foreign assistance (in accordance with government directives ), and administering any form of assistance. Through its early warning system established in 1976 with the assistance of mainly UNICEF, USAID and SIDA, RRC informs concerned organizations (including NGOs) about impending disasters in specific geographic areas, anticipated kind and extent of disaster, and aid requirements in food (fortified, supplementary, grains), medicament, and other aid in cash and in kind. RRC requests for assistance from the various NGOs, governmental and UN organizations, allocates affected areas to be aided to those who pledge to help and coordinates implementation. RRC does not go into detailing the specifics of the kind of grains, supplementary or fortified food required as food aid. It does, however, indicate the kind of people to be aided (children, lactating mothers, other adults) and their probable condition (level of undernourishment). It does also take due consideration of the eating habits of the disaster affected localities when assessing their nutritional needs. Quantities of grains and other aid foods are estimated on the basis of

predetermined intake standards for people under various conditions. Although the food aid so far obtained has saved millions of lives, it is, according to RRC, no where near the volume required or requested.

NGOs aid activities have been and still are quite significant. Per RRC, their assistance from 1973 to 1983 is valued at Br. 288.7 million and their aggregated aid food distribution during period January 1984 to May 1985 amounted to 551,237 tons (as against 486,971 tons by RRC itself). The activities of most of the NGOs have, however, been limited to relief through their various emergency relief centers, although since very recently an increasing number of them have gradually started engaging in rehabilitation activities (distributing dry food rations through food for work programmes) and other development efforts.

As of April 1986, 50 NGOs are coordinated through UNOESE. About 40 NGOs (25 of which are also members of UNOESE) have also volunteered to be coordinated through CRDA. These coordinating offices are not engaged in field operations although CRDA also serves as a channel through which donations are received from external donors or member organizations and redistributed to member organizations.

## 3.0. PROCUREMENT, DISTRIBUTION AND USE OF SAMPLED STOCKFISH

3.1. In the 24th special membership meeting of CRDA held on 17 June, 1985, the previous representative of SPCM (Mr. Gert Fallsten) informed attending members of an offer he received from Norway for Addis Ababa delivered stockfish aid for distribution by CRDA members who undertake relief or rehabilitation programmes and who may find the stockfish valuable in their programmes. An advertisement pamphlet "Norwegian Dried, Salted Codfish: an international delicacy" which briefs on the product, pre-cooking preparation and the various meals that could be prepared from it was shown to those present. On the strength of that, some attending members expressed interest but suggested that samples should be obtained initially. A request form along with a covering

letter and the pamphlet was sent to those NGOs which expressed interest by SPCM during the weeks following the meeting. Besides name, location of operation, and quantity of stockfish required, the request form also required information on the type of project carried out and the number of beneficiaries handled by the respective NGOs. It also anticipated a report from each concerned NGO after completion of distribution.

During July 1985 the following NGOs returned the request forms to SPCM, detailing only required quantities.

TABLE 2 : STOCKFISH REQUEST--JULY 1985 SUBMISSION

( in tons )

| NGO | Quantity | NGO | Quantity |
|---|---|---|---|
| ADRA | 9 | FHI | 18 |
| BME | 18 | FM | 36 |
| COC | 36 | KHC | 27 |
| CRDA | 9 | RBE | 100 |
| EECMY | 50 | SPCM | 18 |
| FCI | 18 | WV | 15 |
| Total | - | | 354 |

And request for sample quantity was forwarded to Norway by SPCM.

According to pro-forma invoice number 50804 (and packing list of the same reference number) of NIB International of Sweden, dated 13 September, 1985, prepared and sent here for the purpose of duty free clearance, nine tons of stockfish in 200 hessian wrapped bales of 45 kgs. each in total valued at SEK 294,598 (US$34,577.23 at the prevailing exchange rate) Cif Addis Ababa were shipped from Norway on 23 August, 1985 (the bill of lading date) and delivered, via Djibouti, in Addis Ababa late September 1985. The stockfish was consigned by SHI of Oslo, Norway to SPCM.

3.2. Retaining 16 bales for redistribution by itself, SPCM distributed all the remaining stockfish quantities to the NGOs

listed below. Practically all quantities were distributed in November 1985.

