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Multi - Donor Relief Transport Mission

**ASSESSMENT OF FOOD
RELIEF TRANSPORT
CAPACITY
IN
ETHIOPIA**

**Addis Ababa
Ethiopia**

5 October 1987

ANDERSON INTERNATIONAL ASSOCIATES
MANAGEMENT
AND
TECHNICAL ADVISORY SERVICES

October 6, 1987

R. Machmer
AID Representative
USAID Addis Ababa, Ethiopia
Washington, D.C. 20520

Dear Mr. Machmer,

Attached is a copy of the report "Assessment of Food Relief Transport Capacity in Ethiopia" which was prepared by the Multi-Donor Relief Transport Mission during the period August 17 - October 4, 1987.

My position as Team Leader of the "Mission" was financed by AID contract 623-0510-C-00-7028-00 dated 9/22/87. The submission of this report completes all requirements of the contract.

I appreciate your confidence in Anderson International Associates and I thank you for your active participation in the work of the "Mission".

Sincerely,



Donald E. Anderson

CC: Maryanne Hoisup-Bacalad
Redso ESA Contracts Div.
Nairobi, Kenya.

GLOSSARY

A. A.A.	-	Assab, Addis Ababa (EFTC Division)
AMC	-	Agricultural Marketing Corporation
CDE	-	Djibouti - Ethiopian Railway
CRDA	-	Christian Relief Development Association
EFTC	-	Ethiopian Freight Transport Cooperation (formerly NATRACOR)
FAI	-	Italian Aid Fund
GTZ	-	Federal German Technical Cooperation (RRC)
ICRC	-	International Committee of Red Cross
LWF	-	Lutheran World Federation
Motac	-	Ministry of Transport and Communications
MTSC	-	Maritime and Transit Services Corporation
NGO	-	Non Government Organizations
PIDD	-	Parts Inventory and Distribution Commission
RRC	-	Relief and Rehabilitation Commission
RTU	-	Relief Transport Unit (RRC)
RWTD	-	Road and Water Transport Department (RRC)
SIDA	-	Swedish International Development Authority
TSU	-	Technical Service Unit (RRC)
UNEOE	-	United Nations Emergency Operations in Ethiopia
WFP	-	World Food Programme
WTOE	-	WFP Transport Operation in Ethiopia
W/V	-	World Vision

F O R E W O R D

This transport assessment was jointly requested by the U.N., Donors, the Relief and Rehabilitation Commission of Ethiopia and the Ministry of Transportation and Communication.

The Members of the Mission who served during the assessment work and the preparation of the Report consisted of :

	<u>COUNTRY OF ORIGIN</u>	<u>FINANCED BY</u>
Mr. Donald E. Anderson	U.S.A.	USAID
Mr. John James	U.K.	Band Aid
Mr. Andrew Toh	Singapore	WFP
Mr. R. Lopes da Silva	Portugal	WTOE
Mr. Philip Beng	Singapore	WFP
Mr. James Reynolds	Ireland	WTOE
Mr. Per Rostedt	Sweden	Govt of FRG
Mr. Harry Halleriet	Netherlands	WFP
Ato Ababayehu Berhanu	Ethiopia	ERC
Ato Gebretsadik H/Mariam	Ethiopia	WTOE

The principal Terms of Reference for the Mission were:

- i) to make an assessment of the transportation assets which are available within Ethiopia to meet possible future food aid transport requirements, through the ports to the main inland destinations; and
- ii) to formulate recommendations based on the findings.

On 5 September 1987 the Mission received a letter from the Chief Commissioner of the Relief and Rehabilitation Commission of Ethiopia setting out the latest estimate of relief food aid requirement for 1988 as being 950,000 MT. On 8 September 1987 a detailed breakdown on a regional basis was provided.

This new information led the Mission to the view that it was essential for the Report to address this defined tonnage requirement as a specific case upon which to concentrate their recommendations. Additional weight was added to this proposition by the fact that the northern regions' requirement, as a percentage of the whole, was substantially greater than the percentage used by the Mission in its historically based transport needs assessments.

To distinguish clearly between these two aspects of this Report, the Mission's findings and recommendations for 1988 are set out

in Part 1. Part 2 contains the Mission's findings in respect of the various components of the port and inland transportation capacities together with projections for the measures that would be required to meet a range of possible food relief requirements.

