

PN-ABF-244

Best available copy -- pages 56, 82 and 157
missing

THE NEED FOR FOOD AID AND ITS IMPACT
ON DOMESTIC FOOD PRODUCTION
AND CONSUMPTION

J. A. DADSON, PH. D.

CLARA OPARE-OBISAW (MRS.)

C. D. JEBUNI, PH. D.

G. T-M. KWADZO, PH. D.

S. ASUMING-BREMPONG

K. Y. FOSU

R. AL-HASSAN (MRS.) P.H. D.

DRAFT REPORT SUBMITTED TO NATIONAL CENTRE
FOR DEVELOPMENT STRATEGIES

DECEMBER, 1989.

THE NEED FOR FOOD AID AND ITS IMPACT
ON DOMESTIC FOOD PRODUCTION
AND CONSUMPTION

J. A. DADSOB, I.H.D.

CLARA OJARE-OBISAN (MRS.)

C. D. JEBUNI, I.H.D.

G. T. K. KWADLO, I.H.D.

S. ASUMING-BREMPONG

K. Y. FOSU

R. AL-HASSAN (MRS.) P.H.D.

DRAFT REPORT SUBMITTED TO NATIONAL CENTRE
FOR DEVELOPMENT STRATEGIES

DECEMBER, 1989.

LIST OF TABLES

3. 1. Food Aid Commodities and Source - 1991/82-1988	24
3. 2. Annual Food Aid Inflows (1981/82-1988 July-June)	25
3. 3. Emergency Food Assistance 1982-84	27
2. 1. Effects of Food Aid Inflows on Domestic Food Prices, Production and Consumption in Ghana (1978-87)	53
2. 2. Domestic Resource Cost Coefficients for Some Cereals in Ghana 1983	57
2. 3. Direction of the Effect of Food Aid Inflows on the Variances of Food Prices in Ghana	58
2. 4. Desire of Food Aid Recipients to Substitute Locally Produced Food for Food Aid	61
5. 1. Objectives of Centers for Receiving and Distributing Food Aid	78
5. 2. Criteria Used for Feeding Recipients at Centers	79
5. 3. Food Items Received at Centers	80
5. 4. Mean Number of Recipients by Programme	82
5. 5. Are Quantities of Food Aid Supplies Enough to Satisfy the Center's Recipients	83
5. 6. Methods Used in Monitoring Food Aid Used by 21 Centers	84
5. 7. Observations Made During Monitoring by Seventeen Centers	85
5. 8. Method Used for Assessing Nutritional Impact by Twenty-four Centers	86
5. 9. Observed Impact of Nutritional Assessment Nineteen Centers who Responded	86
5.10. Responses as to Who Actually Receives the Food Aid	89

5.11. Age Distribution of Children Receiving Food Aid	90
5.12. Reasons Given by Respondents as to Why They Were Given Food Aid	91
5.13. Distribution of Food Aid Commodities by Programme Type	92
5.14. Are Food Quantities Received Enough	94
5.15. Benefits of Food Aid to Health	96
5.16. Changes Noticed in Health	97
5.17. Protein and Energy Contributions of Approved MCH Rations to the Daily Requirements of Recipient Children	99
5.18. Theoretical Contributions of Approved MCH Rations to the Daily Recommended Protein and Energy Allowances of Participating Children by Age Groups	100
5.19. Theoretical Contributions of Approved MCH Rations (excluding the oil) to the Daily Protein and Energy Requirements of Participating Children	101
5.20. Distribution of Weights at or Below -2SD in June 1988 by Age and Sex	103
5.21. Distribution of Weights at or Below -2SD in December 1988 by Age and Sex	104
5.22. Distribution of Weights at or Below -2SD in June 1989 by Age and Sex	105
6. 1. Cereal Production - Demand in Ghana ('000 metric tons)	115
6. 2. Selected Donor Value of Food Aid Compared with World Market Value - 1987	117
6. 3. Counterpart Funds Generation and Utilization in Ghana 1984-1988 (million)	123
6. 4. FFW Projects by Type, MCH Centers 1985-1988	128

TABLE OF CONTENTS

	EXECUTIVE SUMMARY	1
1.	INTRODUCTION	1
	1.1 Problem Statement	1
	1.2 Objectives	4
	1.3 Organisation of the Report	4
2.	METHODOLOGY	6
3.	FOOD AID INFLOWS AND MANAGEMENT	19
	Introduction	19
	Review of Past Food Aid Programmes in Ghana	19
	Food Aid Flows to Ghana	23
	Objectives of Food Aid	26
	Procedures for Acquisition of Food Aid	32
	Institutional Framework for Receipt and Distribution of Food Aid	34
	Food Aid Co-ordination and Constraints	37
	Summary	41
	Conclusions and Recommendations	43
4	EFFECT OF FOOD AID ON DOMESTIC AGRICULTURE	47
	Review of the Literature	47
	Effect on Food Prices	52
	Effect on Production	56
	Effect on Consumption	58
	Food Aid and Food Preferences	59

Conclusion	62
Bibliography	63
5. NUTRITIONAL IMPACT OF FOOD AID	66
Introduction	66
A Brief Nutritional Status-Profile of Ghana	67
A Review of Past Food Aid Programmes with Respect to Nutritional Status	69
Justification of Methodology Used for Assessing Nutritional Impact	73
Summary and Conclusion	107
References Cited	111
6. DEVELOPMENTAL EFFECTS OF FOOD AID	114
Introduction	114
Balance of Payments	114
Budget Effect	120
Food for Work Programmes	126
Effect on Labour Productivity	127
Employment	130
Income Distribution	131
Summary and Conclusion	132
References Cited	135
7. MONITORING AND EVALUATION	138
Framework for Monitoring Inflow and Utilization of Food Aid	138
Conceptual Framework for Monitoring Food Aid	139

General Considerations in Monitoring Food Aid	140
Relevant Issues and Concerns to be Monitored	141
Evaluating Food Aid Programmes	146
Issues to be Evaluated	147
Analytical Framework for Evaluating Food Aid	150
Major Variables, Indicators and Data Sources	151
References Cited	155
8. CONCLUSIONS AND RECOMMENDATIONS	157
Overview of Past and Present Food Aid Programmes	157
Impact of Food Aid on Domestic Agriculture	159
Food Aid in Development	159
Food Aid and Nutrition	161
Food Aid Monitoring and Evaluation	163
LIST OF REFERENCES	183

DIAGRAMS

1. Conceptual Framework for Monitoring Food Aid 139

APPENDIX

- A. Regional Distribution of Sample Food Aid
Distribution Centers 165
- B. Quantities of Food Aid Commodities Center Staff
Given to Recipients per Ration 166
- C. Overall Comments on Contributions of Food Aid, to
Recipients 167
- D. Regional Distribution of Sample of Recipients 168
- E. Description of Sample Recipients by Selected
Variables 169
- F. Responses to Questions of Food Aid Involvement
of Respondents 170
- G. Reasons Given by Recipients for Still Receiving
Food Aid 171
- II. Quantities of Food Aid Commodities Recipients
Reported Receiving by Programme Type 172
- I. Reasons Given by Recipients as to why Food Aid
Should Continue by Programme Type 174
- J. Age Distribution of a Sample of Participating
Children by Sex 175
- 4.1 Methodology for Estimating Disincentive Effects
and Price Stabilization Effects 176
- 4.2 Conditions for the Pass Through of Wholesale
Price Changes to Farm-gate Prices 181

ACKNOWLEDGEMENTS

The study team, comprising some faculty members of the Departments of Agricultural Economics, Economics and Home Science, all of the University of Ghana, gratefully acknowledge the invaluable contributions of the numerous Food Aid donors, distributors, and recipients we were privileged to visit in the course of the study.

We wish to thank in particular the staff of the following embassies: West Germany, U.S.A., Canada, Japan, Switzerland, Italy, Holland, Britain, Sweden and France; and those of the following international and non-governmental organisations (NGOs): EEC, USAID, CRS, ADRA, World Vision International, for their kind assistance in providing necessary data and information. We express our sincere thanks also to the Ministry of Finance and Economic Planning, Ministry of Agriculture, Ministry of Trade, Ministry of Mobilization and Social Welfare, the Department of Forestry, and the Railways and Ports Authority for their help in providing information on government Food Aid programmes.

The study took us to various Food Aid centers in the regions, and we would like to thank the supervisors and staff of these places (listed in the Appendix), as well as the numerous recipients who willingly responded to seemingly endless questions.

The team is greatly indebted to Messrs Bruce Sarpong, Adotei Abrahams, Samuel Benin, Henry Wireko-Adade, Jacob Tetteh, Maxwell Addo, Malcolm Josaiah, and Mate-Kojo who serve as field assistants.

We also thank the Director and Staff of the Computer Center, University of Ghana, who assisted in analysing the data, and preparing the report.

The ^{National} Center for Development Strategies (NCDS) which commissioned this study, and the USAID which funded the programme are also gratefully acknowledged.

EXECUTIVE SUMMARY

The review of past food aid programmes to Ghana reveals successes in bilateral agreements with government to acquire food from various sources for a number of objectives. Food aid has played a key role in propping food supplies during famines and other natural disasters.

The role of food aid in development either through the generation of counterpart funds or through food-for-work may dominate other roles; and its acquisition and distribution has enjoyed more direct government involvement than food for nutritional supplementation distributed at Maternal and Child Health (MCH) centers, schools and orphanages.

Major problems of personnel and inadequate rations are encountered in the distribution of food aid meant for nutritional supplementation, whose acquisition and distribution are the responsibility of ADRA and CRS.

The review did not reveal any apparent control of food aid (especially commercialized food aid) distribution to mitigate seasonality in domestic food supplies.

Among recommendations made for improvements in the system of food aid programmes to Ghana are:

- increasing rations at MCH centers to satisfy individual recipients and their families, and allow for the growing numbers of patrons at these clinics.

- Direct government intervention to regulate commercialized food aid distribution so as to respond to seasonal variability in food supply.
- Increasing the personnel base for ADRA and CRS through a formal integration of the duties of health workers and teachers with food aid distribution activities.

An analysis of the impact of food aid on levels and stability of domestic food prices and production showed that whereas food aid depresses food prices and therefore could serve as a disincentive to food producers, food aid inflows tend to stabilize food prices. The transmission of this potential price disincentive to a production disincentive depends on government pricing and marketing policies towards food production. Where the floor or incentive prices recommended by government are effective, no disincentive is transmitted to producers and food aid acts simply to stabilize consumer food prices. It is, therefore, recommended that a vigorous pricing and marketing policy be pursued to prevent the potential disincentive effects of food aid.

Food aid increases food consumption, particularly where food is sold in subsidized food markets. There is evidence, however, that it may also divert tastes and preferences away from locally produced food commodities.

Inflows of food aid commodities serve to save foreign exchange and therefore provide balance of payments support in the short-run. Food aid in Ghana helped to finance about 41.5% of total cereal imports between 1980-85. Donors figures, however, over estimate the amount of balance of payments support given. Donor quoted value of food aid is higher than the world market value of such aid. Price differences between donor valuation and world market prices range from 11.9 to 230%.

Counterpart fund utilization has been very poor. The major factors contributing to the low utilization of generated counterpart funds are tying and the lack of a formal procedure to ensure that funds were used as agreed upon. A clear format for programming disbursements and use of all generated counterpart funds is needed. To avoid the potential inflationary effect of spending accumulated funds in future, counterpart funds should be untied.

Food aid supply especially under the FFW programme has an income augmenting and equalizing effect for the workers involved in these projects. The effect appear significant due to the low labour remuneration policy of the Government of Ghana. It is estimated that for workers engaged in the FFW projects, the monthly food parcel is normally up to 100 per cent the cash income of minimum wage earners. This however does not remove the need for a well thoughtout wage policy to remunerate labour.

The effect of food aid on labour productivity is not clear. Mixed results appear to exist in Ghana. Where failure has been observed factors contributing include shortage of professional staff, deficiencies in planning, inadequate supply of inputs (vehicles and equipment) inadequate labour employment system and management.

Generally, the FFW programmes have not created new employment opportunities though it has maintained existing employment even in areas of over employment. Food aid has also served to avoid a realistic wage policy. However, it has helped reduce absenteeism and sickness reporting in the supported projects. Food aid under the FFW programme has contributed significantly to physical infrastructural development.

The evaluation of the effect of food aid inflows on the nutritional status of vulnerable groups like pre-school children, between the ages of 6 months and 5 years, primary school children, pregnant and lactating women, and workers under Food For Work schemes shows that food aid exerts some positive impact on nutritional status of recipients. It is estimated that protein contribution of approved food aid rations ranged between 42 percent and 115 percent of daily requirements of children between the ages of a few months and 5 years, the most vulnerable group. A majority of the food aid recipients interviewed indicated their desire for continued receipt of food aid. Weight for age records show that over 60 percent of the food aid recipient children under Maternal Child Health (MCH)

programmes tended to have appropriate weights for their ages. However, certain factors tend to limit the potential positive impact of food aid on nutritional impact. These include inter alia, inadequate quantities of food aid rations actually consumed by recipients, since recipients tend to share with other (e.g. other family members) who may not be participating in programmes through which the food aid is distributed. Also, in some MCH centers the rations were served to more recipients than approved, so actual quantities received tended to be less than the approved quantity per recipient. Common diseases like malaria, cold and cough, and diarrhoea also tend to limit the magnitude of the positive nutritional impact of food aid. It does appear from the survey that food aid distributing agencies such as the Catholic Relief Services (CRS), the Adventist Development and Relief Agency (ADRA), and those who implement food for work schemes do not uphold the need to achieve improved nutritional status as a primary goal. To stimulate positive nutritional impact of food aid, therefore, there is the need for both a reversal of the foregoing attitude of food aid distributing agencies and a fruitful integration of health programmes and nutrition programmes. Also, a better assessment of the strength of the target groups in terms of numbers should be undertaken and food aid supplies well programmed to ensure that recipients actually consume approved quantities of the ration. It is recommended that specially designed research programmes be made integral parts of food aid distribution

systems so that the nutritional impact of food aid could be better measured.

The need for the development of a framework for monitoring and evaluating food aid programmes should be well appreciated. The evaluation activity should be designed to identify the strengths, weaknesses, and relevance of the programmes, and their impacts on the levels of the individual, community, and the nation. It should act as a complement to the monitoring activity. Evaluation of food aid programmes should emphasize policy impacts on recipients and development objectives.

The key elements to be considered here are, whether the food aid programme depresses prices received by domestic producers, distorts consumption and trade patterns, negatively affects income distribution, distorts budgetary and balance of payments relations and substitute commodities for what can be purchased efficiently locally. In addition, concerns relating to the incentive distribution and consumption effects can be analysed during evaluation.

The framework for evaluation of food aid should be tailored to the particular purpose, and the issues involved. Questions pertaining to efficiency, effectiveness and relevance of food aid in Ghana and their use can be answered by the evaluation framework employed in this study. The variables, indicators and data sources listed in the study can serve as a starting point in the development of a comprehensive set of data

required for the effective monitoring and evaluation of the food aid programme in Ghana. There is therefore the need for a powerful monitoring and evaluation unit staffed with competent Agricultural and Policy economists.

It is recommended that given the limitation of data posed to this study, the various agencies dealing with food aid be charged with the collection of data to be used in any evaluation system. In addition a unit be set up either in the ministry of Agriculture or the Ministry of Finance and Economic Planning and be charged with monitoring and evaluation of food aid programmes using the framework outlined above. This will ensure a ready basis for policy formulation regarding all dimensions of food aid inflows.

INTRODUCTION

1.1 Problem Statement

Globally, food aid is perhaps the largest form of programme aid. It is indeed a full global vehicle for providing assistance to developing economies. Although before the decade of the seventies, food aid was often employed in emergency relief and as a mechanism of surplus food disposal by economies caught up in the overproduction trap, in recent time food aid has assumed profound relevance as a tool of development.

Although food aid has sometimes come under attack as depressants of domestic food prices (particularly when it is sold on the open market), investments in food production, and the level of domestic food production; and also, as a stimulant of dependency on the part of fiscal instruments for the mobilization of domestic resources, inter alia, it is worth mentioning that food aid could play an important role in economic development in several ways.

First, food aid could contribute to improved nutritional status of the young, pregnant and nursing mothers, inter alia. Second, it could augment domestic food supply and consumption. Third, depending upon how the food assistance is used, food aid could contribute to improving the distribution of income (Schuh 1981). Fourth, through the execution of food-for-work programmes, food aid distribution to target groups could serve as a mechanism for mobilizing resources, particularly labour that would otherwise not be employed, to construct and maintain

physical infrastructure like roads, railways, schools, hospitals, etc. which promote development. Fifth, food aid could alleviate trammels on balance of payments by freeing foreign exchange for developmental purposes. Sixth, through the generation of counterpart funds from open market sales, food aid could provide support to the domestic government's budget. Here, food aid could give the government of the recipient economy greater command over domestic resources. This role is particularly relevant in economies for which the public sector's share in the rate of development is very substantial. Seventh, timeliness of food aid supply could offset inflationary pressures which arise from crop failure or increased food prices in international markets in the short run. To achieve food security objectives, national food reserves could be maintained by well programmed food aid inflows. Finally, long-term development efforts could be stabilized through the use of food aid. Here, the food inflow could offset annual domestic shortfalls. Notably, in the event of such shortfalls, the domestic economy would have to allocate foreign exchange to commercial food imports acquisition (in the absence of food aid inflows). Since imports of capital goods and raw materials for development compete with food imports for scarce foreign exchange, inflows of food aid could free foreign exchange for the imports of development inputs. Of course, the increasingly well developed international capital markets and the creation of a number of financial facilities providing short term balance of payments support to countries undergoing

financial stress could make this role of food aid less pronounced.

Interest in the role of food aid in African development has been demonstrated in the 1980s by the Agricultural Development Council (USA) sponsored seminar on "Improving the Developmental Effectiveness of Food Aid in Africa" which was held in August 1981 in Abidjan, Cote D'Ivoire. With reference to Ghana, interest in the role of food aid has recently been rekindled by Dzietror (1988); and also by the need to address the issue as to whether, and how, food aid could be well programmed to contribute positively to the success of the Programme of Action for the Mitigation of the Social Costs of Structural Adjustment (PAMSCAD). In view of the controversial nature of the impact of food aid on economic development in general (see for instance Eicher and Baker 1982) and the paucity of empirical food aid evaluation studies on Ghana (Graham 1970, Clay and Singer 1982, Codjoe 1986, Fosu 1987), the present study on food aid is very germane. Finally, how to coordinate and manage food assistance effectively, has become more intricate in view of the multiplicity of food aid donors and increased food aid inflow.

The present study examines the effects of food aid on domestic food prices, production, consumption, and nutritional status with a view to assessing the need for food aid and its role in fostering economic development in Ghana. It also formulates a framework for monitoring and evaluating food aid inflows to Ghana.

1.2 Objectives

The purpose of the study include the following:

1. to measure the effect of food aid inflows on domestic food production, domestic food prices, domestic food consumption, and food preference;
2. to assess the impact of food aid on the country's Balance of Payments (BOP) and infrastructural development;
3. to review the past and on-going food aid programmes in Ghana and their effects on the nutritional status of the population;
4. to develop methodologies and strategies for data collection and analysis which would serve as a basis for evaluating present and future food aid programmes; and
5. to develop a framework for monitoring the inflow and utilization of food aid in Ghana.

1.3 Organisation of the report

This research report is organised into eight chapters. An overview of the set of methodologies employed to accomplish the objectives of the study is presented in Chapter two. In Chapter three a review of food aid programmes as well as levels and composition of food aid inflow, into Ghana is undertaken. Quantitative analyses of the effects of food aid inflows on domestic food prices, food production, food consumption and domestic food price stabilization are undertaken in Chapter four whereas the effect of food aid inflows on the nutritional status of the

population is examined in Chapter five. The general developmental effects of food aid are evaluated in Chapter six. A framework for monitoring and evaluating the inflow and utilization of food aid is formulated in Chapter seven. Finally, conclusions and recommendations are presented in Chapter eight.

CHAPTER 2
METHODOLOGY

In order to achieve the objectives of the study the following data requirements were first identified:

Objective 1

(a), (b), (c) - Data required, Time series, 1970-1988.

Food Production -

Prices (own)

Price of related commodities (sub and complements).

(eg. rice substitutes - maize

complementary - vegetable cooking oil)

Rainfall

Yields

Income (GDP, GNP)

Population (Mid Year), from Statistical Service

Production, stocks, food aid.

(d) Effect of food aid inflow on food preferences

(1) Donors)

(2) Government recipient) questionnaire and

(3) End users) interview what are

(4) Distribution agencies) preferences.

Objective 2

2.(a) Volume and Value of Food Aid - grant, concessional

Volume and Value of Commercial Food

Exchange Rate nominal/real Exchange Rate

Agric. GDP

Population

National Disposable Income

2.(b) Infrastructural Development

(Questionnaire and Interviews)

1. Food for work (productivity)

Organizations - Railways, Forestry, Okumani Oil
Palm Plantation.

- Objective of aid
- eg. Hectage
- Vol. of food aid
- Labour (mandays)
- Capital

2.(c) Counterpart funds

2.(d) Volume of revenue generated over years from sale of
food aid.

Government domestic Expenditure/Government Generated
revenue from other sources, eg. taxes, etc.

Objective 3

Review Past and On-going Food Aid Programmes in Ghana

(Questionnaire and Interviews)

- Donors & Distributing Agencies
- Aim of Food Aid Donors
- How it started

- When given
- Commodities involved
- Who decides which commodities (criteria)
- Timeliness of delivery
- Composition of Food Aid - Disaster relief
 - Counterpart funds
 - Food for work
 - Nutritional supplement
 - Others
 - Grants/Concessionary
- Changes in food type and strategies
- Changes in mode and extent of distribution
- Quantities and criteria for determining quantities, i.e. how needs are determined
- Future projections and expected results
- Any criteria for timing the inflow
- Spatial distribution of Food Aid
- Mechanism for distribution - from port to end users. (Institutional arrangement)
- Institutions involved. eg. health centres, schools, etc.
- Recipients (children, nursing mothers, women and all) of food and criteria for selection of individual and districts.
- Arrangement at local distribution centres
- Problems with food aid management or distribution
- Quantities received per year at centres
- Frequency of supply at centers and to recipients
- Regularity between years

- Arrangements

- Regularity
- Target population and how reached
- How should food be prepared
- Any advice on how food should be prepared and incorporated into the diet.
- Any distributional losses (transport and storage)

- Nutritional value of food aid commodities

- Food aid as percentage of total food intake (calories)
- Mode of monitoring and evaluation
- Target groups - Urban vrs. Rural distribution
 - Groups with geographic locations

Regional - who gets it

District - who gets it

- Conditions attached to food aid by donors and distributing agencies
- Storage problems and losses incurred
- indices used to assess nutritional impact on target groups
- anthropometric data available for target groups
- death rate and common illnesses recorded among target groups (children).
- demographic data of recipients
- actual needs fulfilled by food aid
- awareness of nutritional contributions of food aid
- knowledge of how to use food aid items
- awareness of reasons for receiving food aid
- overall impressions of contributions of food aid in the lives of recipients by center personnel and recipients.

Objective 4Methodology Development and Evaluation

- Literature review
- Questionnaire and interview
- Donor
- Institutions that handle food aid (Government agencies and NGO).
- Institution arrangement for delivery, storage, transport and distribution utilization.
- Government policies on food aid
 - Any specific bilateral arrangements
 - Legal instruments on food aid
- Model building

Objective 5Monitoring and Utilization

- Government institutional arrangement for receipt and delivery of food aid.
- Co-ordination among donors, and between donors and recipients (intermediary).
- Support policies of donors eg. tying Food Aid to supply of food.
- Major bottlenecks and constraints to effective delivery

SAMPLING PROCEDUREDonors and Distributing Agencies

Food aid is provided by a number of donor countries and distributed to recipients through government and non-government agencies. As such the key representatives of all donors and distributing agencies were interviewed. But a sample was selected from the distributing centers and recipients spread throughout all ten regions of the country.

Selecting Centers

The sampling design necessitated the use of random selection of centers from stratification based on region, sponsoring agency, programme type and to some extent the number of centers. Maternal Child Health (MCH) centers are supplied by CRS and ADRA with food aid and therefore the sampling design called for a representation of at least one center for each agency in the regions they were operating. At the time of the study CRS operations were confined to 5 regions whilst ADRA had centers in all the ten regions. As such one center was randomly selected to represent each of CRS and ADRA in the regions they operated. The total sample of MCH came to fifteen (15).

Centers for other programme types receiving food aid through CRS included Preschool feeding (PF), Primary school feeding (SF) and handicapped school feeding (OCF). The sampling design therefore called for a representation of at least one of each programme type in each of the five regions.

However, there was more primary school feeding in the Upper East and Upper West regions so one extra center was selected in those regions bringing the sample of PF and SF to twelve (12). Four centers were selected to represent handicapped school feeding, one from each of the four regions where these facilities existed. These OCF centers represented the only ones each in Upper West and Northern regions, one from the 3 centers in Ashanti region and one from the 3 centers in Greater Accra region. The sample frame for CRS centers was a list of all centers (Programme Plan for FY 88) obtained from the agency. The sample frame for ADRA centers was a list of MCH centers obtained from the agency.

Another programme type sampled was the Food For Work (FFW) centers sponsored by ADRA and the World Food Programme (WFP). The sample frames were lists of on-going projects obtained from the 2 agencies. ADRA's list consisted of on-going projects in seven regions. A simple random sample was used to select a center from each region. From the WFP list of projects six were selected such that the different projects in different government establishments were represented in six different regions. A total sample of thirteen (13) FFW centers were selected.

The final sample obtained for distributing centers was forty-four (44) comprising 15 MCH, 5 PF, 7PF, 4OCF, and 13 FFW.

Selecting Recipients

The sample of recipients was drawn from the MCH and FFW centers because these were adults who would be able to provide the information required. Since there was no list of recipients available to the team prior to visiting the field, it wasn't

possible to pre-sample the recipients. However, a total of ten (10) recipients available at the time of the visit or those who could be located in the immediate vicinity constituted the sample of recipients. Therefore a total sample 280 recipients receiving food aid from 28 centers (15 MCH and 13 FFW) previously selected were to be interviewed.

Collecting Data on Health and Records of Indices of Nutritional Status

It is not so easy measuring short-term nutritional impact on adults as on children especially using simple anthropometric measurements like weights and heights. Information from reports reviewed indicated that weight records were kept at the MCH centers to monitor growth performance of participating children. However, from the CRS evaluation reports to date, none of the school and nursery school feeding programmes implemented growth surveillance.

Since one of the simple indices of improved nutritional status (in the absence of disease) in pre-school children who form a high risk group is weight gain, it was deemed appropriate to collect a sample of monthly weight records for participating children for measuring a possible nutritional impact of food aid given them.