TABLE 3 : STOCKFISH DISTRIBUTED, USED AND IN STOCK AS AT 22-4-86

( in bales )

| NGO | Quantity | | | | | | |
|---|---|---|---|---|---|---|---|
| | Received | Used | | | In Stock | | |
| | | AA | OTHER | TOTAL | AA | OTHER | TOTAL |
| ADRA | 2 | - | - | - | 2 | - | 2 |
| COC | 89 | 8 | - | 8 | 77 | 4 | 81 |
| FCI | 3 | - | - | - | 3 | - | 3 |
| FHI | 10 | - | - | - | - | 10 | 10 |
| KHC | 2 | 1 | - | 1 | 1 | - | 1 |
| MN | 1 | - | - | - | 1 | - | 1 |
| NCA | 24 | - | - | - | 24 | - | 24 |
| NM | 10 | - | 6 | 6 | 1 | 3 | 4 |
| RBE | 22 | 16 | - | 16 | 6 | - | 6 |
| SPCM | 16 | - | 16 | 16 | - | - | - |
| Sub-Total | 179 | 25 | 22 | 47 | 115 | 17 | 132 |
| % | 100 | 14.0 | 12.3 | 26.3 | 64.2 | 9.5 | 73.7 |
| BME | 20 | | | | | | |
| Sub-Total | 199 | | | | | | |
| % | 100 | | | | | | |
| MSF | 1 | | | | | | |
| Total | 200 | | | | | | |

NB. Other = outside AA (Addis Ababa).

Of the 12 NGOs listed above only eight belong to those who placed requests in July 1985. The remaining four (or three, as the case of MSF is not known because the office is closed) have apparently been approached by SPCM requesting

them to try out the stockfish after it arrived in Addis Ababa.

At any rate, the greater portion of the delivered stockfish quantity is still in stock, the bulk of it in Addis Ababa, as at 22 April, 1986. The remaining stock is in locations in Shoa and Sidamo. A bale from which only a few kilos are used up is assumed to be in full stock. The stocks of ADRA, FCI, MN and NM (the one bale stock in Addis Ababa) are slightly less than full bales. The shortfalls make up the few kilos distributed as samples mainly to Ethiopian staff members, in Addis Ababa, of the respective NGOs to test reactions. The one bale used by KHC in Addis Ababa was also distributed to staff members for the same purpose. Of the ten bales FHI sampled only few kilos in Wolkite, Shoa.

COC has during the period December 1985 - April 1986 distributed only eight bales to destitutes in Addis Ababa. These destitutes are disabled, aged, or people who are not able to work and earn income. The aided destitutes now number 471 families or about 1400 persons. Every month (i.e. whenever the food aid is available) every person gets (free of charge) ten kgs. of grain and every family is given four pieces of stockfish. COC has been undertaking this programme since about 11 years ago. COC also has two dry food distribution stations, under food for work programmes, in Northern Shoa (Yifat and Timuga Province) with about 10,000 aid beneficiaries under seven peasants' associations and in Southern Shoa (Haikotch and Butajira Province) where there are 18,000 beneficiaries under 17 peasants' associations. Emergency (intensive and wet) feeding centers existed in these two locations until about December 1985. They have since been replaced by dry food distribution stations. The feeding centers had and still have water problems.

RBE has distributed the 16 bales in Kebele 41 in Addis Ababa where it is undertaking a project of an integrated urban

community development (a Kebele is an urban dwellers' or neighbourhood association of the first order). Under this project about 1,000 mothers and children from very poor families earning on the average less than Birr 50 per month are participating in a mal-nutrition prevention programme. Each family has been given two pieces of stockfish per month along with flour, milk powder and edible oil (which is provided by CRC through its center in the Kebele).

SPCM allegedly used up all 16 bales in its on-site feeding station in Wollo. Its own cooks prepared it into stew and fed it to needy (but not malnourished) people that aggregated in the station. The on-stie feeding station is now closed, replaced by dry food, seed, agricultural implements distribution station.

NM runs three government owned hospitals in Arba Minch, Gidole (Gamu Gofa) and Yirgalem (Sidamo). Nine bales of stockfish were distributed to the three hospitals to feed the patients. Yirgalem hospital (with 110 beds) has used only two bales, Gidole hospital (about 40 beds) three and a half bales, while Arba Minch hospital (100 beds) only half bale.