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PART 1

1988 RELIEF FOOD TRANSPORTATION NEEDS

I. Executive Summary 1988 Relief Food Transportation Needs

The Multi-Donor Relief Transport Mission concentrated its efforts on the current port, truck, rail and air transportation capacity in Ethiopia to cope with the food relief requirements of 950,000 MT for 1988. To this was added 170,000 MT for Food For Work and UNHCR requirements.

Difficulty of truck movement between the north and the south required separate estimates :

	Northern Regions via Massawa	Central & Southern Regions via Assab (and Djibouti)	Total
	MT	MT	MT
Relief food	370,500	579,500	950,000
Food for Work	30,000	98,000	128,000
UNHCR	-	42,000	42,000
	-----	-----	-----
Total	400,500	719,500	1,120,000

The condition of port handling, rail and truck fleets and their operational capacity has generally deteriorated from peak performance of 1985/86. All will need some assistance to regain or improve their performance.

The Mission found that there was a substantial deficiency in the number of trucks required to haul 30,000 plus tons of food aid from Massawa to Eritrea and Tigray. The estimated net requirement is for an additional 300 trucks. 1/

In the south it was estimated that there is sufficient truck capacity to haul the total of 60,000 MT/month of relief food assuming that the rail carries 10,000 MT from Djibouti to Dire Dawa.

Due to the immediate need for additional trucks in the north in order to preposition food stocks now arriving in Massawa the Mission determined that some of the truck deficit should be filled by moving trucks from the south on an urgent basis and providing other new additions to the northern fleets.

The Mission's recommendations for meeting this truck deficit, other problems of transport in the south, port needs and aircraft requirements fall under the following headings :

1/ Long haul trucks (22 MT and above) only. The Mission's assumption is that these are the only effective and efficient relief food haulage units. There are sufficient short haul trucks available.

1. The estimated 300 long-haul truck deficit for the northern regions.
 2. The seasonal peak haulage requirement for southern regions.
 3. Improvable truck fleet performance levels.
 4. Inadequate port handling capacity.
 5. Aircraft usage.
 6. Achievement of an optimum relief food distribution pattern.
-

1. 300 truck deficit for the northern regions

The Mission identified three major requirements :

- 1.1 Seek donor contributions for new trucks. Even if immediate decisions are taken this option can only address part of the problem since a new fleet probably cannot be operational before late February and 200 extra trucks are needed October 1987 onwards.

Rec.1.1 Donors should provide funding for the immediate purchase of 100 new long haul trucks together with spare parts, and provision for full infrastructural support : these trucks to be operated by WTOE.

Estimated cost US\$ 10.4 million.

- 1.2 The urgency of need to increase the rate of movement of relief food from Massawa-Asmara from October 1987 onwards, demands immediate planning for movement of 200 trucks from southern regions to the north, together with appropriate measures for provision of adequate workshops, spare parts and tyres, technical and managerial personnel.

A further need relates to the provision of adequate spares for the existing northern Relief and Rehabilitation Commission (RRC) and Ethiopian Freight Transport Corporation (EFTC) fleets to maintain their operations through 1988.

Rec.1.2.1 Identify now which 200 trucks will be moved to northern regions and the fleet(s) to be responsible for their operation. For immediate response to the urgency of present needs, 36 WTOE Magirus trucks/trailers and 53 RRC trucks/trailers should be moved to the North within the next two weeks.

Rec.1.2.2 According to the disposition of the transferred trucks from south to north, additional workshop facilities and equipment will be required. Either containerized workshops or the expansion of existing buildings will be required.

Estimated cost US\$ 400,000.

Rec.1.2.3 Spare parts for RRC and EFTC northern regions truck fleets.

Estimated cost US\$ 2.5 million.

2. Seasonal peak haulage requirement in southern regions

The existing southern truck fleet capacity is currently sufficient for the four month peak period January-April 1988. In this period, normal commercial cargoes through Assab together with the estimated monthly relief food arrivals (50,000 MT/month) will be increased by the arrival of 50,000 MT/month of fertilizers, which the Mission accepts as a high priority for prompt delivery to farms prior to the planting season.

The movement of 200 trucks to the North will have the effect of creating a 156 truck deficit for the January-April period, though there will be ample capacity for the eight months May-December 1988.