This report therefore concentrated on compiling weight records of children receiving food aid through MCH centers. However, the authors felt it necessary to ask PF and SF centers to provide weight and height records should they now be available. Records were to cover the period from June 1988 to June 1989, a period considered long enough to obtain weights at

6 month intervals for measuring a possible nutritional impact. Monthly weight records of twenty (20) children in each of MCH, PF, and SF centers previously sampled were to be compiled to cover the specified period. This procedure resulted in expected records for 300 children from MCH and 320 from the school feeding programmes. The grand total of the sample was therefore 620 children to provide weight and/or height records.

Health-related information needed to help with interpretation of the anthropometric data included records of common illnesses and death rates reported among the target group covering the same period as the anthropometric records. This information was to be collected from MCH centers only, where such records are likely to be kept.

Instruments and Procedure

Two different structured interview schedules with questionnaires attached were used to collect the data from donors, government officials and distributing agencies. These interviews were conducted by team members themselves. After each interview, the questionnaire was left with the respondent to complete.

Two separate structured questionnaires with both close and open-ended questions were used to conduct interviews of center personnel and a sample of recipients. Copies of the interview schedules and questionnaires appear in Appendix (K).

Eight field assistants (graduate national servicemen) were hired as interviewers for the center and participant surveys.

covering all regions except the three northern regions (Upper East, Upper West and Northern). All field assistants attended a total of three hours of training which covered the objectives of the study, the questions to be asked, interviewing techniques and procedures to be followed. Interviewers were assigned to the regions according to the local dialects they spoke since almost all interviews were conducted in the local dialects.

In the three northern regions, four field assistants (teachers) were recruited and trained in those regions by one of the team members, who spoke most of the principal dialects.

The deputy team leader also joined the interviewing team and visited some centers interviewing both center personnel and participants in order to be acquainted with field operations.

All interviews were conducted privately to guarantee anonymity, free and uninhibited responses. However, it was observed in a few places especially the MCH centers that some recipients exercised restraint in expressing their complaints for fear the food aid might be withdrawn.

Weight records for children were compiled for the sample specified at each center visited. Two sources of records were encountered: from clinic or hospital register and from individual child's weighing card. All weights were recorded in kilograms. Information on common illnesses and death rate among the target group of children were obtained from staff at each center. Data collection from centers and recipients covered the whole month of June (1989) but those from donors, government officials and distributing agencies extended into July. Among reasons for the latter were the fact that due to the time constraint of the study

only short notices could be given to respondents and as such other duties of the officials in charge made it impossible to meet them at the appointed time and also the nature of information required called for time for the organisations to assemble and compile.

The Number of Completed Interviews and Questionnaires

Instruments	Targeted No.	Completed No.	Response Rate
Donor questionnaires	21	20	95%
Donor interviews	21	20	95%
Distributing Agency questionnaires	4	4	100%
Distributing Agency interviews	4	4	100%
Center interviews	44	33	75%
Recipient interviews	280	238	85%
Weight records from MCH	300	107	36%

Analysis of Data

Responses from donors or distributing agencies were analysed manually since they were few. However, responses from centers and recipients were hand coded by the field assistants under the supervision of some team members. This proved to be a very tedious and lengthy exercise since the open-ended questions (necessary though in a study like this) generated a variety of responses.

The services of the computer center at the University of Ghana were engaged to enter the coded responses, analyse and print

out the results. Mostly descriptive statistics were utilized in analysing the data but some cross tabulations between certain variables were also used. As such frequencies and percentages will be mostly used to describe the data from centers and recipients which generally cover opinions and impressions of the food aid programme. For the weight for age records compiled from MCH centers, standard deviation scores were used to analyse the data. The method measures the deviation of the anthropometric measurement from the reference median in terms of standard deviations or Z scores. The percentages of children falling at or below - 2 standard deviation by age and sex were calculated and used as the cutoff points indicating malnutrition among the sample. The United States National Health and Statistics Reference Growth Data for children was used as the standard. Computer software for analysing the growth data available at the Home Science Department was used. The records provided 3 different sets of data at 6 month intervals enough to show a trend in weight gained and a possible improvement in the nutritional status of the child over a period of one year of receiving food aid ration.

The protein and energy values of the approved quantities of food commodities for participating children at the maternal child health centers were calculated. These values were expressed as percentages of the child's total daily needs of protein and energy. The rationale for the type of analysis used for interpreting anthropometric data and nutritional values of food aid is presented in Chapter 4.

General Limitations of the Study

Several visits had to be made to obtain information from donors, distributing agencies and government officials which created a lot of time and financial stress. Several reasons made it impossible to reach some of the sampled centers and their recipients. For example out of the 13 Food For Work centers sampled 5 were not reached including a center which had no records because the project had not started yet; another one could not be located and the 3 centers in the 3 Northern Regions couldn't be visited because at the time the sampling was completed for FFW centers the rainy season had started in earnest making most places in the North inaccessible. The loss of the FFW centers in the northern sector is a limiting sample problem. Three primary schools, one nursery school and two orphanages were also not reached mainly because those officials needed for the interviews were not available. But due to time and financial constraints revisits were not possible. It is however encouraging to note that a good coverage of donors, distributing agencies and government officials was made. Also all the MCH centers sampled were covered plus an additional one in Greater Accra Region later included to take advantage of its proximity. Only 9 of the 16 MCH centers provided records to cover the period of time specified (June 1988 - June 1989). Only one orphanage among all the school feeding centers visited kept weight records of the children. As such no data on growth monitoring of pre-school and primary school feeding is included in this report. Despite these limitations, there is no doubt that this study has had a good coverage to provide strong inferences about the role of food aid in the national development.

CHAPTER 3

FOOD AID INFLOWS AND MANAGEMENTIntroduction

Effectiveness of any food aid programme depends on the relevance of food aid objectives and the effective utilization of the food for the set objectives, through an efficient system of management and distribution. This chapter reviews the nature of the above linkages in food aid to Ghana.

The chapter begins with a review of past food aid programmes to independent Ghana, presenting mainly the sources and circumstances leading to such aid. This is followed by a description of the actual inflows and composition of food aid basket. A description of objectives of food aid to Ghana also provides a classification of food aid by programme type. The procedures for obtaining food aid and the institutional framework for receipt and distribution of aid are discussed.

The discussions aim at identifying constraints in the acquisition, delivery and distribution of food aid in Ghana.

The material in this chapter is based on information provided by principal donors and distributors through questionnaire, personal interviews and reports.

Review of of Past Food Aid Programmes in Ghana

The earliest recorded food aid to Ghana was in 1958 from the United States (U.S) through the Catholic Relief Services (CRS) in a general relief programme with no targets or priorities.

In 1968 the CRS started prioritising and defining targets to meet the specific objective of providing nutritional supplement to promote health of preschool age and primary school children as well as expectant mothers. (CRS Evaluation Report Sept. 1981. P.34)

Other early food aid came through the World Food Programme (WFP) beginning in 1964. As a result of the creation of the Volta Dam, several communities involving 80,000 peasant farmers had to be resettled. Through a request by the Ghana government in 1963, the WFP provided food for the settlers until they reaped the first crop from their new farm lands. WFP was also to provide food to be sold to pay part of the wages in cash to workers who were to be engaged for a year on the construction of houses and other infrastructure in the new communities. The total value of the request was \$1.5 million and beneficiaries received aid for periods ranging from 10 months to two years. This project formally ended in 1967 and was closely followed by a new project, the Volta River Clearance and Resettlement project, in which a total of 105,000 acres had to be cleared manually for subsistence farming, and another area of 400 acres cleared for commercial farming. The total value of food aid for this project was \$3.3 million and the project lasted for a little over 3 years.

WFP also sponsored the following development projects:

- price stabilization programme
- poultry and pig supplementary feeding programme

- multipurpose development through the national service corps
- reforestation (continuing)
- assistance to oil palm and rubber plantations (continuing).

Most of the above projects have been completed. The on-going ones include those on reforestation and assistance to oil palm and rubber plantations.

Three additional development projects being supported by the WFP are the Railway, Port and Feeder road rehabilitation programme, the Export sector rehabilitation programme and food assistance to PAISCAD.

The drought and bush fires of 1982/83 and deportation of about one million Ghanaians from Nigeria led to the provision of food by WFP for emergency relief, under various project names, including:

food aid to drought affected people;

food assistance to returnees from Nigeria; and

food aid on account of drought and bush fires.

Other major sources of food aid to Ghana are Canada, the EEC and Japan. Canada's first food donation to Ghana was also in 1958 in response to emergency due to drought. There is no record of further assistance after this until 1978, when food aid continued for the generation of funds for development except in 1983.

The EEC began food aid to Ghana in 1977 under the Lome I Convention. Food donated by the EEC should generate cedi funds equivalent to the CIF value of commodities, plus any duties.

Japan's food aid to Ghana started in January 1980 when some unspecified quantities of wheat and rice were delivered for nutritional supplementation. There were no deliveries however in 1981 and 1982. Food aid resumed in 1983 in response to emergency food situation of that year.

Operations of the Adventist Development and Relief Agency also started during this famine period, through the Seventh-Day Adventist World Service (SAWS). An emergency feeding programme was designed to alleviate hunger among vulnerable groups - the poor and disabled, lactating and expectant mothers and children. Under the programme, an agreement was reached between SAWS and the government for the former to undertake both general relief and development activities throughout the country. ADRA distributed over 9,500 metric tons of relief food donated by countries such as the U.S, Netherlands, Norway, Finland and Canada, and reaching over 100,000 recipients.

There is evidence that several other countries and organisations have donated food to Ghana sporadically. Lack of information does not permit a detailed description of these donations. Most countries and organisations that have donated some food aid are indicated in the following section.

Actual distribution of food aid is usually carried out by agencies other than the donor country or organisation. The principal distributing agencies are the Catholic Relief Services (CRS) and Adventist Development and Relief Agency (ADRA), both of whom distribute food from the U.S., Canada and

the EEC. These agencies have bilateral agreements with the Government of Ghana. The key features of these agreements are the provision of storage at the ports, and the waiver of duties on food aid by the government.

Other distributors of food aid are the beneficiary departments on projects supported by WFP, and commercial houses such as the GNTC, GNPA and the GFDC who are designated by the government to sell food aid meant for generating development funds.

Activities of the major distributors of food aid are discussed in more detail under Objectives of Food Aid on page 22.

Food Aid Flows to Ghana

Commodities donated as food assistance include both cereals and non-cereals. Table 3.1 shows the various commodities and the respective countries/organisations involved in their donation from 1981 to 1988

The most regular food donors are WFP, USA, Canada, the EEC and probably Japan. Most of the others donated food for the period 1982-1984.

Table 3.2 presents total food aid flows by volume from 1981/82 to 1988. The quantities of most food donated over the period have increased.

Inflows of rice and fish have increased steadily. Wheat, a major item, has been very variable. The table also suggests that most of food assistance in 1982-1983 was in the form of coarse grains, blended foods, wheat and pulses.

Table 3.1 Food Aid Commodities and Source - 1981/82-1988

<u>Commodity</u>	<u>Sources (Donors)</u>
Wheat	U.S.A., FRG, Japan, WFP, Spain, Denmark, Canada, China.
Wheat Flour	France, Australia
Rice	USA, EEC, Italy, Denmark, Australia, WFP, Japan, Netherlands, Switzerland, U.K
Course Grains	FRG, WFP, Netherlands, Switzerland, EEC.
Blended Foods	USA, WFP, USSR.
Vegetable Oil	Canada, EEC, USA, WFP, SDA Albernta, Salvation Army, WVT.
Butter Oil	EEC, WFP.
Dry Skim Milk Powder	EEC, WFP, Switzerland, CRS/USA, Canada, Spain, Finland, Denmark, SDA/Albernta, Salvation Army.
Fish/Fish Products	WFP, Caritas/CRS, USA, Norway, Japan, Salvation Army, Canada.
Pulses	EEC, WVI, UNICEF
Sugar	WFP.

Source: WFP and Other Donor Questionnaire

Table 3.2 Annual Food Aid Inflows (1981/82-1988
July-June)

(a) Cereals

Year	Wheat	Wheat Flour	Quantity (MT) of:		
			Rice	Coarse Grains	Foods
1981/82	39,034	-	17,850	3,000	8,524
1982/83	5,423	-	27,897	10,320	5,641
1983/84	39,295	3,000	21,140	14,985	15,827
1984/85	33,988	4,759	23,630	3,614	20,645
1985/86	40,879	-	31,604	500	3,626
1986/87	23,709	1,095	36,437	450	20,286
1987/88					

(b) Non Cereals

Year	Vegeta- ble Oil	Butter Oil	Quantity (MT) of:			
			Dry Skim Milk	Fish Products	Pulses	Other*
1981/82	1,814	630	586	386	-	-
1982/83	1,702	620	3,946	440	-	55
1983/84	4,358	400	5,721	992	140	349
1984/85	5,226	-	2,781	1,905	1,469	692
1985/86	3,063	-	3,913	2,445	100	1,013
1986/87	8,356	-	2,509	2,568	-	1,148
1987/88						

Source: WFP

* Includes Sugar.

Objectives of Food Aid

Objectives for food aid to Ghana may be classified under any of the following categories:

- emergency food relief
- nutritional supplementation
- food for development through the generation of counterpart funds.
- food for work.

The most significant food aid inflows for disaster relief occurred in 1983 and 1984. The objectives of food aid then was to provide immediate food relief to victims of drought and bush fires. Priority was further given to the aged, children, pregnant women and lactating mothers as these were considered the most vulnerable of victims. The relief programme was executed by the National Mobilization Programme (NMP). The amounts of food aid delivered for emergency assistance over the period are indicated in Table 3.3. About 3 million beneficiaries were reached in the programme.

A second objective of food aid to Ghana is to provide nutritional supplementation to targeted groups and individuals. Both CRS and ADRA provide food through Maternal and Child Health Clinics (MCH) for this purpose. The specific objective is to provide nutritional supplements to pre-school age children and expectant mothers, and as an incentive for attendance to clinics for growth monitoring, immunisation and health education; e.g. oral rehydration. At the time of the study, CRS and ADRA had 110 and 34 MCH centres respectively, spread throughout the country.

Table 3.3 Emergency Food Assistance 1982-84

Quantity (MT) of:

Year (June/July)	Wheat	Wheat Flour	Rice	Coarse Grains
1982/83	-	-	20,447	10,320
1983/84	29,588	3,000	1,090	14,985
1984/85	2,403	4,029	420	3,450

Quantity (MT) of:

Year (July/June)	Blended Foods	Vegetable Oil	Dry Skim Milk
1982/83	50	810	1,138
1983/84	15,827	2,531	2,393
1984/85	20,645	686	712

Year (July/June)	Other Milk	Fish Products	Pulses
1982/83	-	-	-
1983/84	565	625	140
1984/85	-	50	335

CRS also provides food aid in the form of meals at orphanages and schools to pre-school and primary school children. At the time of the study, this organisation assisted 102 daycare centres, 168 primary schools (mostly in the Northern sector of the country) and 11 orphanages.

According to ADRA's Fiscal Year 1988 Report at the time of the study, each of the 34 MCH centers handled 150 malnourished children.

The Fiscal Year 1989 CRS/Ghana Title II programme is as follows:

<u>Programme</u>	<u>No. of Recipients</u>
MCH - mother	58,500
MCH - Child	63,000
Pre-School Feeding	7,315
Other Child Feeding	1,552
School Feeding	34,022
General Relief	<u>622</u>
Total	<u>165,011</u>

Therefore the two NGO together reached 170,111 beneficiaries.

Although food aid is a feature of the MCH centres of ADRA, it is only in support of a nutrition-based health intervention programme. ADRA's MCH programme is an intervention strategy that provides a combination of nutrition and health education, and food supplements with a view to raising the level of health of rural children and reducing child mortality and morbidity. Some of the specific objectives of ADRA's programme include changing the nutritional knowledge and practices of mothers, improving access and utilization of health

services and reducing fertility rates and childhood diseases through family planning education and immunizations. To reduce the dependence of MCH programmes and participants on food aid, ADRA has introduced backyard gardening in its MCH programme to promote local production of nutritious foods.

The provision of food for development through food for work is the primary objective of the WFP in Ghana. Although WFP has supported various projects through its food-for-work programme since 1964, it is its support of Ghana's Economic Recovery Programme through sector rehabilitations, and assistance to the Programme of Action to Mitigate the Social Cost of Adjustment (PAMSCAD) that is considered the most significant.

The project include the Oil Palm (and Rubber) Plantations rehabilitation projects, the Export Sector rehabilitation project, Railway, Ports and Roads rehabilitation, Reforestation project and Assistance to PAMSCAD through school feeding. Projects on reforestation and oil palm plantations were however initiated in 1976 and 1978 respectively.

WFP assistance to the Forestry Department began in 1976 as Project 2075. In 1971, the government decided to undertake a large-scale plantation programme with selected fast-growing species to regenerate and supplement the forests, which had been rapidly depleted due to uncontrolled timber harvesting and shifting cultivation. WFP food assistance to the programme was to provide part payment of wages to workers. After a three year period of experimental food assistance, and evaluation, approval was given for a further 5 years of assistance. The first

expansion phase was a period of consolidation for the adoption of the 'taungya system' in which labourers would settle permanently in the young forest reserves and engage in food production activities. This phase ended in 1984. The project was then extended for yet a second expansion phase with a direct linkage to the ERP, through planting new forests, tending and rehabilitating existing ones, establishing village woodlots for fuel, establishing strip plantations and building roads in the reserves. The immediate role of WFP food assistance would be to serve as an incentive to maintain or recruit labour, increase workers productivity and reduce absenteeism, alleviate food shortages in remote rural areas, supplement and diversify the diet of workers and their families and, finally generate savings to be used for social and economic development activities for workers.

The objective of the oil palm project was to reduce the deficit of palm oil for local consumption through a programme of developing new plantations and rehabilitating existing ones. WFP assistance to this project began in early 1978 as Project 2258 in an initial phase, followed by two expansion phases ending in 1984. Project 2258 was also to provide food assistance for the rehabilitation of a government owned rubber plantation.

Again, WFP assistance in all phases of the project would be used as part-payment of wages, which will also permit the generation of savings through deductions from wages, to be used exclusively for strengthening the agricultural extension service for providing technical assistance to small holders. Food was also to be given as an incentive to improve field planting and

upkeep to small holders and outgrowers attached to the Ghana Oil Palm Development Corporation (GOPDC) plantations, as well as small-holders in each of the six-oil palm growing regions.

Food assistance to the Railway and Ports rehabilitation project started in October 1984 as project 2714 in a 6 month quick action phase, which was extended for another two and half years. The World Bank assisted road rehabilitation project was added in October 1985. Based on good performance of the railways and ports, an evaluation mission of April 1987 recommended a further extension of the project for 3 more years beginning August 1988.

Like the other projects, WFP assistance is to increase the productivity of workers by reducing absenteeism, and attracting and retaining labour. Estimated number of beneficiaries include up to 12,000 highways and feeder roads workers, 8,600 railways workers and 8,400 ports workers.

Rehabilitation of the export sector is a principal feature of Ghana's ERP. Project 2752 started in 1986 with food aid to selected timber companies, gold mining companies (.e.g. Ashanti Gold Fields Corporation and State Gold Mining Corporation), the Cocoa Sector and GHAIP. Specifically, the food would serve as an incentive for increased productivity, stabilizing the workforce of about 40 beneficiary companies and reducing absenteeism. The food will also help generate revenue to Government through contributions made by workers and management.

ADRA also has a food for work programme at the community level. The objective of ADRA's programme is to promote

developmental work by boosting the morale of workers. Projects are initiated at the local level and engage the unemployed and underemployed on voluntary basis.

The final objective of food aid to Ghana is to support development programme through the generation of counterpart funds, or through concessionary imports. The principal donors of such food aid are the US (under PL480 Title I), Canada, Japan and the EEC.

It may be noted that WFP food for work programmes also generate funds through deductions from workers' salaries as token payment for foods received. Money generated is used in part to provide logistic support for food distribution; the rest is available to government for other developmental support with approval of the WFP.

Procedures for Acquisition of Food Aid

Food aid is acquired through bilateral agreements between donors and the Ghana Government, or non governmental organisations such as CRS and ADRA. During emergency situations, food aid is given in response to the government's appeal to the international community for help. The Ghana Government largely requests for food aid through bilateral arrangements to support specific projects, or government budget, as well as improve the general food supply situation in the country.

Before WFP provides food, the government makes a formal request in which the identified project is described and the intended use of food and its impact on the project stated. For example the role of food aid on the railways and ports rehabilitation project is stated as follows in a project proposal:

'Within the framework of Ghana's recovery and stabilization programmes ... WFP food aid is requested to provide:

- (i) a sufficient food intake to labour force who has inadequate diet;
- (ii) an incentive to workers and staff,... to increase their productivity'.

The principal condition for food aid apart from the existence of a viable development project is that there should be the necessary infrastructure and personnel to effectively manage and distribute the food. Thus after the food is delivered to the port, the Ghana Government, through the executing ministry or department takes responsibility for the distribution. The food commodities donated by WFP are determined by the food preferences of Ghanaians and availability in donor countries. Food quantities are based on a specified daily ration and number of recipients or workers on each project. In most cases 3 daily family rations for four form the basis for calculation.

Food aid from Canada, EEC, Japan and the US is also donated through bilateral agreements between government (or CRS and ADRA) and these countries.

Institutional Framework for Receipt and Distribution of Food Aid

Four types of arrangement for the receipt and distribution of food aid are identified depending upon the target recipient and type of programme.

Since 1983 all emergency food is administered by the National Mobilization Programme. The NMP acquires logistic for food distribution as and when needed from government assisted commercial houses and state-owned enterprises. In 1983 the NMP acquired warehouses from the Ghana Food Distribution Corporation (GFDC) and the Ghana National Trading Corporation (GNTC) among others, and engaged a fleet of 25 vehicles ranging from 10 tons to 45 tonnes from the State Transport Corporation and private transport owners. For personnel, the NMP recruited volunteers. A number of non-governmental organisations also volunteered to assist the NMP in the distribution of food aid at their own expense.

Food for work from WFP is managed by a project officer in the executing ministry. Each project officer collaborates with WFP field workers who are responsible for monitoring the flow of food to beneficiaries.

Once the food arrives at the port the channel of distribution may vary according to project type. For example, at the beginning of the railways and ports rehabilitation

project, workers volunteered to evacuate food to distribution centers, while management supplied warehouses. Then in 1986, the Ministry of Finance and Economic Planning and WFP decided that workers in all WFP assisted projects should pay a token for food received. The amount paid graduated from ₵275 in March 1986 to ₵1,000 by January 1989. Seventy percent of the funds was reserved as counterpart fund for other developmental support, and 30 percent to provide logistic for food evacuation and distribution.

For transit storage, projects have warehouses in Tema and Takoradi. Food is distributed after an allotment order is issued by the project officer (and the food manager in the case of Railways and Ports). Port workers receive their ration at the ports while distribution to railway workers is made as and when the trains move. Regional and district set-ups of the Ghana Highways Authority are used to distribute food to workers of the department.

Beneficiary organisations and companies on the export sector rehabilitation project are responsible for managing the distribution of food; they also contribute 30 percent of the counterpart fund.

ADRA and CRS both have adequate warehouses in Tema. Information from CRS, indicates two warehouses of 4,500 mt capacities to hold a total of 8,000 mt of food annually. CRS engages 12 trucks on contract basis to cart food from Tema straight to distribution centers. ADRA has four vehicles to move food from the main depot in Tema to warehouses in the Eastern and Western regions. Food is then moved from the

warehouses by pick-ups to distribution centers. Centers in all other regions are served directly from Tema. These centers use hired vehicles and pay for the trip to Tema while ADRA pays for the cost of the return journey.

In terms of personnel, CRS has a regional food and Nutrition Supervisor in the Upper West, Upper East, Northern, Ashanti and Western Regions. These supervisors monitor the activities of the centers. At the end of 1987, there was an average of 34 centers per supervisor. Actual distribution at centers is carried out by staff of collaborating institutions - nurses, teachers, social welfare workers, etc.

ADRA also has regional co-ordinators for its food aid programme. ADRA, like the CRS, relies on staff of Ministry of Health for food distribution. Regional co-ordinators monitor food flows in the MCH centers, while field inspectors from the headquarters assist regional co-ordinators to inspect projects served by the food for work programme. The local community organises the distribution of food for work.

Ghana government assistance to CRS includes payment of handling charges, charges for clearing at port and cost of warehousing prior to distribution. This may also apply to ADRA.

Finally, food aid intended purely for the generation of counterpart funds or improvements of Balance of Payment finds its way to the open market through the Ghana National Procurement Agency (GNPA), the GNTC and the GFDC.

The GNPA began distributing food aid from Canada and the U.S. (under PL 480) in 1981, following a government directive. The GNPA clears the goods from the ports and stores them at its

depot until the Ministry of trade allocates the goods to various commercial houses. The commercial houses then do their own distribution at the regional and district levels. However, all bulgar wheat received is allocated directly to two flour mills in Tema and one in Takoradi.

In 1984, the GNTC was also asked by government to distribute PL 480 rice. The commodities have since expanded to include cooking oil, canned fish, bulgar flour and dry skimed milk from Canada, EEC and Japan.

It is however not clear whether the distribution and sale of food aid items are different from those of any other goods sold.

Food Aid Co-ordination and Constraints

The need for co-ordination among both the food aid donor countries on the one hand, and distribution agencies on the other in a specific country has long been recognised. However, it was not until the World Food Conference of 1974 that there has been a substantial increase in discussion of the urgent need for coordination among the agencies donating food to a specific country. Historically, food aid donors have had a tendency to program food assistance with little or no regard for the programmes and food aid composition of other donors for the country. The World Food Conference generated discussions and encouraged bilateral agencies along with U.N. World Food Programme to make greater efforts to coordinate their programming decisions.

In Ghana, food aid donors and distribution agencies in recent years have been meeting in November or December to review the year's activities and discuss the following year's programme. Most donor agencies and countries such as the USAID, WFP, EEC, Canada, the Federal Republic of Germany, among others; and distribution agencies particularly CRS and ADRA, are usually represented at such food aid donors' meetings. Representatives of the Ministry of Agriculture, Ministry of Finance and Economic Planning, and the Ministry of Trade are usually invited to such meetings.

Food aid coordination have been useful to donors in taking account of anticipated food aid levels from other donors and the focus of their specific programmes; and also for the discussion of matters such as commodity mix and timing of food aid deliveries. They also help to involve food aid staff in programme design and implementation, strengthen the staff's design capability, and improve food aid distribution and use.

It is to be noted that there has not been any exclusive coordination among distribution agencies of food aid in Ghana. The appearance of coordination seems to exist between ADRA and CRS only, and this is mainly because both receive and distribute food aid from the same sources, particularly USAID and Canada (in emergency situations). Interviews among distributors revealed that they are usually aware of the operations and activities of other distributors, and ADRA and CRS are particularly careful not to duplicate the activities of each other.

In 1987, CRS initiated a consortium of counterpart agencies, comprised of the Ministry of Health, Catholic Church of Ghana, the Christian Council of Ghana and CRS. The Consortium would assist CRS in the administration of funds generated through beneficiary contributions in CRS food aid programme. The Consortium was also to develop a collaborative capacity in responding to general-relief and emergency situations in Ghana.

Collaboration for similar purposes need to be established between agencies.