Emergency feeding stations of NCA in Sidamo, Gamu Gofa and Bale closed in December 1985. They were all in water problem areas. NCA is now engaged in the distribution of dry food ration in the programme of food for work. It has not yet sample-tested the stockfish it has received.

3.3. The quantity of stockfish distributed and consumed during the period until April 1986 was used directly by individual household consumers and indirectly through institutions, i.e., the on-site feeding centers or stations of SPCM and BME and the hospitals run by NM. The ultimate consumers of the stockfish used through the institutions are, of course, the disaster affected needy individuals (and who need to be rehabilitated) and the poor in-patients of the charge-free hospitals. The beneficiaries fed by the identified

institutions correspond to the intended stockfish aid beneficiaries or target groups. The individual destitutes stockfish rationed by COC and the very low income poor families, whose children suffer from malnutrition, food aided by RBE do also make up part of the intended target groups. The Ethiopian staff members of the NGOs in Addis Ababa who were made to sample-test the stockfish far from belong to the intended target groups. Result of such testing may also be of questionable relevance. At any rate, with all of their capability to relish it in any style and way they like, all but some staff members of KHC neither relished the taste nor accepted the convenience of preparing stockfish.

The individual beneficiaries who self-prepare donated stockfish, i.e., the very low income poor and the destitutes, reside in Addis Ababa where fresh and other forms of fish are marketable. Even at Birr 1.25 per kg. (government retail price, private is about double), however, fresh fish is beyond reach of these particular target groups.

All individual beneficiaries are apparently duly instructed by COC and RBE on the pre-cooking and cooking (into soup, stew and fried meal) preparations. RBE has also repeatedly demonstrated the process. The destitute beneficiaries rarely add any spices or other flavouring ingredients into their stockfish meals because they cannot afford it. They normally soak the stockfish in water as instructed and boil it in salted and, whenever oil is available, oiled water into some kind of soup or stew.

The beneficiaries rationed by RBE, and who apparently live near the core area of Addis Ababa, go a step further in the pre-cooking and meal preparations to reduce the fish smell and make it more palatable. After the pre-cooking preparations as instructed, they repeatedly wash the pieces with salted and lemoned water. They normally cook it into local stew which requires onions, red pepper, other spices, a lot of

cooking oil (much more than the quantity required in cooking traditional stew from pulses, vegetables and even meat), and an overextended cooking time. To cook stockfish in any other meal form would not be tasty for adults, according to them. At times it is prepared in soup form (which also involves additive ingredients), but mainly for children. But even if they get the stockfish for free (from RBE), along with flour, cooking oil and milk powder (from CRC), they are concerned about the quantities of water, oil, firewood or charcoal, and the other additional ingredients required, because they cost money and they put quite a strain on their meager income, despite the infrequency of stockfish use. Some were hesitant about continuing taking stockfish, leave alone buying it, if their oil ration were stopped. The burden is felt less by the destitutes because they rarely, if at all, use ingredients they cannot afford, they get required water from wells, nearby streams and/or from benefactors (with piped water) for free and they gather their firewood from out-of-town as they live in the suburbs. And all this is from a number of beneficiaries interviewed, almost all women.

Beneficiaries of SPCM's feeding station in Kutaber, Wollo, have long returned to their respective farms soon after the station was closed as a feeding center. Some of them do, however, come back to the center for dry food, seed, and other rations but periodically (which period has apparently not corresponded to this survey period). But according to SPCM office in Addis Ababa the stockfish was fed to beneficiaries on-site, where there are nutrition and health officers, home agents and experienced cooks, because the locality had problems of water and also because the recipients would have been incapable (for lack also of the required inputs) and would have found it seriously inconvenient to prepare it by themselves, if they were just rationed the raw stockfish. BMC has also stockfish fed some beneficiaries on its on-site feeding stations in Northern Shoa more or less on the same

basis and for the same reasons. Details are not available, even from BMC's office in Addis Ababa, because the feeding stations are not easily accessible now. The beneficiaries of BMC feeding centers or stations are, however, highlanders who live far from the main fish bearing water bodies. SPMC' feeding station beneficaries are highlanders but live not far from Lake Hayk.