If relief food arrivals in January-April period achieve 50,000 MT/month, 8800 MT/month of cargo will not be moved from Assab. If the donors do not provide 100 new trucks for the North and all 300 trucks must be withdrawn from the southern fleet, the cargo accumulation at Assab could rise to 15,000 MT per month.

The Mission concludes that this need can be most economically addressed as follows :

Rec.2.1 Immediate steps should be taken as far as possible to bring forward to November /December 1987 some portion of the fertilizer scheduled to arrive in the January -April period.

Rec.2.2 Additionally, some stockpiling of relief food (or other) cargoes in the January-April period should be planned, in conjunction with utilizing, and subsequently replenishing, Food Security Reserve and other stocks.

Rec.2.3 For any residual deficit of southern truck capacity during January-April 1988 and as a possible contingency provision, preliminary negotiation should be initiated on the availability of an external haulage contractor for the January-April period. If such a fleet is required donor funding should be sought.

Estimated cost for four months at 10000 MT/month for a total of 5.2 million.

3. Improvable truck performance levels

In the course of its study of the principal long-haul trucking fleets, the Mission identified a number of factors which could lead to improved 1988 performance levels : these are a necessary part of ensuring that, at very least, 1985/86 levels are achieved in 1988.

3.1 WTOE

Rec.3.1.1 To enable the overseas purchase of tyres and spare parts to an annual value of approximately US\$ 6.2 million, it is necessary for WTOE to receive a large part of its haulage revenues in foreign exchange. Donors are urged to finance internal transport in such a manner as will enable NGOs and RRC to pay a substantial proportion of haulage charges in foreign exchange. Provided that this is achieved, WTOE will be able to finance from within its own resources the following three recommendations.

Rec.3.1.2 To operate a shuttle system between the port of Assab and the WTOE base at Assab, an additional 28 semi-trailers are to be purchased at a cost of US\$ 941,000.

Rec.3.1.3 To strengthen existing management support and training, the appointment of two experienced expatriate trucking advisers is required at an annual cost of US\$ 120,000.

Rec.3.1.4 To alleviate congestion in the temporary Dire Dawa workshops, the purchase of a containerized workshop is vital at a cost of US\$ 120,000.

3.2 RRC

Rec.3.2.1 Re: RTU I - Appropriate steps are to be taken to ensure effective management of the unit in the future, to include recruitment procedures for mechanics, full utilization of Central Workshop and private sector workshop facilities and faster procurement procedures. In conjunction with the above the prospective donor should now receive a formal request from RRC for the funding of the rehabilitation programme for the Volvo and Mercedes trucks within a time period of 3-4 months.

Estimated cost US\$ 2.4 million.

Rec.3.2.2 Re: RTU III - The lack of workshop capacity for this unit should be redressed by the rapid completion of the civil works at the Assab base to enable it become operational. At Nazareth there is urgent need for the supply of two containerized workshops.

Estimated cost US\$ 260,000.

Rec.3.2.3 Re: RRC Undesignated trucks - RRC should formulate plans for the effective mobilization of 77 trucks, formerly operated by World Vision and F.A.I., into an operational unit, or arrange for their allocation to operators of similar makes of trucks. In addition the Mission's particular recommendation is that 65 truck/trailers should be allocated as part of the initial movement of trucks to northern regions. The 12 DAF 3300 tractor units and 14 Calabrese semi-trailer would be best allocated to WTOE for operation in conjunction with their southern fleet. It has not been possible for the Mission to ascertain the levels of spare part stocks for these trucks, hence, no assessment can be made of probable needs.

3.3 EFTC (Formerly known as NATRACOR) including government operated and private operators ("Associates")

The existing plans for the proposed World Bank funded "Transport Project" to procure new equipment and spare parts and the government programme for truck replacements,

rehabilitation and workshop programmes will not have any material effect on increasing EFTC truck capacity during 1988.

Rec.3.3 That the two proposed programmes designed to improve the operational capacity of the EFTC fleets are accelerated so that the anticipated benefits start to become effective by the middle of 1988.

4. Inadequate port handling equipment

Port handling and grain handling equipment, in both Massawa and Assab need to be replaced or rehabilitated on an urgent basis to meet current relief food handling requirements.

Massawa

Rec.4.1 Funding is required for spare parts for 6 portal cranes and other port equipment.