The constraints and problems that confront food aid donors in Ghana seem to have eased considerably under the PNDC government, and particularly since the onset of the government's Economic Recovery Programme in 1983. Most donors, particularly the USA and Canada, confine their involvement in food aid basically to the arrangement of food aid from their countries and shipments of approved consignments. Once the commodity arrives in the country, it is the responsibility of the Government of Ghana and the distribution agencies, particularly CRS and ADRA, to supervise their delivery at the port and subsequent distribution throughout the country under agreed upon procedures. Major constraints that face food aid donors to Ghana may therefore be categorised into two: budgetary constraints which make it impossible to satisfy every request in the light of the myraid of requests from other countries; and spoilage or losses during shipments which were generally put at some 5 to 10 percent. Delays in shipments and delivery of food aid seem not to be an important problem since most donors report

that their consignments usually arrived on schedule at the ports.

Major problems and constraints, however, seem to hamper and sometimes delay the operations of food aid distributors in Ghana. Notable among them are lack of adequate storage facilities and other logistic support at the ports, inadequate labour and therefore delays in off-loading food aid commodities and their subsequent transportation from the ports, rampant pilferage and diversion of items, particularly relief items and finance for internal transportation and distribution of food aid items. Lack of adequate supporting staff for food aid distributors for handling, storage, and distribution of food aid items seems to be acute particularly for distributing relief items. The WFP reports that the National Mobilization Programme (NMP) which worked in very close collaboration with it in distributing relief items during the drought period of 1983 had to recruit an average of about 150 volunteers per day for the programme period between 1983 and 1985. These volunteers received small "food for work" parcels in lieu of cash payments. Apart from the food parcels being considered as some kind of reward, they also served as a disincentive to the rampant stealing and diversion of the relief items during the height of the famine in the country.

Due to the very scanty staff of most food aid distribution agencies in Ghana, CRS and ADRA in particular have had to depend basically on the staff of departments that work in collaboration with them to distribute food aid. Such departments and agencies include the Department of Social Welfare, the Nurses and Staff at various hospitals, clinics and

health posts, and Teachers particularly: those of Catholic Mission Schools which distribute food aid. Though this arrangement reduces cost of distribution and has so far worked quite successfully, it tends sometimes to delay the operations of CRS and ADRA since they have no direct control over the staff who are also committed to their normal duties.

Another issue which sometimes seems to bother donor countries and agencies relates to the use of counterpart funds generated from food aid sales. Some donors and agencies, particularly the WFP reported that counterpart funds are in most cases not used for their intended purposes, and that government usually tends to look at it as another source of revenue. Such a situation hampers the proper assessment of food aid targeted programmes and projects, and sometimes cause difficulties in further food aid negotiations.

Summary

Ghana receives food aid for the following four objectives:

- emergency relief
- nutritional supplementatation in normal years
- food for development through the generation of counterpart funds, and
- food for work.

The most regular food donors are the US, WFP, EEC, Canada and, since 1984, Japan. Several other countries and agencies donate food under emergency situations.

Principal distributors of food aid are CRS, ADRA, MNP and some commercial houses for the distribution of food for generation of development funds

The government of Ghana often has the request for food aid through bilateral arrangements.

Food for work from WFP has supported government programmes since 1964. Current WFP support is for Forestry, Railways, Ports and Roads rehabilitation, oil palm plantation rehabilitation, and school feeding in support of PAMSCAD, WFP food for work has indeed achieved its objectives.

Food aid for the generation of development funds and relief of government budget has come from the US, Canada, the EEC and Japan. As shown in another chapter, the value of such funds is substantial. The acquisition of this food is through bilateral agreements. The food is then distributed by commercial houses in the open market.

The Ministry of Trade allocates the food items and in some cases, this has been unsatisfactory. The National Procurement Agency, which takes delivery of most of the food items, has expressed dissatisfaction at the inability of some distributing agencies to pay for and collect items allocated to them on time.

Food for nutritional supplementation is acquired by ADRA and CRS from the US and Canada. Such food is distributed through MCH centers, and child feeding programmes in schools and orphanages.

The roles of ADRA and CRS in the distribution of food aid involve payment for the logistics in distribution, provision of nutrition personnel for nutrition education at the centers, and general supervision, and monitoring of food flows by field workers. The main constraints of the two NGOs is lack of

personnel. Volunteers and staff of beneficiary departments may not be overburdened but may also not be committed enough. This was evidenced as failure to keep records of measurements on children in school feeding programmes, an absolute requirement for evaluating the impact of food on recipients.

Results of surveys of MCH centers also indicate that there are many more recipients than the centers can and are allowed to handle. Distributors therefore tend to allocate portions of recommended rations. Although food aid distributed by ADRA and CRS is only part of a much broader nutrition education programme, quantities allocated must still be sufficient to make the necessary impact on nutrition and health of recipients.

The ability of the government to acquire and distribute emergency food aid was put to test during the 1982-83 famine. The response to government's appeal for aid was tremendous. The number of donors more than quadrupled. Overall, the NMP ably handled the distribution of the food, reaching 3 million recipients. The willingness of the general public to volunteer to distribute the food was a major factor contributing to the success of the programme.

Conclusions and Recommendations

Overall, food aid programmes in Ghana seem to have worked well. Though requests for and donation of food aid is through bilateral agreements between the government and the donating or distributing agency, there is not a single institutional arrangement or mechanism for the acquisition and distribution of

food aid. There are as many arrangements as objectives. Government has control over the distribution of only food aid for emergency relief and for the generation of counterpart funds through direct monetisation.

The multiplicity of acquisition and distributing arrangements is due to the multiplicity of objectives and donors. However such a system may hinder co-ordination in terms of food types and timing food aid inflows. There is currently no indication of such lapses in the present system.

Five main weaknesses that need correction are:

- 1) The discrepancy between ration volumes for the Food for Work programmes and for nutritional supplementation in MCH centers, with recipients in MCH programmes receiving highly inadequate rations.
- 2) Lack of co-ordination to meet seasonal food shortages. This is particularly true of food aid that is commercialised.
- 3) Inadequate numbers of trained personnel at ADRA and CRS for the distribution and monitoring of food aid flows.
- 4) Inappropriate use of counterpart funds generated by WFP food aid.
- 5) Losses due to spoilage and pilfering, especially of relief food items.

The following recommendations are made as correction measures.

Recommendations

(1) Though the role of food aid as an incentive to attend MCH clinics now overrides the need for nutritional supplementation, most patrons of MCH centers do need that support to improve nutrition and health.

The criteria for evaluating quantities of food allocated to each center should include calculations based on rations for the family and not just the individual recipient. Interviews with recipients indicated that often, other members, if not the rest, of the family do share in the rations.

It should be noted that food is a good incentive to improve attendance at MCH clinics because there is a general need for that food.

It is also being proposed that WFP extend its support to MCH Centers.

(2) Direct government intervention is needed to control seasonal flows of commercialised food aid to markets, and to ensure a spatial distribution that will mitigate regional severity of seasonal food shortages.

(3) ADRA and CRS should be more involved at the distributing centers. This is necessary to ensure that the specific objectives of food aid at the centers is achieved through direct impact assessment.

This can best be achieved through training and better education of distributing personnel about food aid objectives, and through a formal integration of food aid distribution activities with personnel's normal functions.

(4) Self-control on the part of government is necessary to control the use of counterpart funds. Projects to benefit from such funds should be specified within the agreement.

Alternatively, such funds could be used to purchase food locally to support other programmes.

(5) Losses due to spoilage and pilfering suggest a slack in monitoring food aid movement during distribution, and at the distributing center level. Pilferage can occur anywhere between the ports and the center. Close monitoring through frequent and regular returns and a reliable security system can help.

Spoilage may occur before or after shipment. It is therefore the responsibility of both donors and distributors to check deliveries and ensure proper packaging and storage.

Of course the added costs of steps to control losses should be measured against the potential benefits.

EFFECTS OF FOOD AID ON DOMESTIC AGRICULTURE

A disproportionate share of the studies on the role of food aid in economic development has concentrated on the potential disincentive effects of food aid on domestic agriculture. However, as demonstrated in the literature review below, the existing empirical evidence in support of the disincentive hypothesis is not conclusive. The main thrust of this section is to undertake further empirical analysis of the issue using data relating to Ghana.

Review of the Literature

The literature on the impact of food aid on recipient country's agriculture is not conclusive on the direction of the impact. Whereas some studies have observed that increased food aid inflows depress food prices and food production (cf. Schultz 1960, Mann 1968, Dudley and Sandilands 1975, IBRD 1981, USAID 1983, and USAID 1985), others have observed that food aid inflows do not precipitate reduced food prices and reduced food production (cf. Olson 1960, Khatkhate 1962, Dantwala 1967, Srivastava 1968, Stevens 1979, Clay and Singer 1982 and 1985, USAID 1983, USAID 1985, and Garcia and Llamas 1988). Maxwell and Singer (1979) found that only seven out of twenty-one countries included in their study showed significant food price and production disincentives.

USAID (1983) observes that whereas wheat aid contributed to a possible disincentive effect on domestic wheat production in Peru during 1955-64, and on sorghum and millet production in Sri Lanka during the mid-1970's, there was no significant disincentive effect on domestic rice production in Peru and Sri Lanka. USAID (1985) observed a disincentive effect on the production of pulses in Sri Lanka but no negative effect on rice production in Sri Lanka and Bangladesh.

The studies on the evaluation of the role of food aid in developing countries have covered a wide range of agricultural commodities, although cereals have been accorded the largest attention. Non-cereal commodities have not featured prominently in quantitative food aid evaluation studies. This is not because the food aid basket includes only cereals (indeed the basket includes non-cereal commodities as well) but perhaps because of the data inadequacy problem which plagues developing countries.

It is worth noting that food aid inflows have been found to increase food consumption, particularly where food aid does not substitute perfectly for commercial food imports. The studies of Sen 1960, Mann 1968, Srivastava 1968, Rogers, Srivastava, and Heady 1972, Isenman and Singer 1977, and Clay and Singer 1982 illustrate this.

There appears to be a burgeoning consensus in the literature that increased food aid inflows do not necessarily cause reduction in domestic food prices in recipient countries. This is because the potential price disincentive effect could be

prevented from actually occurring by implementing a carefully designed domestic agricultural policy. Domestic agricultural policy including effective food aid management could minimize or prevent the occurrence of food aid disincentive effects in a number of ways.

First, by allowing food aid inflows to precipitate a fall in the food prices consumers face and using funds generated from monetised food aid to provide higher support prices to food producers it is possible to prevent potential food aid disincentive effects from occurring (cf. Isenman and Singer 1977, Clay and Singer 1982, and Maxwell 1986A and 1986B for illustrations relating to India, Brazil, Colombia, Tunisia, Senegal and Ethiopia). Second, through the operation of a free and (or) partially subsidised food distribution system. This directly raises the overall demand for food as real incomes rise because of the low food prices charged in subsidised food markets (cf. Rogers, Srivastava and Heady 1972, Isenman and Singer 1977). Third, by distributing the food aid to the poor and malnourished in the recipient country, hence directly creating additional demand which shifts the aggregate food demand curve to the right. This in turn mitigates or prevents any potential disincentive effect. Fourth, food aid inflows could be used to feed the food buffer stock system of the recipient country if it operates one. In this way, food aid could be used to stabilise domestic food prices (see for instance Mellor 1984). Fifth, distributing food aid as part of development projects such as infrastructure development projects in food-for-work schemes could also mitigate price disincentive

effects of food aid in recipient countries. This is appreciated when one takes cognisance of the fact that such projects tend to increase incomes, particularly of the poor engaged in such projects, which in turn exerts an upward pressure on food demand hence preventing price disincentive effects from occurring.

The discussion so far leaves one with the impression that depressed food prices and production are the only sources of food aid disincentive effects on domestic agriculture of recipient countries. However, it is important to mention that, although the price disincentive argument is the most fundamental polemical food aid issue, it is not the only source of food aid disincentive effects.

Indeed, there are other sources of disincentive effects in the literature. For example, Schultz (1980) argues that food aid encourages recipient countries to neglect the implementation of fruitful agricultural policy to develop domestic agriculture or generally to discriminate against domestic agriculture. This is essentially the policy disincentive argument. As a second example, where the food aid basket comprises commodities which are not produced locally, consumers in the recipient economy may develop strong taste and preference for such exotic commodities and hence may switch away from locally produced food. This stimulates food import dependency which is inimical to a recipient country's drive towards food self-sufficiency. Another source of food aid disincentive effect on domestic agriculture is the agricultural labour supply disincentive. The argument here is that, if food aid becomes adequately and regularly available to food producers, then they will be

encouraged to disinvest their labour services away from food production and therefore agricultural labour supply dwindles.

The above discussion on the sources of food aid disincentive effects makes it imperative for any evaluation of the disincentive effects of food aid in a given recipient country to consider all the aforementioned disincentive effects. The relevant literature is replete with evaluation of the price and production disincentive effects, while it shows a depth of studies on the evaluation of the policy disincentive of the agricultural labour supply disincentive effect, as well as of the food import dependency effect.

In our empirical study on Ghana the price, production, consumption and the food import dependency effects are studied. The agricultural labour supply and policy disincentive effects are not examined, not because they are any less important than the effects studied but because of data limitations. The following methodology is employed to address the question of the effects of food aid inflow on food prices, production, consumption and food preferences is detailed in Appendix 4.1.

Ready availability of data suggested that we include only four food commodities in our empirical study on Ghana, viz., rice, sorghum, millet, and maize; and the time series data covered 1978-87. Time series data on domestic production and commercial food imports were obtained from the Policy, Planning, Monitoring and Evaluation Unit (PPME) of the Ministry of Agriculture in Ghana. Time series data on food aid inflows into Ghana were obtained from FAO Food Aid in Figures (various issues). The elasticity figures were generated from an

empirical econometric model which is presented in Appendix 4.2. The model was based on time series data obtained from the PPME, the Ghana Statistical Service and the FAO.

The relevant parameters computed are those in equations (1), (7), and (10) in Appendix 4.1. For each commodity, three kinds of F_{pj} are computed; first, using the arithmetic mean of W_j ; second, using the minimum W_j and finally, using the maximum W_j . Similarly, three variations of F_{sj} and F_{dj} were computed. The empirical results are presented below.

Effect on Food Prices

Column 5 of Table 2.1 shows the elasticities of the decline of the domestic prices of rice, sorghum, millet, and maize with respect to food aid inflows in Ghana. For example, for rice the absolute elasticity lies between 0.268 and 0.296 with a "mean" of 0.284. This implies that, on the average, a 10 percent increase in rice food aid inflow depresses domestic rice market price by 2.84 percent. Hence domestic rice market price is inelastic to rice food aid inflow.

Table 2.1 further shows that for all the commodities, domestic market price is inelastic to changes in food aid inflows. The relevant elasticity is highest for maize and smallest for rice. For maize the elasticity lies between 0.933 and 1.00 with a mean of 0.965. Hence, on the average, a 10 percent increase in maize food aid inflow depresses domestic market price of maize by 9.65 percent.

The figures in Table 2.1 should be interpreted with caution. This is because the methodology which form the basis of these figures assumes that all the food aid is sold on the open market. This is indeed a heroic assumption since not all

TABLE 2.1 EFFECTS OF FOOD AID INFLOWS ON DOMESTIC FOOD PRICES, PRODUCTION AND CONSUMPTION IN GHANA 1976-1987

Commodity	Supply	Demand	$q_j = 1j^c + j$	Price Effect	Production Effect	Consumption Effect
	elasti- city	elasti- city	$q_j = 1j^c$	$\bar{p}_{pj} = (\alpha_{sj} + \alpha_{ij}/j)^{-1}$	$F_{sj} = \alpha_{sj}$	$F_{pj} F_{dj} = \alpha_{ij} F_{pj}$
(1)	\bar{e}_{sj}	\bar{e}_{ij}	(4)*	(5)*	(5)*	(7)*
RICE	2.63	0.75	1.19 (1.00) [1.45]	0.234 (0.235) [0.253]	0.747 (0.773) [0.795]	0.213 (0.222) [0.233]
SORGHUM ^A	0.74	2.25	1.27 (1.01) [1.45]	0.339 (0.331) [0.347]	0.213 (0.245) [0.133]	0.553 (0.745) [0.553]
MILLET ^B	1.13	0.51	1.07 (1.00) [1.00]	0.531 (0.531) [0.531]	0.335 (0.335) [0.335]	0.314 (0.314) [0.314]
SORGHUM ^B	0.74	2.25	1.07 (1.00) [1.00]	0.333 (0.333) [0.333]	0.245 (0.245) [0.245]	0.752 (0.752) [0.752]
MAIZE	0.40	0.30	1.25 (1.00) [1.12]	0.355 (1.355) [0.333]	0.335 (0.133) [0.373]	0.573 (0.533) [0.559]

* The figures in square brackets are based on the maximum $1/j$, whereas those in curved parentheses are based on the minimum $1/j$. The figures which are not in parentheses are based on the arithmetic mean of $1/j$.

A Here, it is assumed that the bulk of coarse grains is made up of sorghum; this is necessary because coarse grain food aid inflows data is not disaggregated. Sorghum data is included in the coarse grain data. Sorghum food aid data was not available.

B The assumption here is that coarse grain food aid does not include sorghum.

** The assumption here is that coarse grain food aid is made up of maize. Maize food aid inflow data is not available.

the food aid inflow is sold on the open market. As was discussed in the literature review, the distribution of food aid in free and (or) subsidised food markets creates additional food demand which offsets the price disincentive effect. Unfortunately time series data on the proportion of the food aid which is distributed through subsidised markets is not available. If this proportion is indeed substantial then the elasticity figures have been overestimated: that is, the price disincentive effects have been overestimated. On the contrary, if the proportion of the food aid distributed in subsidized markets is indeed not substantial, then the bias in the computed elasticities is not significant.

It is important to note that where wholesale prices are used as proxy for farm prices received, a potential negative effect of food aid inflow on wholesale prices of food may or may not pass through to the farm-gate. This is because wholesale price changes do not automatically transmit to farm-gate prices. Notably, however, the price relevant to farm producers is the farm gate price to which farm producers are expected to respond. The general conditions for wholesale price change pass through to farm-gate prices have been generated in Appendix 3.3. If condition (2.5) in Appendix 3.3 holds for the market of a commodity j under study, a drop in the wholesale price of j as a result of food aid inflow will not be transmitted into depressed farm-gate price of j . If (2.6) holds, then a 10 percent drop in wholesale price due to food aid inflow will pass through to farm-gate price precipitating a 10 percent drop in farm-gate price.

price disincentive effects of food aid, it is relevant to convey a revelation obtained from our interviews with the relevant personnel of the ministry of Finance personnel of the Ministry of Finance and Economic Planning. This interview revealed that Lever Brothers, as at the time of the interview, had been at the time of the interview, had been facing severe competition from imports of vegetable oil (due to the current trade liberalization policy) which seem to have also depressed domestic vegetable oil prices. This has affected vegetable oil production by the Lever Brothers and this has forced the government to consider imposition of a ban on vegetable oil imports and also refusing vegetable oil food aid inflows. Notably, due to data limitations it was not possible to estimate the potential effect of vegetable oil aid inflows on the domestic price of vegetable oils.

Nevertheless, under the current Fund-Bank supported reforms government, for fear of evoking memories of the introduction of a controlled regime again, would not like to ban such imports. Hence the need arises to design complementary policies to offset the potential negative effects of vegetable oil aid inflow.

Effect on Production

The magnitudes of the effect of food aid inflow on domestic production of the specified commodities are shown in Column 6 of Table 2.1. The relevant elasticity for rice lies between 0.705 and 0.778. On the average, a 10 percent increase in rice aid inflow depresses domestic rice production by 7.47 percent. Rice shows the largest production disincentive effect

while sorghum shows the smallest effect, albeit each of the commodities exhibit inelastic effects.

The relatively small production disincentive effect on Sorghum and millet are perhaps due to the fact that the bulk of sorghum related food aid (eg. sorghum grits and soy-fortified sorghum grits) is distributed in free and subsidised markets in food-for-work, maternal child health, and other nutrition improvement programmes.

It is worth noting that, the results in Column 6 of Table 2.1 are very significant when one appreciates the fact that Ghana has significant comparative advantage in the production of most of the food commodities considered in this study (see the Domestic Resource Cost figures in Table 2.2).

Table 2.2:

Domestic Resource Cost Coefficients
for some cereals in Ghana, 1988

Commodity	Farm-Gate	Rural Market	Wholesale Market
RICE			
Traditional	0.58	0.64	1.22
Improved	0.61	0.70	1.73
Mechanised	0.27	0.35	1.52
Advanced	0.25	0.31	1.09
Irrigated:(LS)	0.40	0.47	1.30
(SS)	0.17	0.22	0.79
MAIZE			
Traditional	0.68	0.76	1.72
Improved:Draft	0.40	0.53	1.39
Mechanised	0.38	0.46	1.51
Advanced:Draft	0.36	0.42	1.31
Mechanised	0.31	0.37	1.35
SORGHUM			
Traditional	0.57	0.63	0.83
Improved	0.78	0.89	1.20
MILLET			
Traditional	0.80	0.89	1.12
Improved	0.80	0.91	1.23

SOURCE: E.O. Asante et al (1989)

Effect on Consumption

-58-

The final column of Table 2.1 shows that food consumption is inelastic with respect to increased food aid inflows. Food aid inflows increase food consumption. Reduced domestic food market prices raise the real incomes of people of the recipient country. Increased real incomes in turn stimulate increased food demand.

Food Aid and Price Stabilization

The directions of the effects of food aid inflows on the statistical variances of the domestic market prices of the various commodities are summarized in Table 2.3. All the computed (F_{pj}^{-1}) values are negative. Hence, as stated in equation (21), an increase in food aid inflows precipitates a drop in the variance of the market price of each of commodities under study.

TABLE 2.3 DIRECTION OF THE EFFECT OF FOOD AID
INFLOWS ON THE VARIANCES OF FOOD
PRICES IN GHANA

COMMODITY	F_{pj}^{-1}	IS (F_{pj}^{-1}) ?
RICE	-0.716 (-0.704) [-0.732]	Yes
SORGHUM ^A	-0.711 (-0.669) [-0.753]	Yes
MILLET	-0.419 (-0.419) [-0.419]	Yes
SORGHUM ^B	-0.667 (-0.667) [-0.667]	Yes
MAIZE	-0.035 (0.00) [-0.067]	Yes

See the footnotes of Table 2.1

59

The marginal reduction in market price variance, as a result of increased food aid inflows, ceteris paribus, is highest for rice and lowest for maize. Food aid inflows could therefore contribute positively to food price stabilization. Given that government agricultural support price system is effective, the important role of food aid in terms of prices will be stabilization.

Food aid and Food Preferences

It is often argued that availability of food aid (whose basket is made up of exotic commodities) could stimulate a switch of taste and preferences away from locally produced food to these exotic food commodities. And therefore create food import dependency which is inimical to the recipient country's objective of attaining food self-sufficiency. To examine this notion for the Ghanaian situation, 238 food aid recipients were randomly selected across the length and breadth of Ghana.

Details of the survey are presented in Chapter 2. These recipients were asked to indicate whether they were willing to substitute locally produced food commodities for any of the food aid commodities they had been receiving. And, if so, what were these local commodities. This survey indicated that approximately 31.5 percent desired to substitute locally produced food for one or more food and commodities, whereas as much as 68.5 percent was not willing to substitute any locally produced food commodity for the food aid commodities. The local food

commodities mentioned as desired substitutes food aid and the proportion of the total sample indicating these are summarized in Table 2.3.

It could be inferred from the above that as long as the current food aid basket continues to be served, the local food market would continue to lose potential customers (here about 68.5 percent of the potential customers) and hence stimulate decreased demand for locally produced food commodities. This could, of course, jeopardize Ghana's drive towards food self-sufficiency.

TABLE 2.4 'DESIRE OF FOOD AID RECIPIENTS TO
SUBSTITUTE LOCALLY PRODUCED FOOD FOR
FOOD AID

FOOD COMMODITY	NO. OF RECIPIENTS	PERCENTAGE OF TOTAL NO. OF RECIPIENTS
1. Corn/Maize dough	28	11.76
2. Rice	29	12.18
3. Wheat	1	0.42
4. Weanimix	8	3.36
5. Beans	6	2.52
6. Groundnuts	1	0.42
7. Dried Cocoyam flour	2	0.84
8. Plantain	5	2.10
9. Cassava	1	0.42
10. Palm Oil	4	1.68
11. Palm Kernel Oil	1	0.42
12. Groundnut Oil	3	1.26
13. Salted fish/Koobi/Smoked fish	6	2.52
14. Yam	9	3.78
15. Local food items	5	2.10
Total	75	31.51

Sample size: 238

Number of recipients not desiring to substitute local food: 163

Conclusion

The results of the study show that, although food aid inflows depress domestic food producer prices and domestic food production, a 10 percent increase in food aid inflow tend to precipitate a less than 10 percent drop in domestic food prices and food production. On the contrary, food aid inflows stimulate increased food consumption particularly where food aid inflows do not substitute for normal food imports and where the food is sold in subsidized food markets. Sale of food aid in such subsidized markets tends to increase the real incomes of particularly the poor with respect to food and therefore tends to increase food consumption.

It was observed that increased food aid inflows cause a reduction in the variance of food prices. Hence food aid tends to stimulate the stabilization of food prices.

The results of the study are consistent with the assertion that increased food aid results in a switch of domestic tastes and preferences away from locally produced food commodities but towards the exotic commodities included in the food aid basket. Thus increased food aid inflows could jeopardise Ghana's drive towards food self sufficiency.

Finally, it is indicated that the potential disincentive effects of food aid inflows could be prevented from occurring or minimised through effective complementary agricultural producer price and technological support policies. In addition, the proportion of food aid distributed through subsidised food markets particularly to the poor could also be a policy in the right direction. In a nutshell, one could conjecture that increased food aid inflows do not necessarily harm domestic agriculture of recipient countries.

BIBLIOGRAPHY

- Clay, Edward and Hans Singer Food Aid and Development: The Impacts and Effectiveness of Bilateral PL 480 Title I - Type Assistance, Aid Program Evaluation, Discussion Paper No.15, Washington DC: AID December 1982.
- Clay, E. and H.W. Singer "Food Aid and Development: Issues and Evidence", World Food Programme Occasional Papers, (1985), No.3, p.16.
- Fisher, F.M. "A Theoretical Analysis of the Impact of Food Surplus Disposal on Agricultural Production in Recipient Countries." Journal of Farm Economics 45 (November, 1963), pp.863-75.
- Garcia, G.J. and G.M. Llamas Coffee Boom, Government Expenditure, and Agricultural Prices: The Colombian Experience: IFPRI Research Report 68, Washington DC: International Food Policy Research Institute, August, 1988.
- Isenman, P.J. and H.W. Singer "Food Aid Disincentive Effects and their Policy Implications", Economic Development and Cultural Change, 25 (1977), p.237.
- IBRD, Jamaica Economic Memorandum, 1981 Washington DC, World Bank, 1981.
- Khatkhate, Deena R; "Some Notes on the Real Effects of Foreign Surplus Disposal in Underdeveloped Economies" Quarterly Journal of Economics (May 1962), pp. 186-96.
- Mann, J.S. "The Impact of PL 480 Imports on Prices and Domestic Supply of Cereals in India." Journal of Farm Economics, 49 (February 1967), pp. 131-146. (Reply in Journal of Farm Economics 50 (February 1968), pp.145-147.