Fish does occasionally appear in the menu of the Yirgalem, Arba Minch and Gidole hospitals run by NM. About ten kgs. normally and 30 kgs. during fasting seasons are provided per week. That is fresh fish. Yirgalem is not far from Lake Awassa, Gidole is not far from Lake Chamo and Arba Minch is alsmost adjacent to Lakes Abaya and Chamo and nearby rivers all of which abound with fish, including nile perch. Prices of fresh fish in these areas vary between Br. 1.15 and Br. 2.50 between government and private retail prices. Whether the hospital in-patients relish fish or not, i.e., if they have any option (unless, of course, on religious or belief grounds), depends on what part of the region they come from. At any rate, stockfish is introduced agains these odds. There is also another factor which should not be overlooked. In such institutions, people involved in the preparation of the meals, viz. the cooks, do also play a role. As expressed by the NM office in Addis Ababa the cooks in the three hospitals, but particularly in Arba Minc are conspicuously resistent to stockfish because its prepar tion process is more cumbersome in relation to that of fres fish. Arba Minch hospital has as the result passed over much of the quantity allocated to it to Gidole hospital.

## 4.0. ANALYSIS

4.1. The 1983/84 drought dragged on into 1985 and intensified its severity in 1984/85. The February-May rains did not come in 1985 in most parts of the country. The prolonged drought and its increasing intensity also cast uncertainity as to the regularity of the main rainy season. The effect

the drought was getting widespread all the more. Relief centers were swarming with starved people and swelling as soon as they were set. Relief aid was increasingly flowing from domestic as well as from international sources, but far from adequately. And whatever aid, food aid, was acquired was depleting fast. Those involved in relief operation were in desparate need of food aid, any kind of food aid. That was the condition that prevailed when the NGOs expressed interest in stockfish in the June 1985 meeting in CRDA. They expressed interest and placed requests because, it seems, the occasion demanded it.

The following rainy season did not fail as feared and although the scope for rehabilitation aid had expanded and a number of NGOs had already started in such aid, the emergency relief centers were thinning by the time the stockfish was delivered here. This may, at least, partly explain the disinterest of some of the NGOs which placed requests in June. By the time the stockfish was delivered to the remaining original interested parties and to others, almost all emergency relief centers were closing (and most being replaced by dry food and other aid rationing centers).

The stockfish so far distributed is not even half used yet. The time factor may perhaps be one reason, but not a strong reason. Reference is made to the period December 1985 to April 1986, a stretch of some five months. Except COC and RBE the other NGOs are not distributing stockfish as dry food ration and especially outside Addis Ababa, i.e., in their various dry food rationing stations. The main reasons given, from discussions with the concerned NGOs, are that almost all of their dry ration centers are in localities where there are problems of water and firewood and that the stockfish meal has to be prepared in a manner that would be acceptable to the tastes of the beneficiaries thus requiring additive ingredients which could hardly be afforded by the beneficiaries, and in realization of these problems it would be too imposing on the poor beneficiaries. Therefore,

they go for on-site feeding. Such considerations tend to make the possible use of stockfish in an emergency relief operation, i.e., in intensive or wet feeding, rather questionable. The NGOs express their strong preference of fish powder to stockfish in this particular case.

Otherwise, most of the NGOs contacted prepare programmes, among other things, as to the quantity and kind, in broad categories (in, for instance, grains, supplementary food, etc.) of food aid required for particular operations (emergency relief or rehabilitation) and localities with due regard to the habits and traditions of the concerned localities.

4.2. Any food product, to be readily accepted, has to have a combination of some essential features in affordability not only to obtain the product but also to prepare it in the manner of established tastes, eating habits or traditions, in ease or suitability to handle, prepare and use, and in possessing other conspicuous advantages over substitute products. Barring the extreme case of the option to a starving person of "you eat stockfish in the manner I donate it or you starve to death", if food aid should be defined as food donated to starving, undernourished or otherwise needy people free of charge, it would still have to have the essential features indicated above, except the element of affordability to obtain it.