Estimated cost US\$ 120,000.

Rec.4.2 Replace 8 tractors and provide spares for other tractors.

Estimated cost US\$ 600,000.

Assab

Rec.4.3 Seven "Mastiff" grain dump trucks and spare parts for other trucks is needed to bring up the port capacity in 1988.

Estimated cost US\$ 600,000.

Rec.4.4 Immediate replacement of 4 bagging machines as well as adequate stock of spare parts.

Estimated cost US\$ 950,000.

5. Port charges

The Mission understands that the reduced port charges for relief and development cargos negotiated with the UN Assistant Secretary General in October 1985 are still in effect.

The Mission accepts that port charges for the normal commercial cargo throughput should be based on full port costs recovery, including overhead costs.

Rec.5.1 Inasmuch as relief and development cargos represent additional throughput for the port, charges in respect of these should be based on full recovery of the additional variable costs only.

6. Aircraft requirements

The Mission concluded that there are immediate unmet requirements for some NGOs to employ light aircraft for areas which are inaccessible by road, e.g. JRP in the North and the Baptist Mission in Northern/Western Shewa and for FHI in Northern Shoa and Gonder in the South. Other air transport for programme support and monitoring also needs to be provided.

The Mission concluded that all other haulage requirements should be met by the truck fleets.

In the event that the full requirements for additional trucks for the north is not met soon there will be a need for heavy duty Hercules-type aircraft.

Rec.6.1 Donors should give urgent consideration to the funding requirements for light aircraft for the NGOs and RRC for inaccessible areas in both the north and south since they may be needed as early as November. A minimum of 2 such aircraft need to be made available in Ethiopia for this work.

Estimated costs for leasing and operations for one year US\$ 2.4 million.

Rec.6.2 The UN Resident Coordinator and the RRC should approach external donors immediately for the possible rapid mobilization of heavy duty aircraft on a contingency basis

Rec.6.3 Donors should contribute funds to the proposed "UN Coordinator's Emergency Transport Fund" to be used as a contingency to initiate major airlift operations, if necessary.

Estimated amount US\$ 4.0 million.

7. Achievement of an optimum relief food distribution pattern

Rec.7.1 Donors are requested to provide complete port handling and inland transportation costs in association with their relief food donations. The overall costs through Assab and Massawa (omitting aircraft costs) will typically lie in the range of US\$ 109 - US\$ 153/MT according to the shipping terms involved and the distance of the final destination. (see attachment)

Rec.7.2 The establishment of an external Bank Account for RRC to receive transportation grants in foreign exchange would greatly facilitate necessary purchases of transport equipment and spare parts. This would also enable RRC to effect payment in hard currency to WTOE.

7.3 Greater flexibility on the part of donors with respect to requirements for delivery of food to prespecified areas and to specific consignees is needed. The donors' willingness to permit the reallocation of area-designated cargos to new areas of greater need and the transfer to other relief organizations could improve food allocation and balanced stocking rates. Greater efforts are required to assume effective coordinating of all aspects of food supply from shipping to final distribution.

Rec.7.3 Maximum donor flexibility in respect of the locations in which their relief food may be distributed will serve to facilitate distribution programmes. Where acceptable this flexibility should allow transfer to other relief organizations.

Rec.7.4 In conjunction with donor flexibility, the Mission strongly advocates flexibility on the part of AMC and of the Food Security Reserve committee to encourage exchanges and borrowings of food stocks, wherever this can save trucking capacity and/or enhance the prepositioning of stocks.

Rec.7.5 GOE, donors and NGOs again address the difficult problem of coordination of shipping, port handling, truck transport and food allocations.

7.6 The Mission's final major recommendation is based on the experience of the 1985 emergency when the UN Assistant Secretary General in Ethiopia set up an Emergency Transport Fund. Contributions in excess of US\$ 3 million were received from seven donors. Disbursement, made at the discretion of the UN ASG

covered a wide range of trucking and associated contingency requirements where the prompt availability of funds was essential.

Rec.7.6 The Mission recommends that donors in consultation with the UN Resident Coordinator set up and contribute to an Emergency Transport Fund in preparation for the 1988 relief food distribution programmes, this would also include the air transport requirements outlined in para 6.