- Hood A.M., F.A. Graybill and D.C. Boes
Introduction to The Theory of Statistics, Tokyo; McGraw Hill, 1974.
- Maxwell, S.J. and H.W. Singer "Food Aid to Developing Countries: A Survey". World Development, Vol.7, (1979), pp. 225-247.
- Mellor, John W. "Food Aid: Reflections on a Decade of Action" Food and Nutrition Vol.10, No.1, 1984.
- Maxwell, S.J. "Food Aid to Senegal: Disincentive Effects and Commercial Displacement", IDS Discussion Papers, (1986)^A, No.225.
- Maxwell, S.J. "Food Aid to Ethiopia: Disincentive Effects and Commercial Displacement" IDS Discussion Papers (1986)^B, No.226.
- Rogers, K.D., Srivastava, U.K. and E.O. Heady, "Modified Price, Production and Income Impacts of Food Aid Under Market Differentiated Distribution". American Journal of Agricultural Economics, 54 (May 1972).
- Schultz, T.W. "Value of U.S. Farm Surpluses to Underdeveloped Countries". Journal of Farm Economics 42: 1019-1030, Dec. 1960.
- Schultz, T.W. "Effects of the International Donor Community on Farm People". American Journal of Agricultural Economics, 62, (5), 1980.
- Sen, S.R. "Impact and Implications of Foreign Surplus Disposal on Underdeveloped Economies". Journal of Farm Economics 42: 1031-1042, December, 1960.
- Srivastava, U.K. "The Impact of Public Law 480 Imports and on Prices and Domestic Supply of Cereals: India; Comment". American Journal of Agricultural Economics 50: 143-145, (February 1968).

USAID,

A Comparative Analysis of Five
PL 480 Title I Impact Evaluation
Studies. USAID Program
Evaluation Discussion Paper
No.19 (December 1983).

USAID PL 480 Title I:

A Discussion of Impact
Evaluation Results and
Recommendation. USAID Program
Evaluation Report, No. 13,
(February 1985).

CHAPTER 5NUTRITIONAL IMPACT OF FOOD AIDIntroduction

Among the many reasons (specified or unspecified) for granting food aid to developing countries is the role food aid is to play in increasing nutritional intake of beneficiaries thereby improving their nutritional status.

However, an important issue raised by the question of food aid and its role in development is the extent to which it improves the nutritional status of the target population.

The objective of this section of the study is to evaluate the impact of past and on-going food aid programmes in Ghana aimed at improving health and nutritional status of the target groups.

This section will tackle the objective following the outline below.

1. ~~F~~ A Brief Nutritional Status Profile of Ghana.
2. ~~F~~ A Review of Past Food Aid Programmes with respect to nutritional status.
3. ~~FE~~ Methodology for the present study of on-going food aid programmes.
4. ~~FF~~ Results of study
5. ~~F~~ Summary and Conclusions.

5.1. A Brief Nutritional Status Profile of Ghana.

The latest nutrition survey carried out nationwide was in 1961/62 which described seasonal food shortages among other factors as one grossly affecting the nutritional standards and health of both children and adults. It described a situation whereby the three main climatic zones of the country, namely Northern Savannah, the Forest Zone and the Coastal Zone all experience a seasonal food shortage from April to August. The worst victims of this food shortage are children five years and below, which is reflected in the high incidence of Protein Energy Malnutrition and related diseases and the high death rate (about 40%) in this age group. Again 18% of all the children examined in the survey showed clinical signs of malnutrition. Other subsequent studies have also revealed the existence of significant rates of malnutrition in infants and pre-school children. For instance, the UNICEF National Nutrition Survey, 1986 (unpublished) based on a cross-sectional sample of 14,163 children aged 0 - 6 months showed that about half (51.5%) of the children under 5 years nationwide are stunted, whilst two fifths (40.2%) are wasted. Male children were found to be more likely to be wasted and stunted than the females. The reference data used in this survey was the United States National Center for Health Statistics (NCHS) standard.

Stunting and wasting were determined by indices-2 standard deviations below the median of NCHS standard. Similarly, the CRS/Ghana Growth Surveillance System, 1987 annual report indicated a marked incidence of malnutrition among the children studied. The report was based on weight records of 7,202

children aged 6-42 months from 6 regions in Ghana. The reference data used was the Harvard Standard for weight/age. The data showed 34.1% of the children falling below the 80th percentile of the Harvard standard indicating the presence of malnutrition.

The National Nutrition Survey (1961/62) identified pregnant women also as a very vulnerable group, with a nutritional status much lower than other women of the same age. As a result of the peculiar situation of the vulnerable groups, the National Nutrition Survey among its recommendations suggested a direct Government aid to those groups as follows:

- (a) Weaning and pre-school children were to receive a cheap protein-rich supplement that would supply 10-15 grams of protein daily which could be sold through recognised clinics.
- (b) Pregnant women were to receive a cheap protein and energy rich supplement to be sold through recognised clinics.
- (c) Each school child was to be provided with one meal a day possibly breakfast, which could be a smaller or less expensive meal.

With regard to this background of the country situation, it is not surprising then that some food aid programmes in Ghana have been aimed at improving the nutritional and health status of beneficiaries mainly the same vulnerable groups identified above: infants, children, pregnant women and in some cases lactating women. The focus of these programmes operated mainly by CRS & ADRA is mainly in the rural areas, where the effects of

hunger and related issues pose serious threats to the very survival of these vulnerable groups.

5.2 A Review of Past Food Aid Programmes
with respect to nutritional status

The broad aims of nutrition intervention programmes are to increase nutrient intake and alleviate malnutrition in the target group. As such an immediate or remote objective for granting food aid may be increasing nutrient intakes of the beneficiaries. In Ghana food aid as nutrition intervention, takes mainly the form of food aid commodity distribution to the vulnerable groups. The programme types include: Pre-school feeding in nursery schools (PF), School Feeding in primary schools (SF) and Maternal, Child Care programmes (MCH).

The two main organizations actively involved in such programmes as already indicated in chapter 2 are the CRS and ADRA. The food items being distributed at the time of the study included SFB, WSB, SFSG and vegetable oil. The overall goal of the CRS food and Nutrition Programme is to promote the health of beneficiaries by supplementing their nutritional intake and by providing health/nutrition education and related services. However, its reports on the impact of its programmes indicate the importance of its nutritional programmes. The reports are however, less forthcoming on any accurate measurement of the real nutritional impact of the programmes. In the CRS/Ghana 1981 evaluation report it was pointed out that CRS does not view nutritional impact as a major reason for distributing the food aid commodities. However, a definite and positive impact on the

nutritional status of recipients and their families was seen, but the amount of change solely attributable to the Food aid cannot be quantified. The report depended on the observation and opinions of programme staff who pointed out that the food aid encouraged clinic attendance, thus indirectly improving the health status of recipients. Most of the centers the report noted, did not however maintain sophisticated record keeping systems for documenting the observed health changes in recipients. Similarly an evaluation report of CRS Community Based Food & Nutrition Pilot Programme in the Northern Sector (1989) indicated the unreliability of available data to measure the nutritional impact of the intervention programme. However, with the assumption that data was adequate, there was an observed improvement in the nutritional status of infants (6-42 months) and that the severe malnutrition cases decreased with the months. The recent May 1989 Evaluation of the CRS Title II Programme report was quite explicit on the problem of accurately evaluating the impacts of its programmes. It pointed out that even though CRS plan contains a clear list of interventions and relates these to several broad overall goals, there is a clear lack of measurable objectives linking activities to goals. To support their observations one of the report's strongest opinions was: "Until such intended effects of CRS interventions/inputs are clearly stated, an evaluation that measures either life-of-the-project effects, or long-term impact cannot be properly performed." The report also pointed out the overriding actual function of the food rations, as an incentive to attendance at either health services or schools & nurseries.

It attributed any health and nutrition effect as a result of the services of education received at centers. The evaluation team urged a variety of efforts to move from current use of the ration as a "magnet" to draw women for instance, to health services.

ADRA's nutritional intervention programme operated through MCH centers in remote rural areas throughout the country, forms part of its plan to promote better nutrition and health of pregnant and lactating women and children below 5 years. This is done through a combination of nutritional & health education & the provision of food supplements with a view to raising the level of health & reducing the high child mortality & morbidity. In ADRA's 1987 Progress Report it was clearly stated that the food ration was to be well understood as 'only a supplement'. The impact of the programme is measured by its success in reducing infant mortality and morbidity as well as raising the general physical well-being of especially malnourished children. ADRA expects 75% of participating children to show a positive weigh/age growth trend within 4 months of programme participation (FY88 report). ADRA made a success claim that through the provision of its MCH services, the Demonstration Project at Oyarifa recorded a 20% improvement in the nutritional & health status of the participating children. Also that the high incidence of malnutrition dropped from 75% to 55%. ADRA's MCH programmes in the Walewale district of the Northern region (1988) also inferred some indications of the impact made. Although there was no substantial data to support the inference, the center's monthly reports,

observations of the nutrition agents in charge and the mother's agreement indicated that the most important impact was the improvement of the status of the malnourished children. This report also highlighted the fact that the food supplements served as the main attraction for the high attendance rate of mothers at the clinics. ADRA's Odomi Akpafo MCH center is also reported to have had a reduction of its high infant mortality rate from 50% to zero (FY 88 Report).

Like the CRS and ADRA reports, Anokwa's Case-Study of the "Socio-Economic Implications of Food Aid in Ghana" (1984), showed a positive relationship between regular food aid receipt and regular attendance at clinic sessions. This study carried out at the Legon Baby Clinic assisted by ADRA noted the increased dependence of some families on the food aid. Other observations included: (i) the whole family sharing the ration meant for the malnourished child, a point also made in the CRS May 1989 Progress Report, and (ii) some food ration being given to friends and some sold to buy other essentials

From the review made so far there hasn't been any indication of any direct link between the food aid ration and the improvement in nutritional status of the recipients. This may be due to the fact that like CRS, ADRA has no specific objective to measure nutritional impact of food aid per se and as such no proper monitoring system with accurate record keeping has been built into the programme plans from the onset to measure this impact. Both agencies measure success with regards to the total programme, which have various inputs, which together improve the general well-being of the recipients.

Literature on the nutritional impact of food aid on pre-school and primary school children was non-existent in the reports on Ghana available to the team at the time of the study. For instance none of the school feeding or nursery feeding programmes visited by the CRS 1981 evaluators were implementing growth surveillance, hence the nutritional impact in those programmes could not be measured. Levinger's (1986) review of several studies on the "Impact of School Feeding Programmes in Developing Countries" concluded that the studies failed to provide an answer to the question as to whether school feeding programmes increase attendance, improve academic performance and contribute to higher enrollment ratios. It was also impossible to measure impact on groups of students generally deemed to be most vulnerable to nutrition related problems. Among the shortcomings of the studies reviewed were lack of prior measures on the basis of which inferences concerning impact of the intervention could be made and so they failed to reveal the kinds of changes School Feeding Programmes promote and the characteristics of students most affected.

5.3 Justification of Methodology used for Assessing Nutritional Impact

Nutritional assessment can be defined as: the interpretation of information obtained from dietary, biochemical, anthropometric and clinical studies, used either alone, or more effectively in combination. The information is used to determine the health status of individuals or population

groups as influenced by their intake and utilization of nutrients (WHO, 1976a). Nutritional assessment can take one of 3 forms:

- (i) Nutritional Surveys
- (ii) Nutritional Surveillance
- (iii) Nutritional Screening

The assessment system used and the type and number of methods selected will depend among other factors, the study objectives. For example, to evaluate the impact of nutritional intervention (that is the impact of food aid in the case of this study) on specific target groups, the nutritional surveillance system would have been ideal. This system involves a continuous monitoring of the nutritional status of selected groups on an ongoing basis. In addition to identifying the possible causes of malnutrition and hence the information useful to initiate intervention measures, it promotes decision by governments concerning priorities and disposal of resources; enables predictions of current trends and evaluates the effectiveness of nutritional programmes. The time limitation of the study did not allow such surveillance of a closely monitored group to be carried out. Under the circumstances, existing data available only at the Maternal Child Health centers had to be relied on. A major limitation in using existing data (weight for age records in this case), is the possibility of much variation among centers in terms of the accuracy of the measurements. This point has already been raised in the literature review. Out of the 300 children whose weight for age records were expected for analysis, only 107 had complete records covering

the one year period specified. Despite the small sample size, three weight records at 6 months intervals were obtained for each child which is adequate data to give indications of the nutritional status of the children and possibly reflect an impact of the food aid. The best indication of adequacy of the diet is the growth pattern of the child in the absence of disease. Gibson (1989) has pointed out that anthropometric measures are used to assess nutritional status especially when chronic imbalance between intakes of protein and energy, which modify pattern of physical growth. Weight for age in children from 6 months to 7 years is one of the growth indices widely used to assess protein-energy malnutrition. This index assess acute malnutrition. Several systems available for classifying individuals as malnourished all utilize at least one anthropometric index and one or more cut off points based on an appropriate reference data.

The cut off points may usually be expressed as percentiles or standard deviations (SD) or Z scores. Reference data enables comparisons to be made between the distribution of anthropometric indices in the study group and the reference standard, which enables the extent and severity of malnutrition in the study group to be estimated.

The United States National Center for Health Statistics (NCHS) Reference Growth data for Children was used in this study because Ghana has no such standard and WHO has recommended the NCHS reference data as an international standard. Besides, Stephenson et al. (1983) showed that, during the first five years of life, there is little difference between the growth

curves for members of elite groups in less developed countries, and those of similar age in industrialized nations.

Evaluation of weight for age data in this study will be expressed as standard deviation scores as recommended by Waterlow et al., (1977) as an appropriate method for evaluating data from less industrialised countries. Percentiles are not recommended for evaluating anthropometric indices when the reference data from industrialised countries, such as the NCHS data are used because a problem arises whereby it is difficult to classify accurately several individuals of the study group.

The standard deviation scores calculated for each subject is a measure of the individual's value within the distribution of the reference population. The score is calculated using the following formula

$$\text{SD Score} = \frac{\text{Individual value} - \text{median value of Ref Population}}{\text{Standard deviation value of ref. population}}$$

Scores less than - 2.0 SD will be designated as indicating severe malnutrition in the study sample. The information obtained on the death rate and common illnesses reported among the target group, the protein and energy contributions of the theoretical food rations for the children, opinions observations and judgements of mothers and center staff interviewed were also used in describing and explaining the quantitative data.

5.4 Results

The information presented here is based on nutrition-related responses of the impact of food aid from

samples of center staff and recipients interviewed during the study. Also to be presented here will be a comparison of the nutritional values of approved quantities of food aid rations for participating children and the nutritional values of what the children actually received. Evaluations of weight for age of a sample of participating children will be given.

Description of Centers

A total of 33 centers distributing food aid were visited throughout the ten regions of the country. See Appendix A for the regional distributions of the centers. The centers comprised of 16 Maternal Child Health (MCH), 8 Food for Work (FFW), 4 Pre-school Feeding (PF), 3 Primary School Feeding (SF) and 2 Orphanages (OCF). The personnel interviewed included Ministry of Health nurses, ADRA nutrition agents, the headmaster or the assistant at schools; the project officer, a community project leader or a supervisor of Food For Work.

The length of time centers had been involved in food aid distribution ranged between 1 year and 28 years with the majority of 20 centers (61%) having been involved for 2-6 years.

Responses as to how centers got involved in food aid distribution included: initiative of the local community or community members living elsewhere; or initiated by an outside organization like CRS, ADRA and WFP. Objectives of the centers for receiving and distributing food aid are presented in Table 5.1

Table 5.1
Objectives of Centers For Receiving
And distributing Food Aid

Objectives	No.	% of Sample
- Incentive to attend Clinic	5	15
- Give nutritional supplement to children/rehabilitate malnourished children	15	45
- Improve nutritional status/combat malnutrition	12	36
- Incentive to boost school attendance/enrollment	1	3
- Partly relieve parents of the burden of feeding children	3	9
- Incentive to initiate local projects/encourage self-help spirit	3	9
- Supplement income of recipients	2	6
- Provide meals for workers	3	9
- Incentive of labour productivity	4	12

Table 5.1 indicates the dominance of nutrition-related objectives especially for the Maternal Child Health and School Feeding centers. It is therefore worthy to note that staff at centers serving children were aware of the nutritional role that food aid was expected to play in the lives of participating children.

Table 5.2 gives the criteria for selecting recipients which appear to agree with the objectives of the centers.

Table 5.2
Criteria Used for Feeding Recipients at Centers

Criteria	No. of Centers	% of Samples
Malnourished/orphans/twins & children of the poor	13	39
All children regularly attending clinic	4	12
All children attending school	8	24
All workers attending regularly and disciplined	8	24
Unemployed or underemployed and willingness to work on a project	1	3

Food Aid Commodities Distributed

Table 5.3 presents 11 food aid commodities received and distributed at centers. The most common food commodities were cooking oil by all centers, WSB (61%), SFB (42%), SFSG (39%) and Rice by 24 percent. The ICII centers were receiving three commodities including two soy fortified items and cooking oil. School Feeding centers received WSB, SFSG, cooking oil and fish powder.

The majority of centers, 73 percent said they received food regularly. Those who did not (24 percent) gave the following as some of the problems of delays of food delivery.

- (i) food not being available due to delays in shipment
- (ii) problem of transportation from supplier to center
- (iii) delays at the port or simply no reason given by the supplier for the delays.

Table 4.3
Food Items Received at Centers

Food Aid Items	No. of Centers	% of Sample
Soy Fortified Dulgar (SFD)	14	42
Wheat Soy Blend (WSB)	20	61
Soy Fortified Sorghum Grits (SFSG)	13	39
R i c e	8	24
Skim Milk Powder	3	9
Fish Powder	7	21
Stock Fish ⁵⁷	2	6
Canned Fish	5	15
Cooking Oil	33	100
Sugar	4	12
Wheat	2	6

Quantities of Food rations & Frequency of Distribution

Questions were asked to find out how often and how much food rations were given to recipients. The frequency of food receipt at MCH centers was fortnightly for severely malnourished children and monthly for the other children. In the Schools, food was cooked for the children on a daily basis whilst at Food for Work centers, some recipients were given food on a monthly basis or every 2 months or food was cooked and shared to participants on every project working day.

The quantities of each food item reported given to recipients varied widely with rations quoted in weight, volume or in terms of a local measure. Responses are presented in Appendix (B). Going by the CRS approved MCH ration of 2kg each of WSB and SFSG and 1 litre of cooking oil it appears that the majority of recipients were actually receiving less than the approved ration for SFB and oil but the few responses recorded for SFSG appears to be within the approved level. It would be difficult to comment on how much food each school child received because food was cooked in bulk and shared and as to how much each child actually ate cannot be quantified from the present data.

Number of Recipients

The number of recipients being served at MCH centers ranged between 100 and 1,000 with the majority serving over 200 children. This number exceeds the approved number of 150 stipulated by ADRA. Through personal communication with the nursing officer at an ADRA sponsored center, it was learnt that mothers from neighbouring villages who brought their children

Adequacy of Quantities of Food Supplies

Despite the large numbers of recipients sharing rations meant for few numbers, 15 centers (45%) said the quantities they received were enough to satisfy the recipients. However 18 centers (54%) said the food received wasn't enough to satisfy recipient allocations.

Table 5.5 gives the responses to the question on whether quantities of food aid received were sufficient or not by programme type.

Table 5.5
Are Quantities of Food Aid Supplies Enough to Satisfy the Center's Recipients

Programme Type	Sample Size	Yes		No	
		No of Response	% of Total Sample	No of Response	% of Total Sample
M C H	16	8	24	8	24
S F	3	1	3	2	5
P F	4	1	3	3	9
O C F	2	2	6	0	0
F F W	8	3	9	5	15
Total	33	15	45.5	18	54.5

When asked which food items centers who said they needed more food, out of the 18 responses 12 (67%) expressed a need for all the items they were receiving. Since the results will be highlighting responses from the MCH centers, it was interesting to note that 7 out of 8 centers who needed more food said an increase in the quantity of all items received would be necessary.

Out of the 33 centers visited, 32 (97%) who responded said they did explain to recipients how the food aid is meant to help them. This means the objectives for giving out food

aid was explained to recipients.

The majority of centers 25 (76%) said recipients paid for the food ration whilst 8 (24%) said no payments were made by recipients. However, only token fees of ₦40 per ration was paid by MCH participants on instructions from suppliers or to run other services at the clinic. In the schools only ₦10 was charged for a meal mostly as a token contribution towards transportation of food aid but Food for Work centers supported by WFP generally paid a subsidised amount for the food. The 2 ADRA Food-for-Work sponsored centers did not pay for the food since it was meant to be a wage substitute.

Monitoring Food Aid Use

As to whether recipients were taught how to prepare the food aid items, 19 (58%) said they did whilst 9 (27%) did not and 5 (15%) gave no response. It was encouraging to note that all the 16 MCH centers taught the mothers how to prepare the food items.

Monitoring of how food aid was used by recipients was carried out by 21 centers (64%) whilst 10 (30%) did not, and 2 (6%) gave no response.

Table 5.6 shows the methods used by those who monitored food aid use.

Table 5.6
Methods Used in Monitoring How Food Aid is Used by 21 Centers

<u>Monitoring Method</u>	<u>No. of Responses</u>	<u>% of No. Responding</u>
Home Visits	16	76
Kitchen Visits in School	5	24
Total	21	100

All the MCH centers went on home visits to check the use of food aid whilst headmasters or staff in charge of school feeding checked the kitchens. Reasons given for not monitoring food used by recipients included:

- (i) inadequate staffing & time
- (ii) how food is used is not an objective of the center
- (iii) transportation for visits expensive
- (iv) haven't thought of it
- (v) too many people to monitor.

Observations made during monitoring was expressed by seventeen of those who monitored food use. Table 5.7 gives the responses.

Table 5.7
Observations Made During Monitoring by Seventeen Centers

O b s e r v a t i o n s	No. of Responses	% of No. Responses
- Sharing of food with Other members of family	3	18
- Mother did not obey instructions given at clinic	4	23
- Food used for intended purpose	10	59
Total	17	100

Sharing of food with other family members has been observed in other evaluation reports, which certainly will deprive the recipient especially the child of the full nutritional benefit. It is however encouraging to note that 59 percent of those observed used the food for the intended purpose.

Monitoring Nutritional Impact

A very relevant question to this section of the study asked if centers assessed the impact of food aid on the nutritional status of recipients. Twenty-four centers made up of MCH, SF and PF (73%) said they did whilst 8 FEW centers (24%) did not and 1 (3%) gave no response. Table 5.8 presents the method of assessment used and Table 5.9 gives the observed impact of the nutritional assessment.

Table 5.8
Method Used for Assessing Nutritional Impact by 24 Centers

Method of Assessment	No. of Responses	% of Total Responses
Weights	16	67
Physical Examination	8	33
Total	17	100

Table 5.9
Observed Impact of Nutritional Assessment - 19 Centers
Who Responded

Impact	No. of Responses	% of Total Responses
Slow weight gain	2	10
Positive improvement in weight and health	5	26
Good weight gain	6	32
Improvement in physical condition	6	32
Total	19	100

It is clear from table 5.8 that the quickest methods of assessing child growth being weight for age and physical examinations were those used at the MCH and School Feeding centers. The advantages and disadvantages of weight for age index has already been discussed and the reliability of

physical examinations raises some doubts. However, considering the number of activities that take place on Clinic days and school schedules, these methods are probably the easiest and quickest to employ to give some indication of a nutritional impact.

Table 5.9 gives favourable nutritional impact but the question is whether the food aid ration is totally responsible for the observed impact. Since the CRS and ADRA operate through an integrated approach towards the general improvement in the health of target groups no one single input could be totally given credit for observed weight gains or improvement in general health due to the relationship between malnutrition and infection. The overall impressions of staff at centers concerning the contributions of Food Aid to recipients are presented in Appendix (C). Some centers gave multiple responses just like the multiple objectives they aimed to achieve. The comments made appeared to have been statements of achievements of their objectives. Assuming the comments are true then one could say that the food aid rations did make some contributions towards an improvement in the nutritional status of the recipients or at least the rations provided additional food and certainly nourishment for the recipients especially the children whose growth performances were given as indications of positive results.

Description of Sample of Recipients

A total of 238 recipients of food aid from all the ten regions in Ghana were interviewed to find out their impressions and views about the food aid they received. As already

explained, only adult recipients from Maternal Child Health and Food for Work centers were interviewed. There were 159 respondents (67%) from MCH 16 centers and 79 (33%) from 8 FFW centers. Responses from MCH respondents will be highlighted since these centers aim at improving the nutritional wellbeing of participating children. Again responses from MCH respondents will be useful in interpreting weight records of children compiled from these centers. The regional distribution of respondents will be found in Appendix (D) and their various characteristics in terms of Sex, Age, Educational level, Occupation and Religion in Appendix (E).

Seventy-two percent of respondents were females (obviously due to mainly women attending MCH clinics) and 28 percent males mainly from FFW centers.

Age of the respondents ranged between less than 18 years to over 50 years with the majority (81%) falling between the active working age group of 19-40 years. 33 percent have had no education whilst 42 percent had up to primary or middle school levels. The majority of the sample therefore have a very low educational background. As regards occupation, about 99% were engaged in an occupation but it is worthy to note that the 35 who were housewives and forming 22% of the mothers interviewed be classified as unemployed as far earning income is concerned. This information reflects to continued no or low income earning capacity of women which is a major factor to the development of malnutrition in their children.

Table 5.10 presents responses as to who actually receives the food aid.

Table 5.10

Actual Recipient of Food Aid	No. of Responses	% of Total Responses
Self	80	34
Child/children	146	61
Self/Child	12	5
	238	100

The responses clearly indicate that most respondents representing the mothers attending MCH centers were receiving food for their children whilst FFW respondents received for themselves although the ration they received were mostly meant for them and their families. It is interesting to note that although pregnant & lactating mothers were supposed to receive food aid at MCH centers very few from this sample actually received rations.

The ages of the 158 children 78 males and 79 females receiving food rations ranged between less than 6 months to over 3 years but with the majority (79%) aged between 7 months and 3 years, the most critical period when poor nourishment

results in malnutrition. Table 5.11 gives the age distribution of the children receiving food aid.

Table 5.11

Actual Receipt of Food Aid	No. of Responses	% of Total Responses
6 months and below	20	13
7 - 12 months	36	23
13 - 24 months	47	30
25 - 36 months	42	26
Over 36 months	10	6
No Answer	3	2
	158	100

Most of these children (64%) first received food aid when they were 6 months or less probably because most mothers take their babies for weighing and immunization at this age. If children were receiving rations this early then it is expected that fewer participating children should be malnourished assuming they are fed the rations and as a result food aid could be a factor in improving nutritional status of recipient children. Appendix (F) presents the responses to questions as to when the sample interviewed received food aid for the first time; how they got to know about food aid and how long they have been receiving food aid at their present centers.