The nutritive value of stockfish is not put to question. As food aid, it is or assumed to be a free product to the intended beneficiary; and the question of affordability of the product shall not be made to arise. But unless provided to the beneficiary ready-to-eat like in the on-site feeding centers, the issue of affordability to prepare it into a meal arises. Per the pamphlet of the donor organization,stockfish requires a lot of water. Per the individual beneficiaries in Addis Ababa (especially in Kebele 41), its parboiling and cooking time is overextended in relation to the cooking time of substitute stew from pulses, vegetables and meat. This means

purchasing of more firewood or charcoal. Per the same beneficiaries, cooking stockfish especially into a meal which cooresponds to the Ethiopian taste requires ingredients (onions, spiced powdered red pepper, garlic, other spices, salt, oil) in excess of what would be required by the traditional stew. The individual beneficaries and the institutional feeding centers have prepared the stockfish distributed and used to-date mainly in the form of stew. This is to conform to the preparation of the product in the manner of established taste or habit, at least, of the adult beneficiary.

But in areas where there are problems of water and firewood or charcoal supply, it would not be rational to introduce something which would require excesses. It would also be contrary to efforts of the government and some of the UN organizations expended on the conservation and economization of such resources use studies and promotions (which studies and promotions, extend to less energy requiring foods and cooking methods, less water requiring washing methods, etc.). When the very idea of the stockfish aid is to provide free feeding to the poor and needy, the intended beneficiaries, to expect them to expend on the ingredients to bring the stockfish meal to their taste at a cost they cannot, or can only ill afford, would be self-defeating. And if there is more of an imposition of new tastes, there could be more of reluctance than acceptance. Despite such considerations, the individual beneficaries take it not only because it is free, but also because they get other products along with it. All that aside, however, and besides its nutritive value, stockfish has (especially in the face of general constraints in packing material, transportation and storage facilities availabilities) the following advantages; it does not need any special container or packing material in transporting and storing it, it does not require any special equipment during handling (loading, unloading, etc.) and transportation, and it does not require any equipment (like refrigeration) during storage in bulk or in household quantities.

Excluding that of the very few urban affluent who are relatively more exposed to foreign dishes and can afford a more diversified diet, the Ethiopian diet (in kind or source and form eaten), irrespective of economic status, can be generally narrowed down to the listing given below. All the constituents do not necessarily have an accross-the-board occurrence, but at least one has prevalence in any one corner of the country.

Cereals : kind - teff, wheat, barley, maize, sorghum and millet.
form - "injera" (flat, perforated, soft leavened bread from teff and or sorghum), bread, porridge, whole grain roasted or boiled cereals except teff (frequented by the poor).

Pulses : kind - chick and field peas, beans and lentils.
form - stew, roasted or boiled whole peas or beans (frequented by the poor).

Oilseeds : kind - linseed, nueg, rapeseed and sesame seed.
form - cooking oil.

Vegetables : kind - mainly cabbages (local variety), potatoes, onions, garlic, pepper (green and powdered red) and inset (false banana).
form - all but inset in stew form, with cabbages or potatoes making up the main ingredients and the rest as the inevitable additive ingredients. Inset is made into bread or boiled. Cabbage (the local variety widely and easily grown in backyards) is frequented by the poor.

Meat : kind - beef, mutton and camel meat in some nomad areas.
form - often in stew, but also boiled, roasted and raw. The stew is prepared from fresh as well as jerked meat.

Milk : kind - cow milk, mainly. Sheep, goat or camel milk is not also uncommon in some lowland areas.
form - as fresh milk, butter or ghee (for stew), cottage cheese (often eaten with stew), and yogurt.

Poultry : kind - chicken .
form - often stew, eaten only on special occasions as it is expensive to prepare stew from it.

Fish : kind - fresh water fish (mainly tillapia, carp, nile perch, and catfish) and sea fish.
form - mainly in stew, at times fried and boiled, but often from fresh fish. In few areas and by those who can afford to make stew from jerked fish, it is also jerked (i.e., de-boned, sliced into thin strips and dried in the shade). Fish is, however, a relatively very rare (frequented during fasting season only) and only narrowly prevailing dish.

## 5.0. IMPLICATIONS

5.1. The implications of stockfish as food aid should initially be viewed in the light of the implications of food aid at large, if for anything, to have a fuller perspective.