Since the Mission has recently received more pessimistic reports about crop prospects in the north we have prepared a contingency plan for a 50% increase of food for the north from 33,000 MT to 50,000 MT per month. (see par. III C below)

PORT & INLAND TRANSPORT COSTS PER METRIC TONNE OF GRAIN (US\$)

REGION	THROUGH MASSAWA			THROUGH ASSAB			
	ERITREA	TIGRAY	GONDER	WOLLO M/SOHA	S/SOHA ARSSI	SIDAMO BALE	HARARGHE
BULK CHARTER TERMS	136	133	158	120	148	151	136
BAGGED CHARTER TERMS	132	129	154	116	144	147	132
BAGGED LINER TERMS	125	122	147	109	137	140	125

. CALCULATION INCLUDES, STORAGE, FUMIGATION, HANDLING IN/OUT,
SHORT HAULAGE TO FINAL DISTRIBUTION.

. FOR EACH REGION A WEIGHTED AVERAGE DISTANCE WAS TAKEN TO CALCULATE
LONG HAULAGE COSTS. HENCE FOR NGO OPERATING ON A SPECIFIC
AWRAJA WITHIN A REGION TOTAL COST MAY DIFFER.

II. INTRODUCTION

The latest RRC estimate of relief food requirements for 1988 is 950,000 MT. To this must be added the estimates of food for work and UNHCR requirements which both constitute components of overall relief feeding, providing a total of 1,120,000 MT.

The Mission recognizes that at the time when the field assessments were made to arrive at an overall relief food need of 950,000 MT, many of the crops were at a critical stage of growth. The subsequent rainfall or lack of it may cause a reduction or an increase in the figures for different areas. Some of these might cancel each other out but all may prove to be cumulative in one direction or the other.

Whatever subsequent crop assessments may determine as more accurate estimations nearer to harvest, the Mission commends the action of the RRC in making known their preliminary estimates at this time in view of the very serious situation which exists.

On the assumption that the impact of the drought on the crops in the north is likely to be much greater than anticipated, paragraph III C at the end of Part I shows the resultant changes in transport requirements for the north.

On the assumption that the needs of Eritrea and Tigray will be served via the port of Massawa, and the remainder of the country via Assab (and Djibouti) the inland transportation requirements for relief food are :

	Northern Regions via Massawa MT	Central & Southern Regions via Assab (and Djibouti) MT	Total MT
Relief food	370,500	579,500	950,000
Food for Work	30,000	98,000	128,000
UNHCR	-	42,000	42,000
	-----	-----	-----
Total	400,500	719,500	1,120,000
	-----	-----	-----

Justifications for the recommendations in respect of the ports and in the use of aircraft which apply to the 1988 situation can be found in the relevant sections of Part II. Otherwise this section concentrates on long haul road transport requirements and is divided into two sections:-

- A. Northern Regions and
- B. Central/Southern/Western Regions
(Abbreviated to "Southern" in the text).

III A. NORTHERN TRUCK REQUIREMENTS
(via the port of Massawa)

The general assumption taken throughout this report is that overall truck requirement estimates should include provision for commercial cargoes (including food and fertilizers). For the northern regions the monthly tonnage of such cargoes is 17,000 MT, most of which is destined for Asmara.

The total transport requirements for the northern region

	<u>Annual (MT)</u>	<u>Monthly (MT)</u>
Relief Food	400,500	33,375
Commercial Cargo	<u>204,000</u>	<u>17,000</u>
TOTAL	<u>604,500</u>	<u>50,375</u>

The longhaul trucks currently operating in the northern regions are:

RRC	25
WTOE	40
EFTC Government	42
EFTC KETENA	193
NGOs	27

TOTAL	327

Since preliminary estimates of the number of trucks required (based on recent historical performance standards) indicated that the existing truck capacity in the north appeared to be significantly less than 50% of the required level, the Mission re-examined the tonnage requirement to see if any possibility existed of bringing some relief food deliveries forward into 1987 to reduce the overall 1988 monthly requirement.

Due to their perception of an impending crisis, WFP have already taken steps in this direction and expect some 89,000 MT to arrive in Massawa September-December 1987, being 40,000 MT in excess of the anticipated usage during this period. If this additional stock can also be moved up to Asmara by the time that the first of the 1988 relief food arrives, it will effectively reduce the pressure on the Massawa-Asmara Route. Assumption of this has been adopted in calculating the number of trucks required for 1988 in the table below, in which the calculations are all based on recent historical data of typical performance levels achieved (weighted average all trucks).