The first time that respondents received food aid ranged from less than 6 months to over 12 years. But at the time of the study the majority (73%) said they had received food aid for periods ranging from 7 months to 12 years, this certainly being a long enough time for a nutritional impact to have been

assessed if a well laid out monitoring system had been built into the programmes to collect quantitative data that could give firm evidence of nutritional impact of food aid. Assuming the weight for age records to be presented later are accurate, one could rely to some extent on the results with regards to nutritional impact of the food aid.

Reasons for Receiving Food Aid

Respondents gave various reasons why they thought food aid was given to them. Table 5.12 presents the responses.

Table 5.12
Reasons Given by Respondents as to Why
They were given Food Aid

<u>R e a s o n s</u>	<u>N</u>	<u>%</u>
- Child was underweight/malnourished/sick	113	47
- No breast milk to feed baby	6	3
- Regular attendance at clinic	28	12
- Incentive to work	41	17
- For Community development & to develop self-help spirit	13	6
- To supplement Income	3	1
- Being in the workforce	10	4
- Food scarcity/to alleviate hunger	11	5
- Belonged to Church of supplying agency (i.e. Catholic or Seventh Day Adventist)	3	1
- Don't know	5	2
- No Answer	5	2
	238	100

It is encouraging to note from the above responses that most respondents appeared to have known the reasons why they were given food rations, which fall in line with objectives of both MCH and the

FFW centers. A few however missed the point by not even knowing why they got the ration because belonging to the church of the supplying agency has so far not been stated as an objective in the records of any of the supplying agencies.

As to why respondents were still receiving food at the time of the study, the majority still gave responses related to the objectives of the centers. See Appendix (G) for the responses.

Food Items and Quantities Received

Ten different items were mentioned as being received by recipients. This closely agrees with responses from center staff. Table 4.13 gives the distribution of food items received by the programme type.

Table 4.13
Distribution of Food Aid Commodities by Programme Type

Food Type	MCH		FFW		Total Sample	
	N	% of MCH Sample	N	% of FFW Sample	N	%
SFB	100	63	-	-	100	42
WSB	145	91	-	-	145	61
SFSG	59	37	-	-	59	25
Rice	-	-	79	100	79	33
Wheat	-	-	18	23	18	12
Stock Fish	-	-	9	11	9	4
Canned Fish	-	-	50	63	50	21
Skim Milk	-	-	20	25	20	8
Cooking Oil	159	100	79	100	238	100
Sugar	-	-	4	51	40	17

The MCH centers were receiving the soy fortified commodities high in protein and cooking oil which is energy dense.

The quantities of food commodities respondents reported receiving per ration are presented in Appendix (H). The response rate of those receiving SFB was rather low but of those who responded the majority of quantities reported (approx. 1kg) appeared to agree with what the center staff quoted. This probably confirms the fact that more children are receiving food than the number intended for the food allocation. The rations of WSB for the majority of recipients (approx. $\frac{1}{2}$ - 1.8kg) seemed to agree with what the center staff quoted. There was also quite an agreement between recipient and center staff quantities of SFSG per ration (approx. 1-2kg). Cooking oil rations were approximately less than half a litre to 1 litre for the majority of respondents of both recipients and center staff. Since centers did not have prior notices to visits of the study's field staff, so they could brief their recipients as to what to say, the agreements between their responses strongly suggests a high reliability of the data collected on quantities of rations. On the whole the data seem to suggest that recipients at ICH centers were receiving less than the approved rations.

Hence when recipients were asked if they considered the food rations they received enough the majority (69%) said it was not enough whilst 31 percent said it was enough. Table 5.14 gives the responses to this question by programme type. This was one question which all respondents answered.

Table 6.14

Are Food Quantities Received Enough?

Response	M C H		F F W		Total Sample	
	N	% of MCH	N	% of FFW	N	%
	Sample		Sample			
Yes	46	29	29	37	75	31
WSB	113	71	50	63	163	69
SFSG	159	100	79	100	238	100

As to which food items recipients wanted more of, most of them certainly wanted each of the rations they received to be increased with reasons given including

- (i) quantity of ration is too small
- (ii) other family members share or the rations are not enough for the whole family
- and (iii) not enough to supplement income.

Actual use of Food Aid

Recipients were asked to specify in what ways the food rations actually helped them. 91 percent said it supplemented meals, which is an overwhelming majority inferring additional food intake and therefore improving nutritional status. Other responses included:

- (i) supplements income by 4%
- (ii) sell to generate income by 2%
- and (iii) exchange for other food items by 2%

In response to whether the food aid served as part of the beneficiary's diet or it was the only food consumed, it was encouraging to note that 88 percent said it only supplemented the diet whilst only 5 percent said it was the only food the child ate. Seven percent did not respond to this question. The nature of these responses seem to imply that recipients do not depend solely on the food aid for sustenance and hence the fear of recipients getting hooked on food aid may not be a real issue to contend with. 60 percent of recipients said the food aid was shared with other people whilst 35 percent said the rations were not shared with any other person. Most of those sharing the food were those on Food for Work projects. Of course the food is meant for their families as well so they shared with their families and also with parents and friends. Some mothers and siblings of children receiving food aid shared with them implying that the recipient child does not get the full nutritional benefits of the food rations, which were even less than the approved quantities.

Knowledge of Preparation & Incorporation of Food

Aid into Diet

The majority of respondents 65 % constituting mothers from the MCH centers claimed receiving formal advice on how to prepare the food aid commodities for consumption. MCH centers included in their programme of activities demonstrations of recipes on how to use food rations. Mothers listed a wide variety of dishes and products that they made with the food rations. Common among the dishes are porridges and preparing in such manner to resemble local dishes. Cooking oil was mainly used for frying certain products or for preparing stews, which are consumed most likely by the whole

family. Most respondents (85 percent) said they had no problems incorporating food items into their normal eating pattern. However, those who expressed having problems (14%) made such complaints as some food types causing stomach upsets; food being unwholesome or of a poor quality, food being tasteless or just not liking it. It is worthy to note that eleven mothers (7%) complained that WSB (Wheat Soy Blend) gave their children stomach problems.

Impact of Food Aid on Health

Recipients were asked whether they knew what health contributions the food aid/rations made.

Eighteen percent gave no response, whilst 66% said they knew of some health benefits. It is encouraging to note that the majority of recipients were aware of what health benefits they could derive from consuming food aid.

Of the 157 respondents (66% of sample) who knew of health benefits the responses presented on Table 5.15 illustrate their knowledge.

Table 5.15
Benefits of Food Aid to Health

<u>Benefits to Health</u>	<u>N</u>	<u>%</u>
- Helps produce more breastmilk	7	3
- Prevents illnesses/malnutrition	14	6
- Nourishes children	25	10
- Promotes growth/weight gain/health	119	50
- Reduces mental stress	1	1

It is obvious from Table 15 that the nourishing quality of food aid & food in general for that matter is well understood to promote growth and general good health, preventing illnesses & malnutrition among children.

In order to find out whether recipients have actually noticed changes in their children's health or in their own health, a question was asked to that effect. More than half of the sample (66%) said they had noticed changes in health since they started receiving food aid. The changes in health noticed are presented on Table 5.16.

Table 5.16
Changes Noticed in Health

Changes	N	%
- Child now walking	3	1
- Recipient experiences no constipation	15	2
- Gaining weight/healthy	132	56
- Child recovered fast from illness	122	59
- Malnutrition cleared	5	2

Recipients have so far expressed benefits derived from food aid with improvement in nutritional status being quite outstanding. It would be interesting to find out if the weight records compiled for a sample of the children will support these observations in quantitative terms.

Future of Food Aid

Recipients were asked if they thought they should continue to receive food aid. It wasn't surprising that an overwhelming majority (97%) said food aid should continue in view of the favourable comments they have made. Various

reasons were given to support their opinion. See Appendix I for the responses: Outstanding among the reasons were the fact that

- (i) food aid supplemented the diet (33%)
- (ii) food aid supplemented income (28%)
- and (iii) food aid improved health (24%)

Protein and Energy Values of Selected

Food Aid Commodities

To give an idea of what nutritional benefits children derived from the food rations they received, the energy and protein contents of the approved rations of CRS will be used to illustrate the benefits.

The Protein and Energy values of 100g of each commodity will be based on that presented in CRS 1981 Evaluation Report (p.126).

<u>Food Item</u>	<u>Calories per 100g</u>	<u>Protein per 100g</u>
WSB	360	20.0
SFSG	360	16.0
Soy Oil	884	0.0

These values given above will then be used to calculate the protein and energy values of the CRS approved rations at MCH centers per month.

<u>Food Item</u>	<u>Monthly Approved Ration</u>	<u>Energy Cont (kcal)</u>	<u>Protein Cont (g)</u>
WSB	2 kg	7,200	400
SFSG	2 kg	7,200	320
Soy Oil	1 litre	8,840	0
Total		23,240	720

The total energy contribution of the standard ration for the month is 23,240kcal. and protein is 720g.

To make these values more meaningful, they will be reduced to their daily contributions based on 30 days in a month. This exercise will make it possible to evaluate the percentage contributions of food aid with regards to the child's recommended daily allowances for protein and energy.

Table 5.17
Protein and Energy Contributions of Approved MCH rations to the Daily Requirements of Recipient Children.

Food Item	Daily Energy Value (kcal)	Daily Protein Value (g)
WSB	240	13.3
SFSG	240	10.7
Soy Oil	295	0.0
Total	775	24.0

Assuming that recipient children are consuming these approved rations, their daily energy intakes will go up by 775 kcal. and protein intakes will be up by 24.0g provided by the food aid which is for more than what the 1961/62 National Nutrition Survey recommended (10-15g). It is now necessary to find out what percentage of the daily recommended allowances for protein and energy are theoretically provided by food aid. Table 5.18 will give the calculated values.

Table 5.18
Theoretical Contributions of Approved MCH Rations to the
Daily Recommended Protein and Energy Allowances of
Participating Children by Age Groups.

*Age in Months	P r o t e i n		E n e r g y	
	Recommended Allowance(g)	% Supplied by Food Aid	Recommended Allowance	% Supplied by Food Aid
0 - 6	12.1	198	673	115
7 - 12	17.6	136	994	78
13 - 24	27.0	89	1270	61
25 - 36	27.0	89	1540	50
37 - 48	34.0	71	1830	42
49 - 60	34.0	71	1830	42

* Sources: 1. Ritchie J.A.S. £ £
2. Whitney E.H., Cataldo C.B. £ £
Both references were based on UN Food and
Agriculture/World Health Report of Expert
Group on Energy and Protein Requirements.
Rome, 1983

The percentage contributions of food aid to energy and protein intakes presented on table 18 are no doubt providing a significant proportion of the daily needs of participating children.

Table 5.11 showed that the majority of participating children in the sample were aged between 7 months and 3 years and considering the fact that 88% of respondents claimed that the food was only a supplement to the diet of the recipient, the contributions of food aid seem to imply that the highest risk group are receiving protein and energy intakes of more than 50% of the recommended allowances for both nutrients.

However, since the recipient interviews revealed that food aid was being shared with other family members and due to the way in which the cooking oil in particular was used (that

is in preparing stews and for general frying of food) it is likely that the energy contributions of the oil may not be all available to the recipient child. Table 5.19 will therefore present the energy and protein values of food aid rations excluding oil. The protein value will not change since oil contains no protein.

Table 5.19
Theoretical Contributions of Approved MCH Rations
(excluding the oil) to the Daily Protein and Energy
Requirements of Participating Children.

*Age in Months	P r o t e i n		E n e r g y	
	Recommended Allowance(g)	% Supplied by Food Aid	Recommended Allowance	% Supplied by Food Aid
0 - 6	12.1	198	673	71
7 - 12	17.6	136	994	48
13 - 24	27.0	89	1270	38
25 - 36	27.0	89	1540	31
37 - 48	34.0	71	1830	26
49 - 60	34.0	71	1830	26

The percentage energy contributions of food aid rations excluding oil is quite different now falling below 50% of the daily need of the highest risk group 7 months to 36 months. However, since the majority of mothers claimed that the food rations only supplemented their children's diet, the contributions of food aid can therefore be considered as an adequate nutritional supplement.

Measuring Growth Performance of a Sample of
Participating Children using the Weight/Age
Index

Weight for age records covering a period of one year were obtained from 9 of the 16 Maternal Child Health Centers. The records covered 107 children aged between 14 months and 4 years 5 months at the time of the study. They were 53 males and 54 females. The 9 centers representing 7 of the geographical regions also provided some information on the common illnesses reported among the children and also the number of children who had died since 1987 to June 1989. See Appendix U for the age distribution of the sample by sex.

About 50% of the sample was aged 2 to 3 years. The most common illnesses reported at the centers included malaria fever, colds and coughs and diarrhoea. The occasional ones were measles, worms, whooping cough and anaemia. Indeed, these common illnesses reported would affect the nutritional status of the children causing them not to realise the full benefits of the food they consume. Of the 9 MCH centers who provided records for a sample of participating children, six reported deaths ranging between 1 and ten among the participating children since 1987 and June 1989. The other three centers recorded no deaths for that period. In fact only one center recorded ten deaths and these could be due to measles, whooping cough and malaria which the center reported as being common among the participating children.

The information however seem to suggest a very low mortality rate among children receiving food aid at centers

covered in this study. But as already pointed out the low death rate cannot be attributed to the supplementary food aid rations alone due to the contributions of health and nutrition education inputs in the programmes at the MCH centers.

The final part of this section will present three tables which will present the distributions of children in the sample whose weights were -2 standard deviation scores or less of the NCHS reference standard. These tables will represent weights recorded at six months intervals as follows:

- (i) first record in June 1988
- (ii) second record in December 1988
- (iii) third record in June 1989

These tables will give the trend of weight gain and for that matter, growth performance and nutritional status of the sample of recipients over a period of one year.

Table 4.20

Distribution of Weights at or below -2SD in June 1988 by Age and Sex

Age in Months	M a l e		F e m a l e		T o t a l	
	N	% of Total Sample	N	% of Total Sample	N	% of Total Sample
0 - 12	6	5.6	1	0.9	7	6.5
13 - 24	11	10.2	10	9.3	21	19.6
25 - 36	4	3.7	2	1.9	6	5.6
37 - 48	2	1.9	2	1.9	4	3.7
49 - 60	0	0.0	0	0	0	0.0
Total	23	21.4	15	14.0	38	36.4

Table 4.20 shows that 36.4% of the sample suffered from acute malnutrition a year prior to the present study with more males

having low weights for their ages than females. About 20 percent of these malnourished children were between 13 and 24 months. \bar{x}

Table 5.21
Distribution of Weights at or Below -2SD in December 1988 by Age and Sex.

Age in Months	M a l e		F e m a l e		T o t a l	
	N	% of Total Sample	N	% of Total Sample	N	% of Total Sample
0 - 12	1	0.9	0	0.0	1	0.9
13 - 24	12	11.2	8	7.3	20	18.7
25 - 36	7	6.5	6	5.6	13	12.1
37 - 48	2	1.9	3	2.8	5	4.7
49 - 60	0	0.0	0	0	0	0.0
Total	22	20.5	17	15.9	39	36.4

Table 5.21 shows the trend of growth performance six months after receiving food aid.

There seemed to have been no improvement in the nutritional status of the sample. This could be explained by the fact that although the raw data showed slight weight gain over the six months period, the children had still not caught up with the standard weight for their ages due to the severe nature of malnutrition or the interference of illnesses.

Table 5.22

Distribution of Weights at or Below -2SD in June 1989 by Age and Sex.

Age in Months	M a l e		F e m a l e		T o t a l	
	N	% of Total	N	% of Total	N	% of Total
		Sample		Sample		Sample
0 - 12	0	0.0	0	0.0	0	0.0
13 - 24	7	6.5	3	2.8	10	9.3
25 - 36	8	7.5	11	10.2	19	17.8
37 - 48	2	1.9	5	4.7	7	6.5
49 - 60	2	1.9	2	1.9	4	3.7
Total	19	17.8	21	19.6	40	37.4

Table 5.22 seems to suggest that the trend of growth performance one year after the sample of children receiving Food Aid rations at Maternal Child Health Centers did not gain enough weight to change their nutritional status. Instead, as the children grew older the percentage of the malnourished went up slightly with slightly more females suffering from acute malnutrition than males, a reverse of what the situation was a year earlier. The increase in the incidence of malnutrition

may be explained among other factors as due to the fact that June falls within the lean season during which time food is generally short throughout the country and hence intakes are low and the worse affected are children.

Assuming that all the children in the total sample were malnourished when they first received food aid, the evidence presented so far shows that the majority of the children (over 60%) were of sound nutritional status, thus confirming the observations made by both center staff and mothers that food aid improved the health and nutritional status of participating children. However, children who were malnourished a year prior to this study did not seem to gain sufficient weight to improve their nutritional status even over a one year period. The percentage of the malnourished in the sample in this study (37.4%) appears slightly lower than the UNICEF and CRS figures referred to in the May 1989 Evaluation Report of the CRS/Ghana Title II Programme.

V. Summary and Conclusion

Summary

In summary, this chapter has attempted to evaluate the impact of food aid on the nutritional status of recipients in Ghana. Recipients identified at the time of this study from existing records from distributing agencies were such vulnerable groups as children (6 months - 5 years), pre-school and primary school children, pregnant and lactating women, and workers on Food For Work Projects. The results are based on a review of reports and studies of food aid distribution, interviews of a sample of staff at distributing centers and those of a sample of recipients. An analysis of weight for age records of a sample of participating children (0-5 years) is used to illustrate the effect of food aid on the growth performance or nutritional status in quantitative terms.

A review of previous studies and reports made references to positive nutritional impact of food aid on recipients but quantitative data to support such claims were grossly inadequate or non existent. This may be due to the fact that although food aid forms part of an integrated approach to improve child health especially at Maternal Child Health Centers, CRS for instance, makes it quite clear that it does not view nutritional impact as a major reason for distributing food. Again ADRA points out to mothers that the food rations are purely supplementary and of course nutritional impact is not a prominent objective of Food For Work projects. For these reasons, nutritional impact has not been measured in quantitative terms so far in this country.

International studies have also pointed out the non-conclusive nature of assessments of nutritional impact of food aid on recipients due to lack of properly designed projects to monitor nutritional benefits.

Distributing agencies may not have clearly stated nutritional objectives for supplying food aid but the results of this study seem to indicate that the majority of centers had outstanding nutrition-related objectives. Most recipients (91%) also deemed the supplementary nature of food aid as its major role.

The potential of food aid as a nutritional supplement is great as illustrated in this study by the protein and energy contents of approved rations of selected commodities for Maternal Child Health centers. Protein contributions ranged between 71% to 198% and energy contributions ranged between 42% to 115% of the daily requirements of the most vulnerable group, children aged 0-5 years. Thus, food aid rations in theory provides far more protein than the recommendations of a cheap protein supplement for children (10-15g) by the National Nutrition Survey of 1961/62. However, the study revealed that food rations were less than the approved quantities for MCH centers, mainly because rations were given to more than the approved number for the supplies. As a result, recipients and staff at centers claimed that the food rations were not enough and needed to be increased. It was also clear that target children shared food rations with other family members and therefore were not likely to be receiving the full theoretical nutritional benefits of food aid. It appears that this problem

remain for a long time to come and so efforts must be intensified to continue to increase local production to reduce the struggle for food aid rations.

On the whole responses of both center staff and recipients claimed positive improvements in the health and nutritional status of recipients of food aid. The only supporting evidence for these claims was in the form of weight records kept at the MCH centers for recipient children.

An analyses of a sample of these weight for age records showed that over 60% of participating children appeared to have appropriate weights for their ages. This seeming success story cannot however be attributed solely to food aid rations alone due to the contributions of other inputs of the MCH programmes.

On the other hand, those children who were severely malnourished did not show any improvement in their nutritional status over a one year period of receiving food aid. Here again, several factors might have contributed to the no effect of food aid such as the sharing of food ration with others and the interference of reported common illnesses like diarrhoea, coughs and colds and malaria fever.

An overwhelming majority of recipients (97%) wanted to continue to receive food aid due to such derived benefits as improvement in nutritional and health status and the income transfer effect.

Conclusion

Whilst the sample size may not be large enough to generalize findings to the food aid programme as a whole, it does give strong indications of the nutritional contributions of food aid to the target groups.

The potential of food aid as a nutritional supplement is quite great however, rations have been inadequate as a result of sharing with family members and also due to food supplies being distributed to large numbers of people far exceeding the targetted numbers.

Due to the short time available for data collection, the results are mostly impressionistic in nature. But food aid has been distributed in Ghana long enough to have conclusive data to measure its real impact on the nutritional status of recipients if this is considered an important objective of the role of food aid in development.

It is therefore recommended that:

1. Carefully planned small-scale operational research studies should be undertaken to measure nutritional impact of existing food aid programmes.
2. Future programmes must be designed to measure nutritional impact.
3. Correct indicators must be selected to suit the group being studied and accurate records of data must be ensured.

References Cited

1. School Feeding Progs. in Developing Countries: An analysis of Actual & Potential Impact. By Beryl Levinger, Ph.D. AID Evaluation Special Study No. 30, January 1986.
2. Anokwa Charlotte, Providing International Food Aid in Ghana, A Case-Study of the Socio-Economic Implications. May, 1984.
3. Evaluation Report of CRS/Ghana. Community-Based Food & Nut. Pilot Programme in the Northern Sector. By Ebenezer K. Comney, Mary Ann Ako & Annie Bani. Jan. 1989.
 Evaluation of the CRS/Ghana Title II Programme. By
 H.Y. Boateng
 E.A. Gyebi-Ofosu
 E.C. Moore
 D.F. Piraino
 May 1989
 See p. 2.8 Health & Nut. (country situation)
 3.19
 7 4.1 major recommendations
4. Introductory Nutrition by Helen A. Guthrie 7th Ed. Copyright (c) 1989
5. Principles of Nutritional Assessment (Pts. I & II) by Rosalind S. Gibson (c) R.S. Gibson, 1988.

6. Evaluation of the CRS/Ghana Title II Programme by
Michael Y Boateng
Ernestine A. Gyebi-Ofose
Emily C. Moore
David F. Piraino
May 1989 Accra.
7. Evaluation of the CRS/Ghana Title II Programme, Sept.
1981
8. Growth Surveillance System (GSS) Annual Report. 1987,
Nov. 1988, Accra.
9. Catholic Relief Services, Ghana.
FY 1988 Annual Progress Report
April 1989, Accra Document 1
10. Catholic Relief Services, Ghana.
Update of FY 1988-90 MYOP
April 1989, Accra Document 3
11. Catholic Relief Services, Ghana Programme Annual Report
1987
12. Sahn, David. "Methods For Evaluating the Nutritional
Impact of Food Aid Projects: Lessons From Past
Experience" Food and Nutrition Bulletin Vol.6, No.3,
Sept. 1984.
13. Waterlow et al. The presentation and use of height and
weight data for comparing the nutritional status of
groups of children under the age of 10 years. Bulletin
of the WHO 55:489-498 1977

14. Stephenson L.S., Latham MC, Jansen A. A comparison of growth standards: Similarities between NCHS, Havard, Denver and privileged African children; and differences with Kenyan rural children. Cornell International Nutrition Monograph Series. No.12, 1983.
15. Ritchie JAS, Nutrition and Families (c) 1983
16. Whitney EN, Cataldo CB. Understanding Normal and Clinical Nutrition (c) 1983

CHAPTER 6DEVELOPMENTAL EFFECTS OF FOOD AIDIntroduction

In situations of food shortages and infrastructural deterioration food aid can contribute significantly to the development of the country through its impact on physical capital formation or infrastructural development, the government budget, balance of payments, employment and productivity. In this section therefore, an attempt is made to assess the developmental impact of food aid programmes in Ghana through direct supply of food and/or counterpart funds generation through food aid sales on the budget, balance of payments, employment and labour productivity, income distribution and community development.

A. Balance of Payments Effect

Food aid serves to guarantee foreign exchange savings and improve the balance of payment situation provided it substitutes for commercial import. In circumstances where a country is self-sufficient in a commodity, such inflows do not represent savings since not imports would have accrued in their absence.

In the case of Ghana, matching food aid commodities in terms of domestic production and consumption show that Ghana has persistent deficit in most of the food aid items. Figures available in Table 8.1 suggest that deficits are the common feature of demand situation. As such, the inflows of food aid commodities serve to save foreign exchange and therefore provide balance of payments support in the short-run. 1)

TABLE 6.1

CEREAL PRODUCTION-DEMAND IN GHANA ('000 metric tons)

Year	Pop. (mln)	Demand					Production					Production for consum- ption 2/	Surplus(+) Deficit(-)	Surplus Deficit as % of Demand
		Wheat	Maize	Rice 1/	Sorghum/ Millet	Total	Wheat	Maize	Rice 1/	Sorghum/ millet	Total			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12) 3/	(13) 4/	(14) 5/
1970	8.56	51.4	291.0	68.5	136.9	547.8	0	482.0	49.0	327.0	858.0	605.5	57.7	10.5
1971	8.79	52.7	298.9	70.3	140.6	562.6	0	465.0	55.0	303.0	823.0	581.6	19.0	3.4
1972	9.02	54.1	306.7	72.2	144.3	577.3	0	402.0	70.0	259.0	724.0	518.7	-58.6	-10.2
1973	9.26	55.6	314.8	74.1	148.2	592.6	0	427.0	62.0	276.0	764.0	541.7	-50.9	-8.6
1974	9.51	57.1	323.3	76.1	152.2	608.6	0	486.0	73.0	331.0	890.0	630.3	21.7	3.6
1975	9.63	57.8	327.4	77.0	154.1	616.3	0	343.4	69.8	257.0	670.2	476.1	-140.2	-22.7
1976	9.75	58.5	331.5	78.0	156.0	624.0	0	286.0	69.6	333.4	689.0	489.3	-134.7	-21.6
1977	9.85	59.1	334.9	78.8	157.6	630.4	0	312.2	62.9	272.6	647.7	459.7	-170.7	-27.1
1978	9.99	59.9	339.7	79.9	159.8	639.3	0	269.3	60.8	258.2	588.3	417.9	-221.4	-34.6
1979	10.12	60.7	344.1	81.0	161.9	647.7	0	308.6	63.0	307.2	678.8	481.5	-166.2	-25.7
1980	10.24	61.4	348.2	81.9	163.8	655.3	0	354.0	64.1	292.6	710.7	503.9	-151.4	-23.1
1981	10.37	62.2	352.6	83.0	165.9	663.7	0	334.2	43.6	301.2	679.0	479.7	-134.0	-27.7
1982	10.50	63.0	357.0	84.0	168.0	672.0	0	264.3	37.1	246.3	547.7	387.1	-234.9	-42.4
1983	11.99	71.9	407.7	95.9	191.8	767.3	0	140.3	26.9	220.2	387.9	274.2	-93.1	-64.3
1984	12.29	73.7	417.9	98.3	196.6	786.5	0	574.4	76.0	315.0	965.4	683.4	-103.1	-13.1
1985	12.60	75.6	428.4	100.8	201.6	806.4	0	395.0	80.0	305.0	780.0	554.0	-252.4	-31.3
1986	12.92	77.5	439.3	103.4	206.7	826.9	0	576.0	62.7	290.8	936.7	662.0	-164.9	-19.9
1987	13.24	79.4	450.2	105.9	211.8	847.3	0	553.0	81.0	271.0	905.0	641.6	-205.7	-24.3
1988	13.65	81.9	452.2	10	218.4	861.7	0	600.0	95.0	300.0	995.0	706.0	-155.7	-18.1
1989	14.00	84.0	465.8	112.0	224.0	885.8	0	610.0	100.0	314.0	1024.0	726.8	-159.0	-17.9
Per Capita Demand (kg 1988)		6	34	8	16	64								

1/ Paddy rice

2/ Physical production is reduced by 30% for maize, sorghum and millet and 20% for rice to allow for seed, feed, wastage, etc. Proportions supplied by MOA.