Food aid is crucial and should come forthwith in the mix (i.e., grain, supplementary and fortified food) and volume appropriate to what the occasion demands in the face of critical and pressing emergency situation arising from disasters as has been faced in Ethiopia and in view of the required rehabiliation (i.e., to rehabilitate the disaster affected people to sustainingly self-supporting level) to counter the aftermath. This is most likely, the spirit and underlying motive of food aid or, indeed, any aid. Overextending it would undermine the motive as much as underrating it. It would not then be extending help to

help oneself, that is, beyound aleviating immediate misery. This would call for a judicious extension, application, and timing of food aid.

5.2. Destitutes who cannot be rehabilitated to the level of working capability because of old age or serious handicap have, of course, to be continuously fed as long aid is obtained. But if balancing a diet of any destitute is aimed at, then all kinds of food constituents that contribute to the balancing of a diet have to be provided free of charge. Otherwise, there could possibly be an overdose of one food value (e.g. protein) in relation to other food values. COC gives to destitutes free of charge ten kgs. of sorghum or maize or wheat per person and four prieces of stockfish per family (of three on the average) per month. Ten kgs. of unmilled grain comes up to about 300 grams of flour per person per day; as against the RRC prescribed quantity of 500 grams per person per day for people from drought stricken areas and 700 grams per person per day from man-made disaster area (in either case for persons over 15 years old).

The low income poor aided by RBE may be in a better position, but only very slightly. They will tend to perpetually require food aid if they are not made to develop new skills to be gainfully employed and/or improve their income. (RBE is undertaking a skill training and income generating programme, although on small scale) And the food aid shall have to be provided in combinations of the kinds of nutrients that yield balanced diet after allowing for the kinds and quantities that can be purchased from the meager income of the beneficiaries, otherwise about the same problem as for the destitutes may arise.

The daily or periodic stockfish meal feeding on-site of the disaster affected people by SPCM and BMC is meant to contribute to the balancing of the diet of the beneficiaries. The feeding sites are after all supervised by nutrition experts. This is as long as the stockfish lasts and as long as the running

expenses (about Br. 1,000 per month for personnel only according to an estimate by NCA for any such site) can be maintained. But stockfish has not, according to information available to date, been dry rationed along with other food.

The advertisement pamphlet referred to earlier states "One kg. of dried, salted codfish has the same nutritional value as 3.2 kg. fresh fish". It is assumed here that the fresh fish mentioned is any fresh fish. The stockfish pro-forma invoice of 13 September, 1985 gives a price of abat Br. 8.00 per kg. Addis Ababa landed. One kg. of local fresh fish is retailed here at Br. 1.15 in normal times and Br. 1.25 during lent, i.e., in government retail distribution centers, wherever they exist. At these prices one could buy between 6.4 and 7.0 kgs. of fresh local fish for the value of one kg. of stockfish. And the average 6.7 kgs. (average of 6.4 and 7.0) could give according to the caption from the pamphlet, slightly more than two times as much nutritional value as one kg. of stockfish. The Addis Ababa landed value of a kg. of stockfish could also buy between five and 16 kgs. of local pulses (the price varying according to the kind of pulse and source) and between 1.5 and 2.5 kgs. of meat, which are also sources of protein. The impact of purchases of local products on local production is not difficult to see. Meals prepared on local products are also much more to the taste of intended beneficiaries. This assumes the availability of the domestic products at more or less stable prices in such time of need. Such an assumption may, however, be realistic only for local fish and meat.

5.3. Although rationed free of charge as food aid, stockfish is not as cost-free to the intended beneficiaries who are expected to self-prepare it for consumption as it appears. To prepare it even to the barely acceptable local taste involves additions of ingredients, a few of which in more quantities than required for pulse or meat stew preparation, which cost money and the expenditure on which is either unaffordable (for destitutes) or barely affordable (for the low income urban

or rual poor). Continuous supply of such food aid may mean continuous strain on the meager income of the beneficiaries, unless the required ingredients are also simulataneously donated. Absence of any of the ingredients may, on the other hand, be contributive to non-acceptance, unless there is absolutely nothing else except stockfish.