	MT/Month	Operating Assumption	Trucks required "Historical" performance
<u>Massawa-Asmara</u>			
Relief food	30,042(*)		
Commercial cargo	<u>17,000</u>	round trip	
	47,042	2.41 days	359
<u>Asmara-Eritrea Destinations</u>			
Relief food	12,918	round trip 4 days	117
<u>Asmara-Tigray Destinations</u>			
Adigrat-Mekelle	10,274	8 days per month	216
Asmara-Axum/Adwa	6,850	round trip 10 days	

Total all routes			692
Less: Existing trucks			327

Deficit			365

* This 30,042 MT per month represents the reduced requirement from 33,375 MT/month due to the prepositioning of 89,533 MT of FFW food.

The Mission next examined the main constraints to existing Northern fleets operational performance.

(i) Serviceability

The Mission was made aware of the critically low level of spare part stocks in the northern region due to lack of hard currency availability. This factor casts serious doubt on the ability of both sectors of the EFTC fleet and of the RRC fleet even to sustain present levels of performance particularly when under continuous pressure. It is estimated that a sum of approximately US\$ 2.5 million is essential to rectify this situation. Immediate action could result in maintaining existing performance and achieving a 10% improvement in serviceability by the end of 1988. This has been translated into an expectation of improved performance of 5% through 1988 in respect of the 235 EFTC trucks and 25 RRC trucks: with an assumption of

an additional 5% response from NGO fleets and WTOE, it would permit reduction of estimated requirements of total trucks by 5%. The Mission does not believe that any greater increase in performance can be realistically expected in terms of improved serviceability.

(ii) Utilization

(a) The Massawa-Asmara section

The average turn-round performance on this route has been calculated as being 2.41 days for all trucks, to give a truck requirement estimation of 359. The Mission is aware that one organization has achieved a turn-round of 1 day for a limited number of trucks. Having regard to the average age of the overall fleet, the Mission believes that a 1 day target for serviceable trucks together with tight scheduling of loading/unloading facilities could effect a small saving in truck requirements viz a reduction from 359 to 336. This could be further reduced to 320 trucks through the 5% increased serviceability factor.

The operation of 320 trucks on this section of road will need careful coordination to avoid congestion and this aspect should be carefully considered by the Transport Coordinating Committee.

(b) Asmara-Eritrean Distribution Centres

The Mission does not find any scope for the improvement of existing truck performance (i.e. an average of 4-day turn-around) on these routes. Hence, the "historic" calculation of the need for 117 trucks for these deliveries cannot be reduced by more than the 5% improved serviceability factor i.e. from 117 to 111.

(c) Asmara-Tigray Distribution Centres

Based on 8 days "open road" per month for Mekelle and a 10-day round trip for Adwa/Axum deliveries the estimated truck requirement of 211 trucks cannot be improved substantially.

A periodical constraint that arises for the Adigrat-Mekelle "shuttle" is that fuel shortages in Mekelle impose a premature cessation of

operations. The siting of a containerised re-fuelling unit in conjunction with adequate fuel storage at Adigrat is considered by the Mission to be a necessary contingency provision. Cost of such an installation is estimated to be US\$ 30,000. A recommendation for this is included in the WTOE section of this report.

The original estimate of 216 trucks for this route, subject to the 5% serviceability saving and a marginal advantage from the better fuel availability enables a reduction to, say, 200 trucks.

(iv) Summary

The revisions in truck requirements from the foregoing now result in the following figures:

Massawa-Asmara	320
Asmara-Eritrean destinations	111
Asmara to Tigray destinations	<u>200</u>
	631
Less existing fleet	<u>327</u>
Minimum northern regions' truck shortfall	<u>304</u>

- (v) Confronted by a deficit of this order, the Mission developed a plan which if implemented could make good the whole of this truck requirement.

The alternative to this would be the danger of the re-emergence of some or all of the components of the 1984/5 situation which included: death by starvation, malnutrition, disease epidemics, deserted homes in association with feeding camps or mass exodus to Sudan, unmoved food stocks at the port together with undelivered fertilizer and other essential non-food cargos. Additionally, these factors subsequently require a vast rehabilitation programme in the following year to restore "normality".