3/ (12) = 0.7 x (8)+0.0x(9)=0.7x(10)

4/ (13) = (12)-(6)

5/ (14) = ((13)x100)/(16)

6/ Estimate

Source: Computed from figures provided by Ministry of Agriculture.

In Ghana food aid helped to finance about 41.5 per cent of total cereal import between 1980 and 1985 (IFAD, 1988). This is substantial foreign exchange savings for the country. When food aid is a loan, the debt service constitutes a fixed obligation in balance of payments. It is also estimated that given the terms of the PL 480 Title I agreement between the US government and the Ghana Government, the grant element of the PL 480 Title I loan to be 50 per cent when the US Treasury bill rate is applied as discount rate and 83.14 per cent when the Ghana Government Treasury bill rate is applied as discount rate. The latter figure is comparable to that obtained by Stoneman (1975) and Papanek (1972,1973) for all Development Assistance Committee aid in 1973.

The grant element is low because the contract may require initial payments and currency use payments. If these two payments were subtracted away the PL 480 Title I will be virtually a grant. Data limitation did not allow us to quantify all these relations in order to determine the net balance of payments effect of food aid. On the basis of donor values, food aid in cereals made a contribution of more than US\$26m to Ghana in 1987. This represents 57 percent and 2.05 percent of total cereal import and merchandise export.

On the basis of world market prices the contribution of food aid to the balance of payment is much lower in relation to values quoted by donor countries. For example in 1987, quoted values of donors were found to be higher by between 11.9 percent and 230.2 per cent. This is represented in Table 6.2. As such, world market value of cereal food aid is 36.9 percent and 1.46 percent respectively of total cereal import and total merchandise export.

TABLE 6.2
 SELECTED DONOR VALUE OF FOOD AID COMPARED
 WITH WORLD MARKET VALUE - 1987

Commodities	Donors	Quantity (1) -	Donor Value US\$ Millions (2)	World Market Value US\$/L (3)	Percentage Variation (4)
Rice	Japan	5922	2.07	1.53	35.3
	EEC	4107	3.50	1.06	230.2
	USA	23228	6.00	6.01	0
	WFP	5200	1.5	1.34	11.9
Wheat	Canada	23000	4.52	2.53	79.1
	France	1035	NA	0.12	NA
	CRS	2340	NA	0.26	NA
Maize	USA	14430	2.00	1.05	90.5
Total			19.59	13.53	44.79

1. Quantities provided by IFEP, Accra.
 2. Values provided by IFEP, Accra.
 3. World Market FOB price, FAO Trade Yearbook, 1988.
 4. [(2) - (3)] - (3) percentage.
 5. Exclude values for France and CRS.
- Source: Computed from data collected.

The differences are accounted for by prices. Food aid items are usually more expensive than if they were obtained on the world market. A number of the agreements looked at specified both source and type of agents that must be responsible for the purchase of Food aid items.

In addition to these direct benefits, WFP is sponsoring a number of food-for-work programmes in the export sector which should have a favourable effect on the balance of payments. This include food support to the timber, mining, cocoa, railways and roads, and ports and harbours rehabilitation project. The benefits of these on the balance of payments will accrue in the medium to long-run.

These favourable effects have to be set against certain conditions which tend to reduce the long-run effect of food aid on the balance of payments:

(i) Tied and Untied Aid

Where food aid is tied to a particular project or where the counterpart funds generated are tied to specific projects which are not in the Public Investment Programme (PIP), the dollar requirement for the implementation or completion of such projects become fixed foreign exchange obligation on the balance of payments. This may not be the case when such projects are receiving other types of foreign assistance from the same donor or assistance from other donors.

In Ghana generally, 30 percent of all food aid

generated counterpart funds on average are fixed or tied to donor agreed projects and the rest 70 percent free or untied and serve as programme aid. To reduce the effects of such donor approved projects on the balance of payment, it may be necessary for government in its negotiations to insist that the foreign exchange requirements of these projects should not be a claim on the available foreign exchange of the country.

(ii) Induced increase & government expenditure

The counterpart funds generated from food aid reliefs part of the constraint on government budget. This permits government to increase her expenditure. The effect of this on BOPs depends on the marginal propensity to import from government investment expenditure. This is estimated for Ghana to be within the range of 40-44 per cent with an elasticity of 1.02 (Ahmad 1970 and Killick 1978).

In the sixties, the proportion of imports in total government expenditure was estimated to be 44 per cent. A close examination of the PIP indicate that the figure could be higher for the 1980's. In part these projects are financed by project aid and grants.

The increase in government expenditure has a multiplier effect which in turn has implications for the BOPs. One major effect is the augmenting

of individuals real and money incomes. Part of the increase income is spend on imports.

(iii) Counterpart funds substituting other foreign Aids

Where counterpart funds generated are used for some Donor embassy expenses and part as grant for investment on agreed projects, to the extent that such expenses would have been incurred and such projects would have been aided even if counterpart funds were not available, the use of local currency assets for such purposes meant that foreign exchange that would otherwise have accrued to the country would not. Thus, the foreign exchange saved by the country to the extent food aid replaced commercial food imports becomes in effect a loan that is repaid later in the sense of potential foreign exchange inflows forgone.

(iv) Food aid help governments to maintain a high level of imports which makes the long term outlook on the BOPs less favourable. Due to developed taste by the population, demand for food import of the food aid commodities remain even after the programme has stopped.

B. Budget Effect

Part of the food aid is monetized and the value of this goes into a special counterpart funds account which could be used to support the Government budget or donor approved

projects. In 1986/87 for instance IFAD reported about 52.2 percent of food aid in cereals by USAID, EEC, Canada, Japan and France was monetized at market prices. The proceed from this went to government.

Counterpart funds are generated from commercial sales and subsidised sales through FFW programmes. The generated funds are either sent to the Treasury or kept by the agencies making the sales for predetermined use.

(a) Commercial Sales

Commercial sales of food aid in Ghana is carried out by six main organizations, namely, Ghana National Trading Corporation (GNTC), Ghana National Procurement Agency (GNPA), Ghana Food Distribution Corporation (GFDC), Tema Food Complex Corporation (TFCC), Takoradi Flour Mill (TFM) and Nestle Ghana Limited (NGL). These outlets also sell in bulk to other commercial houses and super markets to retail them mainly in the urban areas though some reach the rural areas. The proportion reaching the rural poor is unknown but considered very small due probably to their low cash income.

(b) Subsidised Sales - FFW Programmes

Subsidised food sales take place mainly under the FFW programmes of the WFP. The levels of subsidy vary but quite substantial. Accumulated monies collected from recipients of food aid appear to be substantial as would be seen later.

Firms could not provide data on their receipts and payments of counterpart funds. The situation is difficult for the WFP programmes in Ghana.

The general rule for sharing the generated counterpart fund in Ghana is 30 percent for donor oriented projects and 70 percent for budgetary support - Public Investment Projects. Counterpart funds utilization as budget support appear very weak in Ghana as indicated in Table 6.3. Available funds utilization was negligible until 1986 when 18.2 and 10.7 per cent respectively were recorded for 1986 and 1987. A negligible figure was also observed for 1988. Information available from WFP records is that about 600 million counterpart funds was generated by WFP assisted projects between 1987 and 1988. However, not much evidence exist on disbursement and utilization levels though specific allocation to various projects was made.

For example according to the plan of operations for the Oil Palm plantation project, budgetary savings corresponding to 50 per cent of the wages paid to workers benefiting from WFP assistance would be used by the Ghana Government to strengthen the agricultural extension services particularly with a view to provide technical assistance to the small holders participating in the project. No funds had so far been spent for the purpose stipulated in the plan of operation. In periods of budgetary constraints, the Ghana Government considered the transfer of

TABLE 6.3
Counterpart Funds Generation and Utilization in Ghana 1984 -1988 (¢ Million)

Years	Before 1984	All Aid					Total	Food Aid		FA as % of AA	
		1984	1985	1986	1987	1988		1986	1987	1986?	1987?
Utilized balance at beginning of year	276958.47	1920.33	2029.68	6830.27	9485.18	10581.29	49213.81	221.04	1627.42	3.2	17.2
Inflow during year	-	.062	1302.99	2330.91	4956.06	2934.22	9426.24	133.09	522.61	57.1	1.6
Disbursement during year	-	9.07	46.82	1285.98	1551.46	69.98	5827.55	117.78	599.57	91.6	5.6
Utilized balance as at Sept. 1989	276958.47	1911.32	2155.29	5777.39	1237.36	13546.53	55661.73	1463.0	1550.56	25.3	18.75
% Utilization	0	0.47	0.22	18.2	10.7	0.51	9.94	33.26	27.39		

Source: IFEP

savings as an additional source of income and did not allocate the corresponding amount to the MOA for improvement in the extension service.

No division of the Ministry of Finance and Economic Planning could provide us information on an annual basis about the level of budgetary finance from the counterpart funds. There is a gross figure for grants in the budget but no unit could provide us a breakdown in order to determine the level of budgetary support from food aid.

What is important to note therefore is that whatever the budgetary support food aid could provide, the actual levels of support is very low because the utilization of counterpart funds is low.

Donors often direct that specific projects be financed from proceeds of food aid to demonstrate the effect of its aid while Government officials would prefer the food aid in the form of programme aid. This is achieved through provision of food per se as FFW programmes or through provision of funds generated from the food aid. Most writers on food aid agree that food aid in programme form can make a more significant contribution to the recipients' development objective through budget support than funds tied to specific projects.

With regards to WFP counterpart funds utilization, poor communications and the delay in allocation of funds are observed to be the major problems. To overcome these problems, a WFP evaluation team recommends an annual allocation meeting between WFP and the MPEP with the latter proposing allocation to PIP projects taking into account WFP's priorities and WFP

agreeing or putting forward acceptable alternatives. Further the Ghana-CIDA format under which past balances and estimated current receipts are programmed on an annual forward budget basis be adopted. Semi-annual review meetings are also necessary to address lags in use and to propose re-allocation.

An audited report (1989) commissioned by USAID on its assistance to Ghana produced some revealing results. The mission found that some projects were not obtaining the desired results. The AID handbook 9 requires that counterpart funds generated from sale of Title I commodities be used for purposes agreed upon between AID and the recipient countries. However, in Ghana, counterpart funds were not always used as agreed because no formal procedures had been established to ensure compliance with the requirement. As at January 1989, almost US\$5 million of counterpart funds had accumulated in the special account while important development projects were not undertaken or adequately funded.

According to the audit report, in view of the difficulties faced by the Ghana Government in providing the agreed upon counterpart funds for the fiscal year 1985 and 1986 projects, a revised list of projects consisting of 23 in PIP, 7 self-help measure projects and 11 others was agreed-upon in May 1987. earmarked for these project was 80 percent of the \$976 million available counterpart funds.

It is observed that despite the agreement, funds were not always allocated as agreed. In some cases, approved projects did not receive funds on a timely basis or at agreed-upon levels. In other cases, funds were used on

unauthorised projects or unapproved projects and counterpart fund expenditures could not be traced to any specific project.

The major factor contributing to the low utilization of generated counterpart fund is the lack of a formal procedure to ensure that funds were used as agreed, which was the same for WFP and possibly other sources. A monitoring and evaluation procedure is necessary. A clear format for the programming, use and disbursement of all generated counterpart funds is pertinent to reduce the current waste.

C. Food For Work Programmes

There are two types of FFW programmes. The ADRA community base' FFW programme and Government-WFP FFW programmes. The general objectives are: (1) to raise Ghana's capacity to produce and to transport exports on a sustainable basis, and to do so by providing interim income supplements to workers in the form of food, to complement World Bank/IIIF designed and promoted/financed capital rehabilitation projects with increases in worker ability and will to produce more; and (2) to provide food as incentive in the execution of community based development projects.

I. A D R A

ADRA's food programme has been an intervention strategy that provides catalytic support for local/community-initiated projects. FFW the major component of the ADRA food programme takes up about 90 percent of programme resource. ADRA is

reported as having continually refined its management strategies for higher programme efficiency.

For the period 1985-1988, 3108 FFW projects were undertaken all over Ghana. Cumulatively, social services constituted the highest number of projects. Social services accounted for 44.5 percent, Agriculture 42.1 per cent, Water/Health and Sanitation 12.4 percent and Economic activities 1 percent. Whereas the annual composition of project declined for social services, that for agriculture and Water/Health/Sanitation increased from 1985 to 1988 as presented in Table 5.4. If 1985, the year they stated operations is removed, agriculture constitutes the main pre-occupation of ADRA FFW programme.

II. WFP Assisted FFW Programmes

WFP assisted FFW projects include: Oil Palm Plantations, Forestry Plantation Projects, the Gold Mining Sector; Timber Sector, GIAIP, Cocoa Sector, Ghana Railways Corporation, Ghana Ports and Harbours Authority, Ghana Highway Authority and the Department of Feeder Roads.

D. Effect on Labour Productivity

The effect of food aid on labour productivity is not clear under the WFP assisted FFW programmes. Mixed results appear to exist. Under the Oil Palm Plantation project productivity expressed as a ratio of hectare/labour is lower in the State Farms than in the Corporation Farms. According to WFP evaluation report of the Oil Palm Plantations, while State

TABLE 5.4

FFW PROJECTS BY TYPE, MCH CENTERS 1985 - 1993

Sector	Year		1985		1986		1987		1988		Cumulative	
	No.	%	No.	%								
A. Food-for-Work												
1. Agriculture	307	24.1	318	52.4	264	51.7	420	53.4	1309	42.1		
2. Social Services	843	66.3	219	35.1	134	26.3	185	25.9	1382	44.5		
3. Water/Health Sanitation	105	8.3	67	11.0	108	21.2	106	14.7	386	12.4		
4. Economic Activities	17	1.3	3	0.5	4	0.8	7	1.0	31	1.0		
TOTAL	1272	100.0	407	100.0	510	100.0	719	100.0	3108	100.0		

Source: ADRA/GHANA, Accra.

Farm employed on average one worker per 1.4 Ha planted. Corporation Farms and private farms not assisted by WFP employed one worker for 2.5 to 3 Ha. A similar observation was made by Cudjoe (1986) when his regression of labour productivity on food aid and other variables on the Okumaning Oil Palm Plantations indicated that food aid had no statistically significant impact on labour productivity. On the whole the FFW programme does not appear to be having the necessary productivity impact on the Oil Palm industry.

Evidence available on the Forest Plantation Project as at 1984 suggested failure (Semer et al 1984) the reasons given for this failure included: inadequate cultural and agronomic practices, shortage of professional staffing, deficiencies in planning at national, regional, district and project levels, inadequate supply of vehicles and equipment, inadequate labour employment system and management. However, a regression of labour productivity on food aid and other variables conducted by Cudjoe (1986) on the Ghana Forestry Department indicated that there was a statistically significant positive relationship between food aid supply and increase labour productivity. The latter observation may be due to a significant improvement in administration of the food aid.

Other WFP reports have indicated labour productivity targets set in the plan of operation for the Gold Mining Sector, have not been achieved though available data makes it impossible to determine. The same is true for the Timber Sector. On the other hand, though no specific productivity targets were set for GIAIP output per worker rose on average by

Generally, absenteeism and sickness reduced considerably in all the food aid assisted projects as reported in various WFP reports.

E. Employment

In general FFW programmes have not generated new employment opportunities. They have been used to maintain existing employment in the favoured sectors. According to a WFP report Ghana 2258/11 in some case food aid has been used to maintain excess workers. In some other cases it seem to us food aid was used to avoid a realistic wages policy. Some of the companies supported are capable of paying incentive wages to their workers but have been prevented from doing so because of the wage demand that it may induce in other sectors of the economy.

Although ADRA programmes have also aimed at creating employment, the community nature of these programmes do not tally well with employment creation. Most communities view ADRA food aid as resource inflow that enables them to achieve certain desirable development objectives. Most communities do not see ADRA FFW programmes in terms of employment creation. Moreover, in the rural communities where agriculture is the dominant activity unemployment in the conventional sense may not exist. In areas with a shortage of land some underemployment may exist. Both programmes however have

contributed significantly to physical infrastructural development.

F. Income Distribution

The general price effect of food aid as discussed earlier may have favourable effect on income distribution. The lowering of food prices is likely to benefit the poorer sections of the population both urban and rural. In low-income areas a large percentage of small farmers are in fact net buyers of food, using purchases from cash incomes to supplement their own production (Nelson 1983, Colelough 1985 and Maxwell 1986). Similarly in times of food shortages in 1983/84 in Ghana, it is the most nutritionally vulnerable group who suffer most in inter-family and intra-family food distribution. Hence food aid is likely to lead to some quick income distribution,

In the case of FFW the ration offered represented substantial increases in real income of workers. For those on minimum wages the real income transfer could go as high as 100 percent of workers basic wage this reduces the disparity in income distribution between low and high income groups within the relevant establishment. At the same time it created income disparities between sectors. This may be worsened in cases where average wages were already above national average as is the case of Ashanti Goldfields Corporation.

G. Summary and Conclusion

Food aid supply especially under the FFW programmes has an income augmenting and equalizing effect for the workers involved in these projects. The effect appear to be significant due to the low labour remuneration policy of the Government of Ghana. It is estimated that for workers engage in food aid assisted project (FFW) the monthly food parcel is normally two time or more the cash wage for minimum wage earners. This however does not remove the need for a well thoughtout wage policy to remunerate labour.

Food aid sold on the commercial market and that for FFW for which deductions are made from beneficiaries wages generate substantial amounts levery year. For example, WFP assisted projects generated counterpart funds were ₵378,820,000 in 1986 and ₵600,000,000 in 1987 and 1988. However, the use of these funds for budgetary support and utilization appear to be facing problems. Less than 20 per cent of the generated funds had been used in any year between 1986 and 1988. Funds used were sometimes not on agreed upon projects and or amounts agreed upon. This appear the most serious bottleneck of the food aid programme.

The changed focus of the WFP and other donors of food aid after 1984 to developmental issues is particularly to provide support to the IMF/World Bank SAP/ERP. Available evidence so far is that dividends have accrued. Significant benefits in terms of output increases, higher labour productivity, reduced absenteeism and hospital attendance, workers willingness to do overtime, workers confidence in

themselves etc. Despite the above observations, specific project measures must be formulated to adequately allow for detailed assessment instead of the present omnibus measures. Where difficulties in measurement exist, frequent reviews may prove useful.

It was observed from this study that inappropriate administration of food aid commodities reduces its usefulness. Food aid used for FFW programmes should be distributed on the basis of efficiency (eg. one ration per predetermined performance rate) rather than according to number of workers employed. Particularly with the Oil Palm projects, food aid appear not to be having the expected productivity impact. So far employment opportunities have been limited with the assisted projects. However, there is evidence that without the assistance most of the projects especially oil palm plantations would not have been able to keep their labour force. Thus, at least jobs have been preserved.

The use of generated counterpart funds by organisations as outlined in the plan of operation to improve working conditions of workers appear to be in trouble especially under the forestry project. This is due to failure of the Government of Ghana to make available the necessary counterpart funds. The general observation from current use of food aid in developmental projects is that much more can be derived from proper administration and design of food aid programmes. Design should include a mechanism for phasing out food aid once the assisted projects become self-supporting.

The general concern expressed by officials both at the national (government) and local (chiefs) is the likely impact on labour productivity and work performance when food aid ceases to be provided for FFW projects. This calls for a gradual but definite and systematic withdrawal of food aid commodities to workers while at the same time putting in place alternative supply channels at commercial rates once wages reflect marginal productivity of labour.

REFERENCES

- ADRA/GHANA, Progress Report Oct. 1987 - Sept. 1988, Accra. May 1989.
- WFP Interim Evaluation Full Report: Project Ghana 2752. "Rehabilitation of the export sector" 1988
- WFP Plan of Operations Agreed Upon Between the Ghana Government and the World Food Programme concerning Assistance for the rehabilitation of Railways, Ports, Highways and Feeder Roads. (Project No 2714 Expansion)
- USAID Agreement between the Government of the United States of America and the Government of Ghana for sale of Agricultural Commodities.
- WFP Report on Interim evaluation of WFP-assisted project. Ghana 2258/II. "Assistance to Oil Plantations" March 1984.
- WFP Plan of Operation agreed upon between the Government of Ghana and the United Nations/FAO World Food Programme Concerning assistance for the Plantations of Oil Palms and Rubber Estates (Project 2258 Exp).
- WFP Ghana 2752 Rehabilitation of Export Sector May 1984.
- WFP Plan of Operation agreed upon between the Government of Ghana and the UN/FAO World Food Programme concerning assistance for Forest Plantations - Project No. 2075 Exp.II

- WFP Disbursement of WFP Counterpart Funds
Accrued in 1986, 1987 and 1988.
- Killick T. Development Economics in Action: A Study of
Economic Policies in Ghana. Heineman
Educational Books Ltd. London 1978.
- Ahinad
-
- IFAD Special programming Mission to Ghana Report
to O105-GII July 1988
- Stoneman C Foreign Capital and Economic Growth "World
Development" January 1975 Pp 1-10
- Papanek G.F. "The effect of Aid and other Resource
Transfers on Savings and Growth in
LDC's. Economic Journal Sept. 1972 Pp 934-51
- Papanek "Aid, Foreign Private Investment, Savings
and Growth in LDC's". Journal of Political
Economy Jan/Feb 1973 Pp 120-130
- Nelson G|O| Food Aid and Agricultural Production in
Bangladesh IDS Bulletin Vol.16 No.3 1985 Pp
39
- Maxwell S|J| "Food Aid to Senegal: Disincentive Effect
and Commercial Displacement" IDS Discussion
Paper No.225

- Srinivasan T.N., "Food Aid: A Cause of Development Failure
or an Instrument for Success? The World
Bank Economic Review Vol.3 No.1 1989 Pp 39-65
- USAID Audit of A.I.D. Assistance to Ghana Audit
Report No 7-641-89-05 January 2, 1989.
- Cudjoe E, Food Aid and Agricultural Labour
Productivity in Ghana: The Case of the
Forestry Department and the Okumaning Oil
Palm Plantation, Dept of Agric Econs,
University of Ghana, Legon 1986.

CHAPTER 7MONITORING AND EVALUATION

This section discusses the framework for monitoring and evaluating the national food aid programme. The first part on monitoring covers the conceptual framework for monitoring in flour and utilization of food aid, general considerations in monitoring food aid, including uses of and constraints effective monitoring, and relevant issues and concerns to be monitored. The second part discusses the analytical framework for evaluating food aid, major issues to be analysed and broad variables to be evaluated. The issues identified in the section are indicative and illustrate the spectrum of concerns to be addressed. Furthermore, they focus on policy effects and the impacts of food aid on recipients. Thus specific issues and indicators have to be identified for different types and uses of food aid commodities.

A. Framework for Monitoring Inflow
and Utilization of Food Aid

Monitoring is the systematic process in programme implementation that provides information on the progress in implementing the programme. Information from monitoring can be used to assist decision-making for increased programme effectiveness, assess the relevance of the programme and determine the pattern of resource allocation. It is also used to ensure operational and financial accountability, judge programme performance against targets, ensure that intended impacts are being efficiently achieved and lay the basis for evaluating the programme.

Monitoring should be an integral ongoing function of managing food aid programmes aimed at ensuring effective programme implementation. Presently, monitoring of food aid at governmental level is usually focused on commodity arrivals and the disposition of commodity aid while monitoring of the impacts of food aid is more extensively undertaken by donors. For the effective utilization of food aid, it is essential to integrate and institutionalize the monitoring function within the overall process of planning and managing food aid as a development tool.

B. Conceptual Framework for Monitoring Food Aid

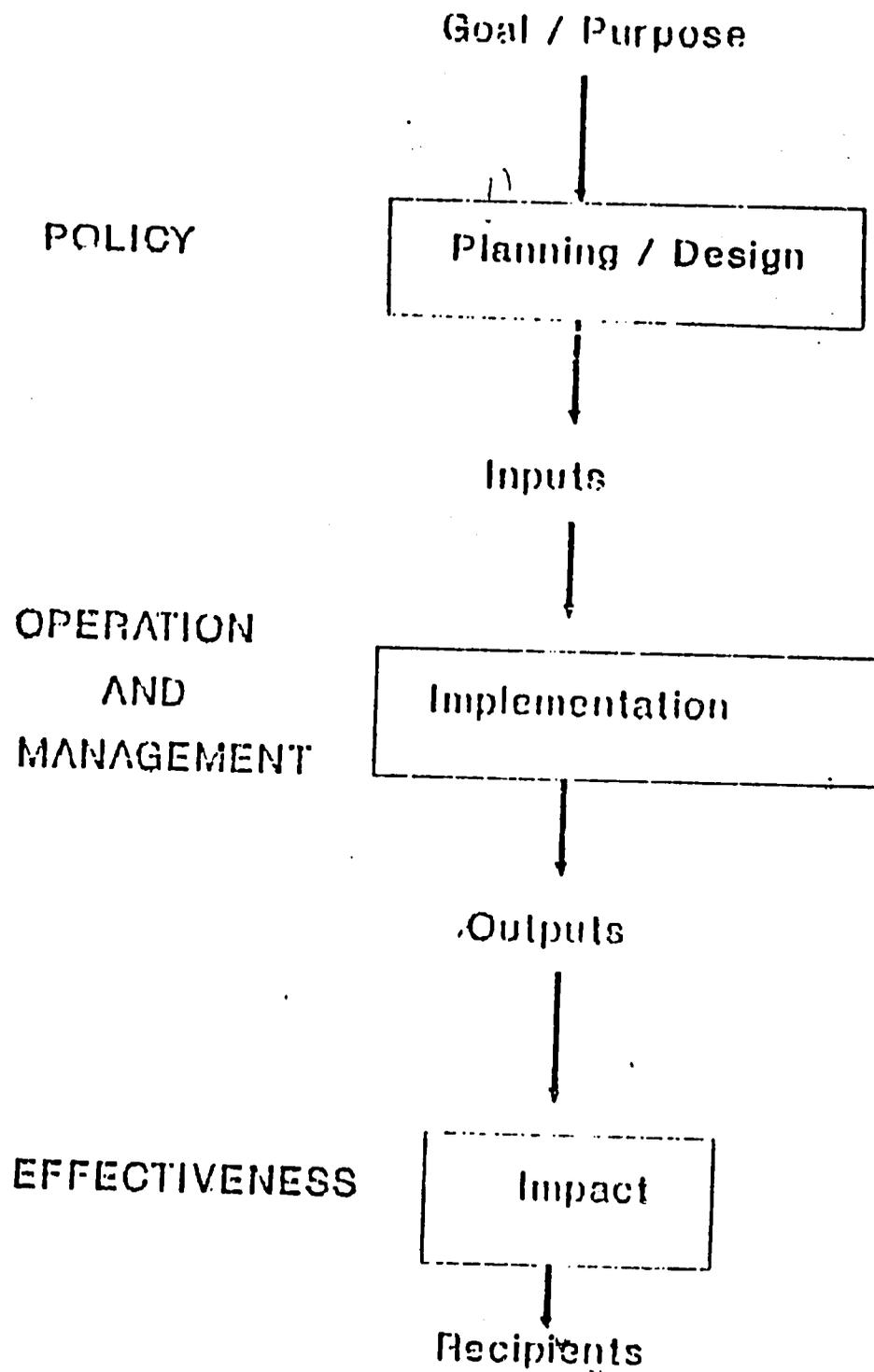
The conceptual framework for monitoring food aid is based on systems conceptualization involving linkages between the components, processes and elements of the food and system. The inter-relationship between the structural building blocks of the system are shown below:-

The three components of the programme are policy, operation and management and effectiveness which are linked by four elements of goal/purpose, inputs, outputs and recipients. The three processes of planning/design, implementation and impact link these elements and components in the integrating framework.