From the experience of those beneficiaries who are donated or rationed stockfish to self-prepare it, the process of preparing stockfish into a meal also requires plenty of water and firewood or charcoal. Neither the water nor the fuel product is a free item to the individual beneficiaries, except to those who get untreated water from streams (which is at times unhealty) and firewood from out of town (at times leading to the indiscriminate and illegal felling of trees). If the required water and fuel product are not free, the same implication as for the complementary ingredients mentioned above would follow as far as the individual beneficiaries are concerned. But towards seeking lasting solutions to the problems of underdevelopment in general and the recurrent droughts in particular, the government has prepared plans, formulated policies, has sought international assistance and is launching various programmes on water conservation and development and on forest conservation, reforestation and afforestation. In view of that, research on products and processes which conserve water but particularly firewood have been and are being conducted. The implication of continued use of stockfish aid would, in that case, certainly be negative.

5.4. To the extent accepted as nutritious, as agreeable to the local taste and as tolerably convenient or suitable to prepare, stockfish aid may appear to be developing market demand for fish. But the extent of its acceptability on such assumptions is very minimal, on the basis of experience of the stockfish aid already sampled. On the basis of such experience, prospect for development of fish demand to any significant extent on continued supply of stockfish aid is

also hardly apparent. Any market demand development presumes the existence or development of the required purchasing power of that segment of income group to which the product whose demand is promoted is directed. The existing very low income poor beneficiaries of the stockfish aid sampled have without any hesitation expressed their inability to afford fish if they had to buy it, but, also, if they had the money they would spend it on meat. The destitutes would not certainly be able to afford it. Assuming the other factors favourable, to what extent and at what point of time the purchasing power of any dry food ration beneficiaries would be developed to enable them to buy fish, would at this stage be not far from a mere conjecture. It may not be in the near future. And it would most likely be, as it normally is with subsistence farmers and also traditional meat eaters, that they would slaughter sheep or goat or chicken they raise themselves and eat meat instead of expending money on fish. If it is any indication, most of the Ethiopian staff members of the NGOs which have tried to sample-test the stockfish have not had their taste for fish aroused by it. So, it is not convincingly apparent that continued supply of stockfish aid will have positive impact of any significance on the development of demand for fish.

5.5. For reasons repeatedly indicated in the preceding paragraphs, stockfish could not be included in rehabilitation dry food rationing in the food for work programmes. It does not, therefore, have any direct or indirect impact on the food production of the beneficiaries.

If it were more acceptable and if it had had a positive impact on the development of fish eating habit, stockfish aid, and its continued supply, would have contributed to the government's effort of fish promotion and production in the long run. Through the Fish Marketing Corporation and the Fishery Development Department under the Ministry of Agriculture, the government has since the recent past been promoting fish production and marketing (in the main urban

centers). On the marketing end a number of retail outlets have been and are still being established to sell fish, normally at Br. 1.15 per kg. (presumably subsidized, considering the scale of operation). Br. 5.00 per kg. of fillet. While resource constraints of the concerned organizations may to a certain extent be limiting development of operations, demand for fish is not also encouragingly responsive except during fasting seasons (according to the Marketing Corporation). Consumers go for meat, which they even eat raw, which they buy for Br. 3.50 to Br. 5.00 per kg. depending on where they buy it, except, of course, during fasting seasons. For most people (coptic christians) the main fasting seasons (excluding Wednesdays and Fridays) make up about 20% of the year.

## 6.0. CONCLUSIONS AND RECOMMENDATIONS

6.1. On the basis of the sample distributed and used directly by individual beneficiaries, stockfish does not generally seem to be appropriate as food aid mainly because of its unsuitability to prepare and eat it affordably. Its unsuitability may be pronounced if it is more frequently and/or continuously used. It is unsuitable to individual beneficiaries, (a) because it requires complementary ingredients (which are not food aid items except, occasionally, cooking oil) to tune up the meal from it (often in the form of local stew) to the taste they are habituated to, and such ingredients are often hardly affordable, and (b) because stockfish meal preparation requires plenty of water and fuel (in their case, firewood or charcoal), and these resources are hard to come by owing to their scarcity.

The quantity of sample stockfish used up to--date has been taken and consumed because it was given for free along with grains (and cooking oil in the case of the low income group aided by RBE) and because it was prepared for them in meals that correspond to their taste by institutions who operate on-site feeding (i.e., including the hospitals run by NM).