The Mission rejected this as an unacceptable alternative and proceeded to examine the following possibilities to address the shortfall:

- (a) New truck acquisitions
- (b) Truck transfers from the Southern Region to the North
- (c) Limitation on road access

(vi) (a) New trucks

Since new truck acquisitions will involve Donor funding, it is the Mission's duty to formulate some cost estimates for the provision of trucks, spares and infrastructure that is likely to be involved. If for example, a new truck fleet were to be set up.

The operation would involve similar considerations to those involved in setting up the 250 vehicles WTOE fleet in October 1985 for which estimated capital costs at current prices amount to:

300 Trucks per US\$ 80,000 each	24,000,000
Spare parts for first year	2,365,000
Tyres for first year	3,037,000
Workshops-building/parking areas	1,029,000
Tools and equipment	476,000
Mobile workshops (2)	150,000
Light vehicles (10 4x4)	260,000

	US\$ 31,307,000

Funding of this order together with the time factor 100 involved in setting up such a new fleet makes this option unrealistic. However, the addition of 100 trucks to the WTOE in the North is possible and would reduce the deficit accordingly.

(b) Truck transfers from the southern regions to the north

Before considering this possibility the Mission examined the probability of option (a) above being effected within the time scale of 1988 relief requirements. It arrived at the conclusion that the probability of successfully procuring and making operational a fleet of 300 trucks was of such low order that the repositioning of some 200 Southern trucks to the North must be the only serious alternative to the massive use of aircraft. The unacceptably high cost that would be involved for air transport for large quantities of food as opposed to the coverage of special emergency situations, lead the Mission to reject this option. The Mission also considered the effect of the removal of 200 trucks from the southern fleet on the food distribution requirements for the central and southern Regions. This effect and the Mission's recommendations in respect of the South as a whole are covered in Par. B of this section.

Suffice it to say here that it was found to be feasible and the Mission's recommendation is that 200 trucks should be moved to the northern regions.

Since the Mission members were aware of some suitable trucks that might be available within existing central/southern fleets they further recommend that the following components numbering 89 in total should be moved to the North without delay:-

<u>PRESENT OPERATOR</u>	<u>TRUCK MAKE</u>	<u>OPERATED BY</u>
WTOE	MAGIRUS 380-32 TRUCK-TRAILERS	36 WTOE
RRC/UNDESIGNATED	DAF NT 3300	12 WTOE IF REQUIRED
RRC/UNDESIGNATED	DAF 2500	13 WTOE IF REQUIRED
RRC/UNDESIGNATED	FIAT 682	28 RRC
		<u>89</u>

The Mission would then expect that the residual deficit of 115 trucks would be transferred from existing RRC and EFTC fleets as quickly as possible.

In furtherance of this proposition the Mission has considered, (but has not had the opportunity fully to assess) the additional workshop capacity that would be required. In the case of WTOE this could be achieved on the existing site in Asmara by the development of further existing buildings. Existing RRC workshop facilities would need to be increased to the extent that private workshop capacity was found to be inadequate, the latter being the preferred alternative due to time constraints. Nevertheless, the Mission recommends that RRC should submit a plan to Donors for the construction and equipping of additional workshops. The new EFTC workshop is near to completion and will require to be brought into operation as quickly as possible. Equipment for this workshop is stated as due to arrive late October. Additional workshop capacity for WTOE and NGOs in Asmara will also be required. Total cost for additional workshops capacity in the North is estimated at US\$400,000.

The addition of these trucks, representing a 93% increase in the Northern long-haul fleet, would require careful integration with existing trucking operations. The present Northern Area Coordinating Committee structure is working well and thought capable of handling the extra trucks. If this movement of trucks

is to be effected, every effort should be made, for the trucks to travel north overland rather than to incur the expense and down-time of the sea journey.

(c) Limitations on Road Access

The substantial delays caused by this factor are reflected in the "historic" data from which truck requirements have been calculated. Truck operators in the Northern regions including NGOs, ICRC & WTOE have cooperated fully in the organization of convoy systems over a period of years without any material improvements.

To explore the potential for a possible saving in the number of northern trucks required, the Mission believes that the ICRC fleet and the WTOE fleet be permitted to operate freely to Mekelle and Axum.