This conceptualization applies to the main types of programme, project and emergency food aid. The framework can also be used to describe the food aid system in terms of the uses of food aid such as child feeding and food-for-work.

Within the government's planning process, the monitoring of food aid typically emphasizes the operation and management

CONCEPTUAL FRAMEWORK FOR MONITORING FOOD AID



component, the implementation process and the input and output elements. Less focus is placed on the other components of policy and effectiveness and the design and impact processes. However, in order to increase the effectiveness of food aid monitoring as a policy and planning tool, it is essential that the policy and impact aspects of food aid programmes be emphasised.

C. General Considerations in Monitoring Food Aid

An effective monitoring system is a function of several pertinent considerations, some of which are now discussed.

- (a) Food management needs under the Economic Recovery Programme require that monitoring emphasises the measurement of achievements of the food aid programme and progress in achieving the development objectives of economic reform.
- (b) On-going of the food aid programme is required to facilitate timely decision-making in emergencies.
- (c) Monitoring food aid is time-consuming and resource-intensive.
- (d) The relationships between several variables of impact and effectiveness are not yet understood in the Ghanaian context. Also, some variables such as taste for foreign foods, are non-quantifiable.
- (e) Monitoring food aid involves monitoring variables in the international environment, such as world prices.
- (f) The food aid monitoring system requires multi-disciplinary input and inter-ministerial co-ordination.

- (g) Effective monitoring of food aid involves close co-operation of numerous donors and implementing agencies and needs to be linked to the government's system of co-ordinating donor assistance.
- (h) The system of monitoring food aid needs to be linked with the system for assessing food needs and be an integral part of food policy formulation.
- (i) The plan or approach to monitoring food aid needs to be flexible, to be revised as more data become available.

From these considerations, it is clear that it requires systematic efforts to institutionalize the monitoring of food aid within the national planning framework. Effective food aid monitoring can serve as a powerful tool for enhancing national food policy, import programming and public investment planning as well as the co-ordination of donor assistance programmes. However, the utility of monitoring is frequently reduced by constraints to the development of an effective monitoring system including inadequate and inaccurate data, conflicting data from various agencies, logistics problems and the difficulty in isolating the effects of food aid programmes due to the time gap between programming, delivery and use of food aid commodities.

D. Relevant Issues and Concerns to be Monitored

Establishing what to monitor involves determining (a) the objective (b) components, processes and elements (c) developmental issues and concerns, and, (d) monitorable actions

and outcomes. The major objective of monitoring food aid is to provide information to assess the effectiveness, efficiency, impact, relevance and sustainability of the Government's food aid programme. Effectiveness refers to the progress being made towards achieving the development objectives of the food aid programme, while efficiency relates to the cost of achieving intended development results in comparison to alternative intervention mechanisms. Within the context of the conceptual framework proposed, monitoring of food aid in Ghana could focus on the operation and management component, especially planning, inputs and implementation, and the effectiveness component, particularly outputs and results of the food aid programme. Most of the policy effects and developmental impacts of food aid are difficult to monitor within the normal food aid programme cycle of one year, and are best analysed during evaluation. Thus the monitoring strategy proposed emphasises issues and concerns relating to (a) the incentive or disincentive effects of food aid in the domestic economy, especially the agricultural sector, (b) the operation and management of the government's food aid programme and those of key food aid donors, (c) the output of some projectized food aid programmes such as food-for-work and maternal-child feeding.

The major concern in monitoring incentive effect of food aid is that aid does not cause disincentive to local production, marketing and consumption, while achieving its development objectives. The following issues can be analysed to address this concern.

1. Do food aid commodities add to normal supplies,

rather than meeting a shortfall? What is the proportion of food aid in total domestic consumption?

2. Will food aid displace usual commercial imports or interfere with normal trading patterns?
3. What is the impact of food aid commodities on close substitutes produced and marketed locally?
4. Are there price differentials between food aid commodities and locally produced commodities, such as rice?
5. Does food aid depress prices received by domestic producers.
6. What quantity of food aid is distributed through public distribution and marketing agencies such as GHTC, GFDC and GHPA?
7. Are food aid commodities marketed through public agencies subsidised?
8. Is the food aid commodity part of the local diet?
9. Are food aid commodities distributed to target groups that had no previous preference for it?
10. Are food aid commodities or local currency proceeds targetted to specific groups?
11. What is the capability of implementing agencies to undertake targetted distribution?

The major concern in monitoring the operation and management of food aid is that the management and co-ordination of the programme between the government, donors and other implementing agencies such as the Catholic Relief Service is

effective to ensure timely arrival of the right quantities and qualities of food aid commodities, for efficient storage and distribution. Issues to be considered include the following:

1. Is there close interaction and liaison between the main government agencies involved in the food aid programme, such as the Ministry of Finance and Economic Planning, Ministry of Agriculture, Ministry of Trade and Bank of Ghana?
2. Is the programming of food aid integrated in planning public investment?
3. Is there adequate documentation of the programme, its components and outputs?
4. Do food aid commodities arrive on time?
5. Are port facilities and maintenance adequate?
6. How efficient are port operations and management?
7. Does the arrival of food aid commodities cause congestion at ports and disrupt internal distribution systems?
8. Are storage and transport facilities adequate to handle and distribute food aid commodities?
9. How many recipients benefit from targetted programmes? What is the quantity and value of commodities received?
10. How fast are commodities monetized?
11. Does the Accountant-General liaise closely with the Ministry of Finance and Bank of Ghana in managing the generation and use of counterpart funds?

The output of food aid programmes depends on the type of the programme: the output of the PL 480 Title I programme is the local currency generated from the commercial sale of the commodities while the outputs of the PL 480 Title II programme include food rations, feeding services, nutrition and health information, rural infrastructure facilities and farming projects established. Most of these outputs can be identified and enumerated during monitoring.

Having determined the objective of monitoring and aspects and issues of the food aid system to be monitored, it is useful to identify actions and outcomes within the food aid system that can be monitored to address the issues concerned. Identifying which actions and outcomes can indeed be monitored is an important aspect of planning the monitoring strategy which permits the choice of indicators, data sources and data collection methods. These outcomes include the following:

1. Planning meetings with the government on the annual food programme and between donors and the government.
2. Dates on which donors make commitments on food aid to the government.
3. Arrival dates of food aid commodities at the ports
4. The distribution schedule of commodities from the ports.
5. The state of storage and transportation infrastructure.
6. The amounts and dates of delivering commodities to recipients.

7. Sales or monetization schedules of commodities.
8. Deposits to and withdrawal from the counterpart funds.
9. Domestic market, producer and international prices.
10. Levels and distribution of domestic production, marketable surplus and supplies.
11. Levels and patterns of trade in food aid and related commodities.

The monitoring approach outlined above is best applied within the framework of a monitoring plan which clearly sets out (a) the objectives of monitoring the food aid programme, (b) what is to be monitored, (c) indicators and data collection, (d) implementation of the monitoring schedule (e) reporting responsibilities, (f) the financing of monitoring activities. The plan identifies and co-ordinates the responsibilities of the various ministries and implementing agencies and facilitates the institutionalization of food aid monitoring in the overall economic policy planning machinery of government. This will enhance the utility of evaluating the food aid programme.

E. Evaluating Food Aid Programmes.

Evaluation should be an integral part of the management of food aid programmes designed to identify the strengths, weaknesses and relevance of the programmes, and their impacts at the levels of the individual, community and nation. This involves a judgement on the food aid programme which addresses not only the accomplishment of programme objectives, but other issues including the social and political context within which

the programme takes place, the assessment of qualitative changes occurring within the programme and the analysis of unplanned results. Unlike monitoring seeks to provide regular information for improved effectiveness of the programme, evaluation is undertaken on a longer-term, more periodic basis, with the primary object of determining the ability of the food aid programme to achieve its developmental objectives. Also, evaluation of food aid programmes usually focuses on impacts while monitoring emphasises the operation and management of the programme. However, the conceptual framework linking components, processes and elements of the food aid system described for monitoring is applicable to evaluating the programme and several issues and indicator variables are common to both management functions. In Ghana, food aid is more regularly evaluated by donors such as the World Food Programme and USAID than by government. This deficiency in the planning and use of food aid as a development input needs to be rectified. Within the context of the conceptual framework described, and as a complement to monitoring, evaluation of the food aid programme should emphasise the policy component and impacts on recipients and development objectives.

F. Issues to be Evaluated

The key considerations relate to whether the food aid programme depresses prices received by domestic producers, distorts consumption and trade patterns, affects income distribution negatively, distorts budgetary and balance of payments relations and substitutes commodities for what can be produced efficiently locally. In addition to those issues

identified for monitoring, concerns relating to the incentive, distribution and consumption effects can be analysed during evaluation by addressing the following issues.

1. What are the alternative uses of food aid commodities?
2. Are domestic pricing decisions based on world market conditions and reflect the economic costs of resources and foreign exchange?
3. What is the responsiveness of domestic production to prices?
4. Do administered prices provide sufficient planning guidelines to affect farmer decisions on planting?
5. What are the chances of food aid providing significant support to a pricing system that has disincentive effects on domestic production?
6. To what extent, will food aid support the development of an efficient pricing system?
7. Are public marketing institutions who market food aid commodities being managed efficiently on financially self-sustaining basis?
8. If food aid marketed by public agencies is subsidised, to what extent has subsidized food aid affected commercial unsubsidized trade by the private sector?
9. Can commodities supplied as food aid be produced efficiently locally to accommodate the taste preferences rather than through food aid?
10. To what extent does food aid influence the changes

in food preference?

11. Do poor people consume food aid more than other income groups?
12. Are there more efficient ways of targetting support to the poor without the use of food aid commodities?
13. To what extent has the food aid programme disrupted traditional trading patterns?
14. If food aid results in production and marketing disincentives, to what extent would they exist if imports are on commercial basis?
15. What are the relative development effects of programme and project food aid, especially on the government budget?
16. To what extent are food aid commodities being replaced by locally produced ones or substitutes?
17. What is the commercial import capacity of the country?
18. What are the indirect impacts of the food aid programme?
19. Has the availability of food aid reduced government's investment in developing agriculture?

In terms of the operation and management of the food aid programme, the major concern is the ability to redesign the programme and improve its management to alleviate its disincentive effects if the programme contributes to inefficient policies or results in negative impacts. Some of the issues that can be investigated include the following:

1. Are the roles of the implementing agencies complementary?
2. How flexible is the design and implementation of the food aid programme?
3. What is the institutional efficiency of the agencies implementing the programme?
4. Is the programme designed to allow the determination between the output and impacts?
5. How much leakage occurs in targetted food aid programmes?
6. To what extent and by whom is the implementation and impact of food aid monitored?
7. How well is the food aid programme integrated into the overall donor assistance co-ordination process?
8. To what extent are government agencies involved in the food aid programmes of donors?
9. How adequate and effective is the system for accounting for the management of cedis generated from food aid?

G. Analytical Framework for Evaluating Food Aid

The analytical framework for evaluating food aid depends on the purpose of the evaluation and the issues involved. The issues outlined in this section can be analysed using several analytical methodologies found in the literature. For example, issues of the disincentive effects can be analysed using the Marshallian partial-equilibrium framework, as in Lucas and Lane (1987) or econometric estimation, as in Hall (1978). Some policy implications of the disincentive effects can be analysed

following Isenman and Singer (1977). Issues relating to the welfare costs, macro-economic impacts and the political economy of food aid can be analysed using the approaches of Abbott and McCarthy (1982), Cathie (1982) and Nelson (1981). In the Ghanaian case, the present study represents the first major attempt to analyse the development effects of food aid in a comprehensive manner. The methodologies defined and applied earlier in the study to assess the domestic agricultural, nutrition, employment, balance-of-payment, income distribution and budgetary effects of food aid constitute a starting point for evolving an applicable analytical framework for evaluating food aid. These simple approaches are robust enough and require less data than some of the other methods found in the literature to provide adequate answers to questions relating to the efficiency, effectiveness and relevance of food aid in Ghana and need to be applied more often as to operationalize their application. Although the menu of methodologies used in this study employs partial analysis of identified effects, it is widely used in the literature (for example, see Dunlop and Adamezyk, 1983). The approach allows the incorporation of the effects of policy, characteristics of the commodity and the specifics of technology which are more difficult to address within the framework of formal sector models which explicitly recognises intersectoral linkages as in Ahluwalia (1979).

H. Major Variables, Indicators and Data Sources

The major constraint to conducting evaluative analysis of food aid in Ghana is the unavailability of data. This is partly due to inadequate documentation of the programme

reflecting the low priority accorded food aid data collection. Data on the variables suggested herein are needed to facilitate effective evaluation of the food aid programme. Specific variables to evaluate will depend on the analytical approach adopted. The variables, indicators and data sources listed from a starting point for developing a comprehensive set of data necessary for the effective monitoring and evaluation of the food aid programme in Ghana.

Key Variables, Indicators and Data Sources for
Evaluating Food Aid in Ghana

	<u>Variable</u>	<u>Indicator</u>	<u>Data Source</u>
1.	Share of aid in consumption	Food Balance	- Min. of Agric. - Min. of Trade -Ghana Statistical Service
2.	Price effects of aid	Computation from price date	-Min. of Agric. -Min. of Trade Ghana Statistical Service -Customs
3.	Tastes, preference, acceptability	Market Survey Consumption analysis	-Analyst
4.	Leakages in targeting	Distribution records Consumption analysis	-Min. of Finance -Donor agencies -NGOs
5.	Adequacy of port facilities	State of loading equipment	-Ports authorities
6.	Adequacy of storage Infrastructure	Storage Capacity	-Min. of Agric. -COCOBOD
7.	Timeliness of distribution	Distribution schedules	-Min. of Trade -Min. of Finance Donor agencies eg. WFP

8. Targetted aid programmes and projects such as Food-for-work
- outputs
 - Government agencies
 - Value of food
 - Donor agencies
 - Anthropometric
9. Ability to import
- Computation from economic data
 - Min. of Agric.
 - Bank of Ghana
10. Trade, budgetary and monetary effects
- Economic Statistics
 - Ghana Statistical Service
 - Bank of Ghana
 - Min. of Finance

REFERENCES

- Lucas and Lane (1987) A suggested Procedure for determining the effect of food aid on market price and production: An Illustrated Case; Paper presented at the Economists' Conference by AID, Williamsburg, VA.
- Hall, L. (1978) The Effects of PL 480 Wheat in Latin American Countries, Working Paper No. 62, Giannini Foundation of Agricultural Economics, University of California.
- Isenman, P.J. and Singer, H.W. (1977), Food aid: Disincentive effects and their policy implications, Economic Development and Cultural Change, 25(2), January.
- Abbott, P.C. and McCarthy, F.O., The Welfare Costs of Tied Food Aid, Journal of Development Economics, Vol 11(1).
- Cathie, J. (1982) The Political Economy of Food Aid, Gower, Aldershot.
- Nelson, G.O. (1981), Macro-economic dimensions of Food Aid in Food Aid and Development, ADC, New York.

Dunlop, D.W. and Adamezyk, C. (1983)

A Comparative Analysis of Five PL 480
Title I Impact Evaluation, AID Impact
Evaluation Discussion Paper, No. 19,
US Agency for International
Development, Washington, D.C.

Ahluwalia, I.J. (1979),

An analysis of price and output
behaviour in the Indian economy:
1951-1973, Journal of Development
Economics, Vol. 6(3)

The IIMP is responsible for the distribution of aid including food, for emergency relief they rely on volunteers and support from IGO's in particular.

The mere weaknesses identified are:

- (1) inadequate rations at ICH centers;
- (2) lack of control of food aid flows to meet seasonal food shortages;
- (3) Inadequate numbers of trained personnel at ADRA and CRS;
- (4) Inappropriate use of counterpart funds;
- (5) Losses due to spoilage and pilfering.

Based on the above limitations, the recommendations made include the following:

- (1) The criteria for evaluating quantities of food allocated to ICH centers should include calculations based on rations for the family and not just the individual recipient.
- (2) Direct government intervention to control seasonal flows of commercialised food aid and to ensure a spatial distribution that will mitigate regional severity of seasonal food shortages.
- (3) A formal integration of food and aid distribution activities with the normal duties of teachers and staff of MOH.
- (4) Projects to benefit from counterpart funds should be specified within agreements. Alternatively, such funds can be used to purchase food locally to support other programmes.

- (5) Close monitoring through frequent and regular returns and a reliable security system can reduce pilferage, regular checks on deliveries by both donors and distributors to ensure proper packaging and storage should help reduce spoilage.

8.2 Impact of Food Aid on Domestic Agriculture.

An analysis of the impact of food on levels and stability of domestic food prices, production and consumption showed that food aid does depress food prices but the proportionate decline in prices is less than the proportionate increase in food aid. Also food aid tends to stimulate the stabilization of food prices.

On consumption, food aid inflows increase food consumption particularly where the food is sold in subsidized food markets. Also, increased food aid tends to diverge domestic tastes and preferences away from locally produced food commodities. This way food aid can jeopardise the country's desire toward food self sufficiency.

It is recommended that complementary producer price and technological support policies can reduce or prevent the potential disincentive effects of food aid.

8.3 Food Aid in Development

The impact of food aid on development is measured by the extent to which wages are augmented in FFW programmes and the subsequent improvement in labour productivity. It is estimated that for workers engaged in food aid assisted projects, the

monthly food parcel is normally two times more than the cash wage for minimum wage earners.

Funds generated through the sale of food aid items and deductions from beneficiaries wages are substantial. For example the WFP assisted projects generated \$378,820,000 in 1986 and \$600,000,000 in 1987 and 1988. Unfortunately, less than 20% of the generated funds had been used in any year between 1986 and 1988, and funds have sometimes been used outside target projects. In some cases e.g. forestry, government has failed to make available necessary counterpart funds.

Significant benefits have been gained in terms of output increases, higher labour productivity, reduced absenteeism and hospital attendance, and workers' confidence in themselves.

The following observations and recommendations are made.

- The positive impact of food aid on incomes and productivity of workers should not prevent a well thought-out wage policy to remunerate labour.
- Specific and appropriate project measures must be formulated to adequately allow detailed assessment of impact of food aid on labour productivity. This may be supplemented with frequent reviews of projects.
- The findings suggested that inappropriate administration of food aid commodities reduces its usefulness. It is suggested that food aid used for FFW programmes should be distributed on the basis of efficiency rather than number of workers employed.

The general observation from current use of food aid in developmental projects is that much more can be desired from proper administration and design of food aid programmes. In particular, design should include a mechanism for phasing out food aid once the assisted projects become self supporting.

Finally, it is necessary to have a gradual but definite and systematic withdrawal of food aid commodities to workers while at the same time ensuring alternative supply channels at commercial rates once wages reflect marginal productivity of labour.

8.4 Food Aid and Nutrition

The evaluation of impact of food aid nutritional status was centered on such vulnerable groups as children (6 months-5years), pre-school and primary school children, pregnant and lactating women, and workers on food-for-work projects.

Although food aid forms part of an integrated approach to improve child health especially at MCH centers, CRS does not view nutritional impact as a major reason for distributing food, while ADRA considers food rations as purely supplementary. Nutritional impact is not a prominent objective of food-for-work projects.

However, the majority of distributing centers had outstanding nutrition-related objectives, while 91% of recipients deemed the supplementary nature of food aid as its major role.

Potential of food aid as a nutritional supplement is tremendous. Protein contributions of approved rations ranged between 42% to 115% of daily requirements of the most vulnerable group, children aged 0 - 5 years. However, the study revealed that food rations were less than the approved quantities for MCH centers, mainly because rations were given to more than approved numbers of recipients. In addition, target children shared food rations with other family members.

Responses of both center staff and recipients indicated positive improvements in the health and nutritional status of recipients of food aid. An analysis of weight for age records showed that over 60% of participating children appeared to have appropriate weights for their ages. But other inputs of MCH programmes are also contributing factors.

Children who were severely malnourished did not show any improvement in their nutritional status over a one year period of receiving food aid. Factors that may have dampened the impact of food on nutrition are the sharing of food ration with others and the interference of reported common illnesses such as diarrhoea, coughs and cold, and malaria. The majority of recipients (97%) wanted to continue to receive food aid due to such desired benefits as improvement in nutritional and health status, and an income transfer effect.

Lack of appropriate records at most centers hampered the application of quantitative techniques to assess the impact of food aid on nutrition. A review of previous studies and reports made references to positive impact on nutrition but again data to support such claims was grossly inadequate. This

is largely due to the fact that nutritional impact is not the primary objective of principal food aid distributors.

It is recommended that future programmes be designed to measure nutritional impact, and that carefully planned small-scale operational research be undertaken to measure nutritional impact of existing programmes. Also correct indicators must be selected to suit the group being studied and accurate record keeping ensured.

8.5 Food Aid Monitoring and Evaluation

This study has revealed deficiencies in the country's ability to monitor and evaluate food aid programmes.

Currently, monitoring of food aid at the governmental level is limited to supervision of commodity arrivals and disposal. A framework, mechanisms and institutional arrangements for monitoring and evaluating food aid programmes are absent. Monitoring and constant evaluation of policy and impact aspect of food aid programmes are necessary for increased effectiveness of food aid through enhancing national food policy, programming imports and planning public investments. Effective monitoring mechanisms can also enhance co-ordination of donor assistance programmes.

The first requirement for establishing a monitoring and evaluation system is a set of measurable objectives, which will determine choice indicators, data types and sources, and data collection methods. Evaluation should emphasize impacts on recipients and development objectives.

This study has identified the variables, indicators and data sources as a first step in the development of a comprehensive data set required for monitoring and evaluation of food aid programmes in Ghana.

A second requirement is a powerful monitoring and evaluation unit staffed with competent Agricultural and Policy economists. Such a unit may be based at either the Ministry of Agriculture, or Finance and Economic Planning.

A final requirement is consistent and accurate data on the relevant variables. It is therefore recommended that agencies dealing with food aid keep records and compile data on a regular basis and as part of food aid administration.