6.2. If stockfish aid, or any food aid for that matter, is primarily in response to drought and other disasters, focus would then be on emergency and rehabilitation areas and the beneficiaries therein, and not on urban destitutes and very low income poor who are relatively perennial, irrespective of disasters. The use of stockfish in intensive or wet feeding in the emergency relief centers has been questioned by some NGO field officers, expressing their preference rather to protein rich dry biscuits, other fortified food and even to fish powder (which is convenient to measure, mix, etc.). But almost all the emergency relief centers had closed by the time the stockfish arrived and the product has not been tested in such centers. But to what extent the NGOs would be able to continue feeding stockfish on-site as part of their rehabilitation aid programme is highly questionable. On site-feeding of sample quantity is one thing, a continuous similar operation is another. It is not only costly, it is also not logical. A rehabilitation aid after all focuses on dry food and other need rationing, often as food-for-work programme so that the beneficiaries are aided towards being self-supporting.

The NGOs which prepared meals on-site did so because they considered rationing stockfish to beneficiaries would be too imposing on them, considering the condition (economic) of the beneficiaries and the requirements of the stockfish to prepare it to taste. Also, it is in the emergency and rehabilitation areas where water and fuel scarcities are prevalent.

6.3. As far as the government is concerned, any food item or food preparation that does not contribute to the conservation of scarce resources like water and fuel may go contrary to the conservation efforts it undertakes. Perhaps, the quantity of stockfish sampled is too small to be of any noticeable significance. Continued supply would, however, have significant implication. Even if it is beyond the concern of individual beneficiaries assuming they can afford such inputs (or,as often happens, especially in the rural areas, they can indiscriminately fell trees and up-root shrubs), "extravagant" use of water and firewood would be of grave concern to the government.

6.4. As the insignificant levels of fish imports (during the last decade or so) and domestic production reflect, fish eating in Ethiopia is limited to only small number of the total population of about 42 million. But even this small number of people who live mainly in the cities of Addis Ababa and Asmara and around fish sources often, if not always, prefer fresh fish.

6.5. NGOs operate in RRC allocated areas and, at various levels and for various purposes, they are coordinated by RRC, CRDA and/or UNOESE. As long as they make sure that (become responsible for) the food they distribute or use is conveniently fit for human consumption and for the purpose obtained, there is no interference from the government in general or RRC in particular. There is no evidence, therefore, that the stockfish sample quantity used is so little used because of government interference.

6.6. The government's development policies, programmes and controls (foreign exchange control, e.g.) are particularly geared towards self-sufficiency or reliance. Fishing grounds have not been and are not affected by disasters. If fish had to be included in the listing of food aid, then assisting domestic fish production could have had greater and wider implication than just obtaining the stockfish aid. It would also be subscribing to the government's efforts and conforming to its policies and programmes.

6.7. It is, therefore, recommended that a more applicable food aid product to the Ethiopian context in general and the intended Ethiopian beneficiaries in particular should be preferred to stockfish. It is also recommended that consultation with the appropriate organizations, RRC and NGOs, should be made prior to delivering any food aid, assessment of needs should be made, whatever could be readily accommodated in the programme of the NGOs or RRC should be optioned.

## REFERENCES

Organizations and Individual Beneficiaries Contacted and/or Interviewed:

1. NGOs which have been delivered samples, except MSF (whose office is closed).
2. CRDA.
3. RRC.
4. Fish Marketing Corporation.
5. Fishery Development Department under the Ministry of Agriculture.

Proclamations and Other Publications:


6. THE CHALLENGES OF DROUGHT
   Ethiopia's Decade of Struggle in Relief and Rehabilitation,
   by RRC, 1985, Addis Ababa.

7. CUSTOMS TARIFF AND REGULATIONS,
   by Ministry of Finance, Customs Department, 1973, Addis Ababa.

8. ETHIOPIA 1984: Population & Housing Census Preliminary Report, Vol. 1, No. 1, by Office of the Population and Housing Census Commission, September 1984, Addis Ababa.

9. PROCLAMATION No. 173 of 1979,
   Relief and Rehabilitation Commission Establishment Proclamation.

10. QUARTERLY BULLETIN, National Bank of Ethiopia, Vol. 11, No. 1, March 1985.

11. STATISTICAL ABSTRACTS, 1975, 1978, 1980, 1982,
    Central Statistical Office.

12. TEN YEAR PERSPECTIVE PLAN,
    by ONCCP, 1984.