Appendix ARegional Distribution of Sample Food AidDistribution Centers

Region	No.	% of Sample
Greater Accra	4	12.1
Eastern	2	6.1
Volta	2	6.1
Central	2	6.1
Brong Ahafo	1	3.0
Western	5	15.2
Ashanti	6	18.2
Northern	2	6.1
Upper West	5	15.2
Upper East	4	12.1
Total	33	100.0%

Appendix B

Quantities of Food Aid Commodities Center Staff
Gave to Recipients Per Ration

Food Item & Quantity Per Ration	Programme Type				
	No. MCH	No. SF	No. PF	No. OCF	No. FFW
<u>Soy Fortified</u>					
<u>Bulgar</u>					
2-3 margarine cups (approx. 1kg)	3				
<u>WSB</u>					
1 1/2 - 2 kg	4				
2 1/2 - 3 kg				1	
4 - 4 1/2 kg	1				
2-3 marg. cups (1kg)	1				
4-6 " " (1-1 1/2 2 kg)	1				
1 american tin (1.8kg)	7				
School: 2 ladles of cooked food			3		
School: food items not individually shared			1		
<u>SFSG</u>					
1 1/2 - 2 kg	3				
2 1/2 - 3 kg				1	
4 - 4 1/2 kg	1				
1 american tin (2.4 kg)	2				
School: 2 ladles of cooked food		3	2		
School: food items not individually shared		1	2		
<u>Cooking Oil</u>					
less than 1/2 litre	6				1
1/2 - 1 litre	10				
1 1/2 - 2 litres					1
2 1/2 - 3 litres					4
School: Item not Individually shared					
1 gallon (3.8litres)					2
<u>Rice</u>					
15 kg					1
25 kg					4
50 kg					1
2-3 margarine cups					1
30 margarine cups (kg)					1

Appendix COverall Comments on Contributions of Food Aid to Recipients

Comments	No of Response	% of Total Sample
Incentive to attend Clinic	9	27
Nutritional supplement to children, mothers & the poor	7	21
Rehabilitates malnourished children and reduces incidence of malnutrition	4	12
Increased enrollment at school, work, clinic	5	15
Good supplement during lean season	4	12
Decreased Infant mortality	3	9
Improved health of recipients	2	6
Supplements Income	2	6
Cuts down cost of feeding	8	24
Provides meals for workers	1	3
Incentive for high productivity	5	15
Promotes community development	1	3
Dependence on aid could create problems upon withdrawal	1	3

Appendix DRegional Distribution of Sample of Recipients

Regions	No. of Respondents	% of Total Sample
Greater Accra	29	12
Eastern	28	16
Volta	16	7
Central	21	9
Brong Ahafo	10	4
Western	27	11
Ashanti	39	17
Northern	19	8
Upper West	20	8
Upper East	19	8
Total	238	100%

Appendix E

Description of Sample Recipients by Selected Variables

Variable		N	%
(a)	Sex		
	Male	66	28
	Female	172	72
		238	100
(b)	Age		
	18 years	3	1
	19 - 24	35	15
	25 - 30	82	34
	31 - 40	76	32
	41 - 50	27	11
	Over 50 years	11	5
No Answer	4	2	
		238	100
(c)	Educational Level		
	None	79	33
	Primary/Middle School	101	42
	Secondary/Technical/Commercial/ Vocational	40	17
	Teacher Training	8	3
	Nursing Training	2	1
	Islamic	6	2
	Adult Literacy	2	1
		238	100
(d)	Occupation		
	Unemployed	3	1
	Farmer	67	28
	Housewife	35	15
	Junior Civil Servant	20	8
	Senior Civil Servant	5	2
	Teacher	11	5
	Nurse	5	2
	Driver	2	1
	Craftsman/Printer/Mason/Mechanic/ Carpenter	9	4
	Professional trainee	4	2
	Miner	2	1
	Cook/Trader/Seamstress	45	19
	Other Professionals (eg. engineer, electrician, surveyor, technician)	30	12
			238
(e)	Religion		
	None	11	5
	Christian	168	71
	Muslim	34	14
	Traditional Worship	12	5
	Africania	1	1
No Answer	12	5	
		238	100

Appendix FResponses to Questions of Food Aid Involvement of Respondents

Questions	N	%
(a) <u>When Respondent first received Food Aid</u>		
Less than 6 months ago	45	19
7 - 12 months ago	43	18
2 - 3 years ago	46	20
4 - 5 years ago	39	16
6 - 7 years ago	33	14
8 - 12 years ago	19	8
Over 12 years ago	3	1
No Answer	10	4
	238	100
(b) <u>How respondent got to know about Food Aid</u>		
From Village Gathering	33	14
From Hospital or Clinic	108	45
From Friends	19	8
From Others like newspaper & other publications	56	24
No Answer	22	9
	238	100
(c) <u>How long respondent has received food from present Center</u>		
For less than 6 months	56	24
For 7 - 12 months	44	19
For 2 - 3 years	53	22
For 4 - 5 years	51	21
For 6 - 7 years	17	7
For 8 - 12 years	10	4
No Answer	7	3
	238	100

Appendix G.Reasons Given by Recipients for still ReceivingFood Aid

<u>Reasons for still receiving Food Aid</u>	<u>N</u>	<u>%</u>
- Cannot breastfeed child	1	1
- Child still within age for receiving food	30	13
- Child malnourished/sick	25	10
- Center decides when to withdraw food	23	10
- Only food the child eats	2	1
- To supplement diet/improve health	69	29
- Supplement Income	13	5
- Still working on a project	36	15
- Incentive to work/government assistance to workers	18	8
- Don't know	7	3
- No Answer	14	6
	238	100

Appendix H

Quantities of Food Aid Commodities Recipients
Reported Receiving by Programme Type

Food Type & Quantity per Ration	M C H		F F W	
	N	% of MCH Sample	N	% of FFW Sample
<u>SFB</u>				
1-2 margarine tins (1kg)	11	7		
3-4 " " (abt. 1 1/2 kg)	1	1		
1/2-1 american tin (abt. 1 1/2- 2 1/2 kg)	7	4		
	19	12		
<u>WSB</u>				
1 1/2-2 1/2 kg	10	6		
4-5 kg	9	5		
1-2 margarine tins (app. 1/2 kg)	31	19		
3-4 margarine tins (app. 1 kg)	9	5		
5-6 margarine tins (app. 1.8 kg)	2	1		
1/2-1 american tin (app. 1/2- 1.8 kg)	64	40		
2 american tins (app. 3 1/2 kg)	12	8		
	137	86		
<u>SFSG</u>				
1 1/2-2 1/2 kg	9	5		
4-5 kg	9	5		
1-2 margarine tins (1 kg)	10	6		
3-4 " " (app. 1-1 1/2 kg)	4	2		
5-6 margarine tins (app. 2 kg)	5	3		
1/2-1 american tin (app. 1-2 kg)	11	7		
2 american tins (app. 1 1/2 kg)	9	5		
	57	36		
<u>Canned Fish</u>				
5 - 6 tins			27	34
11 - 15 tins			22	28
			49	62
<u>Rice</u>				
6-15 kg			19	24
15-25 kg			29	37
25-50 kg			17	21
1-2 margarine tins (app. 1/2- 1 kg)			7	9
3-4 " " (app. 1 1/2 -2 kg)			2	3
5-6 " " (app. 2 1/2 -3 kg)			4	5
			78	99
<u>Wheat</u>				
15 - 25 kg			8	10
<u>Stock Fish</u>				
4 - 5 kg			6	8

Cooking Oil				
1 1/2 litre	42	26	8	10
1 1/2 - 1 litre	87	55	1	1
1 1/2 - 2 litres	15	9	11	14
2 1/2 - 3 litres	5	3	29	37
1 gallon (approx. 303 litres)	1	1	11	14
2 - 3 gallons	-	-	15	19
	150	90	75	95
Sugar				
1 1/2 - 2 1/2 kg			10	13
4 - 5 kg			5	6
1-2 margarine tins (app. 1/2 - 1 kg)			8	10
3-4 margarine tins (app. 1 1/2 - 2 1/2 kg)			10	13
2 american tins (app. 3 1/2 kg)			2	3
			35	44

Appendix IReasons Given by Recipients as to Why Food Aid
Should Continue by Programme Type

REASONS	MCH		FFW	
	N	% of Total Sample	N	% of Total Sample
Supplements diet	55	23	24	10
Supplements income	25	11	41	17
Improves Health	57	24	-	-
Child/Family enjoy it	16	7		
Incentive to high productivity	-	-	15	6
Child still young	10	4		
Offers variety to diet	4	1	5	2
Cannot afford local food	7	3	-	-
Boosts morale at work	-	-	7	3
Supplements local production			7	3
Incentive to attend clinic	5	2	-	-
Easy to prepare	5	2	-	-
Child still sick	2	1	-	-
Good for weaning	1	1	-	-

Appendix JAge Distribution of a Sample of Participating Children by Sex

Age (in months) % of	Male		Female		Total Sample	
	N	% of	N	% of	N	% of
	Sample	Sample	Sample	Sample	Sample	Sample
0 - 12	0	0	0	0	0	0
13 - 24	15	14	13	12	28	26
25 - 36	23	21	29	27	52	49
37 - 48	13	12	10	9	23	21
49 - 60	2	2	2	2	4	4
Total	53	49	54	50	107	100

Appendix 4.1Methodology for Estimating Disincentive Effects
and Price Stabilization Effects

Various methods have been employed by economists to study the effects of food aid on domestic agriculture. These methods vary in terms of degree of sophistication and data requirements. Some are directed at examining short run effects while others are geared towards generating quantitative long run effects; still, others are designed to measure both long run and short run effects.

In the present study, the method employed was chosen for its simplicity and relatively smaller information input requirement. The more elegant and sophisticated method which involves dynamic multiplier analysis was not employed because of data limitations and unavailability of the relevant software. Data availability, limited our empirical study on Ghana to the period 1978-87. This time series information was supplemented with current cross-sectional information generated from the study's field survey. Details of the survey's design and questionnaire are presented in section IV of the present report.

To measure the effects of food aid inflow on domestic food prices, production and consumption the following method was employed.

Define e_{sj} and e_{dj} as the respective price elasticities of supply and demand for food commodity j in the recipient country. Also, define W_j as the ratio of the total demand for commodity j (D_j), on the one hand and the sum of

domestic net production and fixed food commercial imports q_j domestic supply commodity j in the recipient country. Suppose we denote the proportional change in the domestic market price of food commodity j , relative to a proportional change in the volume of food aid inflow (ceteris paribus) as F_{pj} . Then following Fisher (1963) it can be shown that

$$F_{pj} = (e_{sj} + e_{dj} W_j)^{-1} \quad (1)$$

Notably, $F_{pj} = (\partial P_j / \partial Z)(Z/P_j)$ where P_j and Z denote the domestic market price of commodity j and the volume of food aid inflow. The proportional change in supply of commodity j with respect to a proportional change in food aid inflow (ceteris paribus), F_{sj} , is given by definition as

$$F_{sj} = \frac{\partial q_j}{\partial Z} \cdot \frac{Z}{q_j} \quad (2)$$

But

$$\frac{\partial q_j}{\partial Z} = \frac{\partial q_j}{\partial P_j} \cdot \frac{\partial P_j}{\partial Z} \quad (3)$$

and $Z/q_j = (Z/P_j)(P_j/q_j)$ (4)

Substituting (3) and (4) into (2) gives

$$F_{sj} = \frac{\partial q_j}{\partial P_j} \cdot \frac{\partial P_j}{\partial Z} \cdot \frac{Z}{P_j} \cdot \frac{P_j}{q_j} \quad (5)$$

which, upon rearrangement gives

$$F_{sj} = \left(\frac{\partial q_j}{\partial P_j} \cdot \frac{P_j}{q_j} \right) \left(\frac{\partial P_j}{\partial Z} \cdot \frac{Z}{P_j} \right) \quad (6)$$

The first and second factors on the right hand side of (6) are e_{sj} and F_{pj} respectively; hence (6) can be rewritten as (7).

$$F_{sj} = e_{sj} F_{pj}$$

Similarly, by definition, the proportional change in demand for food commodity j as a result of a proportional change in food aid inflow F_{dj} is given by

$$F_{dj} = \frac{\partial D_j}{\partial Z} \cdot \frac{Z}{D_j} \quad (8)$$

which can be rewritten as

$$F_{dj} = \frac{(\partial D_j / \partial P_j) (P_j)}{(\partial P_j / \partial Z) (P_j)} \cdot \frac{Z}{D_j} \quad (9)$$

which reduces to

$$F_{dj} = e_{dj} F_{pj} \quad (10)$$

Notably, D_j used to compute W_j is defined as the sum of domestic supply, commercial imports and food aid imports of commodity j .

To examine the effect of food aid inflow Z on domestic food price stabilization, we proceed to derive the effect of Z on the statistical variance of P_j as follows. By definition,

$$F_{pj} = \frac{C_j}{\partial Z} \cdot \frac{Z}{P_j} \quad (11)$$

which implies that

$$\frac{\partial P_j}{\partial Z} = F_{pj} \frac{P_j}{Z} \quad (12)$$

Rearranging terms gives

$$\frac{1}{P_j} \partial P_j = F_{pj} \frac{1 \cdot \partial Z}{Z} \quad (13)$$

Integrating both sides of (13) gives

$$\int \frac{1}{P_j} dP_j = F_{pj} \int \frac{1 \cdot dz}{Z} \quad (14)$$

$$\log_e P_j + c_1 = F_{pj} \log_e Z + c_2 \quad (15)$$

where c_1, c_2 are constants of the indefinite integration.

$$\log_e P_j - F_{pj} \log_e Z = c_2 - c_1 \quad (16)$$

$$\log_e (P_j / Z^{F_{pj}}) = c_2 - c_1$$

$$\frac{P_j}{Z^{F_{pj}}} = e^{(c_2 - c_1)}$$

$$P_j = e^{(c_2 - c_1)} Z^{F_{pj}} \quad (17)$$

Applying the well known asymptotic variance theorem (cf. Mood, Graybill and Boes 1974) to (17) gives

$$\text{Var}(P_j) = \left\{ e^{(c_2 - c_1)} \cdot F_{pj} \cdot Z^{F_{pj}} \right\}^2 \cdot \left\{ \text{Var}(Z) \right\} \quad (18)$$

where $\text{Var}(P_j)$ and $\text{Var}(Z)$ denote the respective variances of P_j and Z . Simplifying (18) gives

$$\text{Var}(P_j) = e^{2(c_2 - c_1)} \cdot F_{pj}^2 \cdot \text{Var}(Z) \cdot Z^{2(F_{pj}-1)} \quad (19)$$

Differentiating (19) partially with respect Z gives

$$\frac{\partial \text{Var}(P_j)}{\partial Z} = e^{2(c_2 - c_1)} \cdot F_{pj}^2 \cdot \text{Var}(Z) \cdot 2(F_{pj}-1)Z^{2F_{pj}-3} \quad (20)$$

Equation (20) shows the effect of food aid inflow on the variance of P_j , ceteris paribus. From (20) it is easily seen that

$$\frac{\partial \text{Var}(P_j)}{\partial Z} \begin{cases} \geq \\ < \end{cases} 0 \text{ when } (F_{pj} - 1) \begin{cases} \geq \\ < \end{cases} 0 \quad (21)$$

Hence, when $F_{pj} = 1$, food aid inflow will have no effect on the variance of P_j . Per contra, when $F_{pj} > 1$, food aid inflows will make food prices more unstable whereas if $F_{pj} < 1$ (ie. if food prices are inelastic with respect to food aid inflow) the inflow of food aid will cause a reduction in the variance of food prices: that is, food aid would tend to make food prices more and more stable in the latter case. The effect of food aid on domestic food price stabilization can therefore be captured by examining whether F_{pj} is equal to, less than or greater than unity. This is the approach employed in the empirical study on Ghana

Appendix 4.2Conditions for the Pass Through of wholesale price changes to farm-gate prices

The relationship between wholesale prices and farm-gate prices can be derived as follows:

Let us denote the wholesale price of a commodity j , the farm-gate price of j , and the marketing margin associated with the primary level marketing of j by w_j^P , F_j^P and M_j^P respectively. Also denote the respective proportionate changes as \bar{w}_j^P , \bar{F}_j^P and \bar{M}_j^P . Then by definition,

$$\bar{w}_j^P = \bar{F}_j^P + \bar{M}_j^P \quad (2.1)$$

Suppose proportionate changes in the marketing margin in response to proportionate changes in wholesale price is linear:

$$\bar{M}_j^P = b_{0j} + b_{1j} \bar{w}_j^P \quad (2.2)$$

Making \bar{F}_j^P the subject of equation (2.1) and undertaking a logarithmic differentiation of the result gives

$$\bar{F}_j^P = \bar{w}_j^P \left(\frac{P}{w_j} \frac{dw_j}{w_j} + \frac{P}{F_j} \frac{dF_j}{F_j} \right) \quad (2.3)$$

into which the substitution of (2.2) gives

$$\bar{F}_j^P = \bar{w}_j^P \left(\frac{P}{w_j} \frac{dw_j}{w_j} + \left(b_{0j} + b_{1j} \bar{w}_j^P \right) \frac{P}{F_j} \frac{dF_j}{F_j} \right) \quad (2.4)$$

The coefficient of \bar{w}_j^P in (2.4) measures the proportionate change in farm-gate prices (\bar{F}_j^P) which results from a proportionate change in wholesale price (\bar{w}_j^P): denote this elasticity by the symbol $e_{f,w}$. It

is clear from (2.4) that the magnitude of this elasticity depends upon $\frac{b}{1j}$, ceteris paribus. The following conditions can be generated from (2.4):

$$a. \quad \text{If } \frac{b}{1j} = \frac{P}{w_j/j} \text{ then } e_{F,w} = 0 \quad (2.5)$$

$$b. \quad \text{If } \frac{b}{1j} = 1 \quad \text{then } e_{F,w} = 1. \quad (2.6)$$

$$c. \quad \text{If } \frac{b}{1j} > 1 \quad \text{then } e_{F,w} < 1 \quad (2.7)$$

$$d. \quad \text{If } \frac{b}{1j} < 1 \quad \text{then } e_{F,w} > 1 \quad (2.8)$$

Hence, if the market of j is that condition (2.5) hold then whole price transmission to farm-gate price is nil. In this case a 10 percent change in Wholesale price of j results in no change (zero percent change) in the farm-gate price of j . On the contrary, if condition (2.7) holds for the market of j then a 10 percent change in wholesale price is not fully transmitted to a farm-gate price j change since the latter change is less than 10 percent. It is only under condition (2.6) that a 1 percent change in wholesale price leads to a 1 percent change in farm-gate price.

Finally, if (2.8) holds then a 10 percent change in wholesale price leads to a more than 10 percent change in farm-gate price.

~~percent change in farm-gate-price.~~

FOOD AID REPORTLIST OF REFERENCES

- Abbot, P.C. and McCarthy, F.O., (1982);
The Welfare Costs of Tied Food Aid,
Journal of Development Economics Vol.
11(1).
- ADRA/Ghana; Evaluation Report for Ghana Matching Grant
HCII Programme, September 1988.
- ADRA/Ghana Progress Report Oct., 1987 - Sept. 1988,
Accra. May 1989.
- ADRA/Ghana; FY 88 Report
- Ahluwalia, I.J.; An analysis of price and output behaviour
in the Indian economy: 1951-1973, Journal
of Development Economics, Vol. 6 (3).
- Ahmed, Haseem; Deficit Financing, Inflation and Capital
Formation. The Ghanaian Experience.
1960-5. Weltfrum Verlag Munchen 1970
- Anokwa, C; Providing International Food Aid in
Ghana. A Case-Study of the Socio-Economic
Implications. May 1964.
(A Paper presented at ISSER on "Food
Sufficiency in West Africa: Problems and
Prospects")
- Asante, E.O., Asuming-Brempong, S., and Bruce, P.A.;
"Ghana: Grain Marketing Study" for the
Medium Term Agricultural Development
Programme (MTADP), Ministry of
Agriculture/The World Bank, August, 1989.

- Boateng, M.Y. et al. ;
 Evaluation of The CRS/Ghana Title II Programme. May, 1989.
- Cathe, J. (1982) The Political Economy of Food Aid, Gower, Aldershot.
- Catholic Relief Services;
 Ghana Programme. Annual Report 1987. P.2
- Clay, Edward J, and Hans W. Singer;
 Food Aid and Development: The Impact and Effectiveness of Bilateral PL 480 Title I-Type Assistance, Aid Programme Evaluation Discussion Paper, No.15, USAID, 1982.
- Clay, Edward J, and Hans W. Singer;
 "Food Aid and Development: Issues and Evidence", World Food Programme Occasional Papers, (1985), No.3, P.16
- Codjoe, E.
 "Food Aid and Agricultural Labour Productivity in Ghana: The Cases of the Forestry Department and Okumaning Oil Palm Plantation, Kade." Bachelor's Dissertation, Department of Agricultural Economy and Farm Management, University of Ghana, Legon. June 1986.
- CRS/Ghana
 Growth Surveillance System Annual Report. 1987
- CRS/Ghana Programme; Annual Report 1987

- CRS/Ghana; Evaluation Report of a Community-Based Food and Nutrition Pilot Programme in the Northern Sector, 1989
- CRS/Ghana FY 1988 Annual Progress Report. April 1989, Document 1
- CRS/Ghana Update of FY 1988-90 MYOP. April 1989. Document 3.
- Cudjoe E, Food Aid and Agricultural Labour Productivity in Ghana: The Case of the Forestry Department and the Okumaning Oil Palm Plantation, Dept. of Agric. Econ., University of Ghana, Legon, 1986
- Daniwala, M.L.; "Incentives and Disincentives in Indian Agriculture", Indian Journal of Agricultural Economics, 22: 1-25, April-June 1967
- Davey, P.L.H.; A summary of Conclusions and Recommendations of the National Nutrition Surveys of 1961 and 1962
- Dudley, Leonard and Sandilanos, Robert J.; "The Side Effects of Foreign Aid: The Case of Public Law 480 Wheat in Columbia", Economic Development and Cultural Change, 23 (January 1975): 325-337.

Dunlop, D.W., and Adamezyk, C. (1983)

A Comparative Analysis of Five PL 480 Title I Impact Evaluation, AID Impact Evaluation Discussion Paper, No. 19, US Agency for International Development, Washington, D.C.

Dzietror, A.;

Food Aid: A Trojan Horse? An inter Faculty Lecture delivered at the University of Ghana on 12th February, 1987, Ghana Universities Press 1988.

Eicher, Carl K. and Doyle C. Baker,;

Research on Agricultural Development in Sub-Saharan Africa: A Critical Survey. ISU International Development Paper, No.1, Michigan State University, 1982.

Fisher, F.H.;

"A Theoretical Analysis of the Impact of Food Surplus Disposal on Agricultural Production in Recipient Countries." Journal of Farm Economics 45 (November, 1963), pp 863-75.

Fosu, K. Yerfi,;

"Food-for-work and Agricultural Labour Productivity: Application of a Methodology" for Testing a Hypothesis about a PYORV." Manuscript, Department of Agricultural Economy and Farm Management, University of Ghana, 1987.

- Garcia, G.J. and G.H. Llamas,;
 Coffee Boom, Government Expenditure, and
 Agricultural Prices: The Colombian
 Experience: IFPRI Research Report 68,
 Washington DC: International Food Policy
 Research Institute, August, 1988.
- Gibson, R.S. Principles of Nutritional Assessment Parts
 I & II, 1988.
- Graham, Charles K.; The Impact of Food Aid on the Economy of
 Ghana." A Thesis presented to the Faculty
 of Agriculture, University of Ghana,
 Legon, April, 1970.
- Hall, L.: The Effects of PL 480 Wheat in Latin
 American Countries, Working Paper No. 62,
 Giannini Foundation of Agricultural
 Economics, University of California. (1978)
- IBRD; Jamaica Economic Memorandum, 1981.
 Washington D.C., World Bank, 1981.
- IFAD; Special Programming Mission to Ghana
 Report No. 0105-GH, July 1988
- Isenman, P.J. and Singer, H.W.;;
 Food Aid: Disincentive effects and their
 policy implications, Economic and Cultural
 Change, 25(2), January, 1977.
- Khatkhate, Deena R; "Some Notes on the Real Effects of Foreign
 Surplus Disposal in Underdeveloped
 Economies" Quarterly Journal of
 Economics, (May 1962), pp. 186-96

- Killick, T.; Development Economics in Action: A Study of Economic Policies in Ghana. Heineman Educational Books Ltd. London 1978.
- Levinger, B.; School Feeding Programmes in Developing Countries: An Analysis of Actual and Potential Impact. AID Evaluation Special Study No.30, January, 1986.
- Lucas and Lane; A Suggested Procedure for Determining the Effect of Food Aid on Market Price and Production: An illustrated Case; Paper presented at the Economists' Conference by AID, Williamsburg. VA (1987).
- Mann, J.S.; "The Impact of PL 480 Imports on Prices and Domestic Supply of Cereals in India." Journal of Farm Economics, 49 (February 1967), pp. 131-146. (Reply in Journal of Farm Economics 50 (February 1968) pp. 145-147.
- Maxwell, S.J.; "Food Aid to Senegal; Disincentive Effects and Commercial Displacement", IDS Discussion Papers, (1986)^A, No.225.
- Maxwell, S.J.; "Food Aid to Ethiopia: Disincentive Effects and Commercial Displacement" IDS Discussion Papers (1986)^B, No. 226.
- Mellor, John W.; "Food Aid: Reflections on a Decade of Action" Food and Nutrition Vol.10, No.1, 1984.

Mood, A.M., F.MA Graybill and D.C. Boes;

Introduction to the Theory of Statistics,
Tokyo: McGraw Hill, 1974.

National Mobilization Programme:

Report on World Food Programme Emergency
Assistance to Ghana 1981, Project EMOP
1346 Exp. I & II

Nelson, G.O.;

Food Aid and Agricultural Production in
Bangladesh IDS Bulletin Vol.16 No.3 1985
pp.39.

Olson, R.O.;

"Discussion: Impact and Implications of
Foreign Surplus Disposal on Underdeveloped
Economies," Journal of Farm Economics 42:
1042-1045, December, 1960.

Papanek, G.F.;

"The Effect of Aid and Other Resource
Transfers on Savings and Growth in LDC's.
Economic Journal, Sept. 1972 pp934-51

Papanek, G.F.;

"Aid, Foreign Private Investment, Savings
and Growth in LDC's". Journal of
Political Economy Jan/Feb. 1973, pp120-130.

Ritchie, J.A.S.;

Nutrition and Families (c) 1983

Rogers, K.D., Srivastava. U.K. and E.O. Heady;

"Modified Price, Production and Income
Impacts of Food Aid Under Market
Differentiated Distribution". American
Journal of Agricultural Economics, 54 (May
1972).

- Sahn, David; "Methods for Evaluating the Nutritional Impact of Food Aid Projects: Lessons from Past Experience". Food and Nutrition Bulletin Vol.6, No.3, 1984.
- Schneider, H.; Food Aid For Development OECD. Paris 1978.
- Schuh, G. Edward; "Food Aid as Component of General Economic and Development Policy" in The Developmental Effectiveness of Food Aid in Africa, edited by C. Christensen, E.B. Hogan, B.H. Okigbo, G. Edward Schuh, E.J. Clay, and J.W. Thomas. Agricultural Development Council, New York, 1982.
- Schultz, T.W.; "Value of U.S. Farm Surpluses to Underdeveloped Countries". Journal of Farm Economics 42: 1019-1030, Dec. 1960.
- Schultz, T.W.; "Effects of the International Donor Community on Farm People". American Journal of Agricultural Economics 42: 1031-1042, December, 1960.
- Sen, S.R.; "Impact and Implications of Foreign Surplus Disposal on Underdeveloped Economies". Journal of Farm Economics 42: 1031-1042, December, 1960.
- Srinivasan, T.H.; "Food Aid: A Cause of Development Failure or an Instrument for Success? The World Bank Economic Review Vol.3 No.1 1989 pp39-65.

- Srivastava, U.K.; "The Impact of Public Law 480 Imports and on Prices and Domestic Supply of Cereals: India; Comment". American Journal of Agricultural Economics 50: 143-145, (February 1968)
- Stephenson, L.S., Latham, M.C., Jensen A.;
A Comparison of Growth Standards: Similarities between NCHS, Havard Dever and Privileged African Children and Differences with Kenyan Rural Children. Cornell International Nutrition Monograph Series No. 12, 1983.
- Stoneman, C.; Foreign Capital and Economic Growth "World DEvelopment" January 1975 pp. 1-10.
- UNICEF/Ghana National Nutrition Survey, 1986 (Unpublished).
- USAID; A Comparative Analysis of Five PL 480 Title I Impact Evaluation Studies. USAID Program Evaluation Discussion Paper No. 19 (December 1983).
- USAID PL 480 Title I;
A Discussion of Impact Evaluation Results and Recommendation. USAID Programme Evaluation Report, No. 13, (February 1985)
- USAID; Agreement Between the Government of the United States of America and the Government of Ghana for Sale of Agricultural Commodities.

- USAID; Audit of AID Assistance to Ghana Audit
 Report No. 7-641-89-05 January 2, 1989.
- Waterlow et al; The Presentation and Use of Height and
 Weight Data for Comparing the Nutritional
 Status of Groups of Children Under the Age
 of 10 Years. Bulletin of the WHO 55:
 489-498, 1977.
- Whitney, E.W., Cataldo, C.B.;
 Understanding Normal and Clinical
 Nutrition. (c) 1983.
- WFP; Plan of Operation agreed upon between the
 Government of Ghana and the UN/FAO World
 Food Programme concerning assistance for
 Forest Plantations - Project No. 2075
 Exp.II
- WFP; Plan of Operation agreed upon between the
 Government of Ghana and the United
 Nations/FAO World Food Programme
 concerning assistance for the Plantations
 of Oil Palms and Rubber Estates (Project
 2253 Exp.)
- WFP; Report on Interim Evaluation of
 WFP-assisted project. Ghana 2258/II.
 "Assistance to Oil Plantations" March 1984.
- WFP; Plan of Operations Agreed Upon Between the
 Ghana Government and the World Food
 Programme concerning Assistance for the
 Rehabilitation of Railways, Ports,
 Highways and Feeder Roads. (Project
 No.2714 Expansion)

- WFP; Ghana 2752 Rehabilitation of Export Sector May 1984.
- WFP; Interim Evaluation Full Report: Project Ghana 2752. "Rehabilitation of the Export Sector" 1988.
- WHO; Anthropometry in Nutritional Surveillance: An Overview. UN Protein Advisory Group Bulletin 6:2, 1976a.