The effect of this could be to achieve a net saving of 100 trucks, out of the total number of the 300 extra required for the north. It does not detract from the urgency of moving the first 200 trucks.

Use of aircraft for Northern regions

Based on the current relief food required, the need for heavy aircraft to deliver substantial tonnages would only become necessary in the event of failure to transfer sufficient additional trucks to the north in conjunction with improved road access .

If the crop failure is greater than estimated, the use of Hercules-type aircraft may become essential to supplement truck transport.

The level of emergency presently envisaged will demand the availability of light aircraft for isolated drought pockets.

Recommended action for the North during October/November 1987.

1. The shortage of transport to haul an estimated 400,500 MT of relief food for the northern regions in 1988 is very substantial and should be accorded top priority by the GOE.
2. Donors should provide funding for the immediate purchase of 100 new trucks together with spare parts and provision for full infrastructural support. These trucks should be operated by WTOE. Estimated cost US\$ 10.4 million
3. Against an estimated deficit of 304 trucks, an early

decision to identify and transfer these trucks should be taken. 36 WTOE truck/trailers and 53 RRC truck trailers should be moved to the north within the next two weeks. Decisions must be taken as to which fleets will operate the extra trucks, and hence what additional facilities and equipment will be required for maintenance. Phased movement of these trucks must be commenced very shortly, to avoid a build-up of aid food cargos in the port.

4. Extensions to workshop capacity for those organizations which will operate the extra 213 trucks will be required at estimated cost of US\$ 400,000.
5. The critical shortage of spare parts for all EFTC and RRC trucks must be speedily redressed by the allocation of US\$ 2.5 million by the GOE to enable the appropriate purchases to be made soonest. Donors should provide some of these funds to support RRC.
6. The use of light aircraft and helicopters for inaccessible needy villages may be required as early as November. Donors should give early consideration to this need Estimated cost for 2 light aircraft US\$ 2.4 million.
7. Donors should provide for up to US\$ 4 million as contingency for use of Hercules type aircraft. Such funds should be added to the proposed UN Coordinators "Transportation Contingency Fund", (see Part 2).
8. Port equipment in Massawa will need rehabilitation replacement and spare parts. Spares for 6 portal cranes and other equipment will cost US\$ 120,000. Eight (8) new tractors are needed as well as spares for others at a cost of US\$ 600,000.

III. B SOUTHERN TRUCK REQUIREMENTS

In assessing overall long-haul truck requirements for this whole area, the following factors need to be taken into account:

- (i) From Assab the quantity and seasonality of commercial cargoes
 - (ii) From Assab the quantity and timing of food aid cargoes and from Djibouti the quantity of aid food which can be hauled by rail.
- (i) The pattern of commercial cargoes through Assab (other than fertilizer) is fairly consistent at 27,800 MT/month: this includes 17,000 MT/month of commercial grain imports. Over the four month period January - April the 27,800 monthly figure increases dramatically to 77,800 by the addition of 50,000 MT/month fertilizer imports, for which the availability of road haulage is essential in order that deliveries are all effected before planting time.
- (ii) The RRC estimate for relief food requirements for all regions other than the North amount to 579,500 MT to which (in accordance with the Mission brief) must be added 98,000 MT Food for Work and 42,000 MT for UNHCR (being the 1988 planning figure) to provide a total of 719,500 MT of overall relief food cargo or 60,000 MT per month.

On the assumption that 10,000 MT/month of relief food would arrive via the railway to Dire Dawa, the quantity to arrive in Assab can be reduced from 60,000 to 50,000 MT/month.

The most recent estimate available of projected aid food arrivals from southern regions indicates the following :-

	<u>ASSAB</u> MT	<u>DJIBOUTI</u> MT
1987 October	29,155	1,950
November	104,950	-
December	7,230	2,500
1988 January	34,300	-
February	61,159	32,375
March	not available	not available

It can be seen that Assab arrivals accord closely with the 50,000 MT per month target, but that the Djibouti rail facility will be under-utilized until February shipments arrive. The re-scheduling of part of the November Assab tonnage to Djibouti appears desirable, particularly in the light of the heavy load it will provide on the single bulk grain berth available at that time at Assab.

To summarize the overall long-haul truck capacity requirement for 1988 from Assab:

Monthly Tonnages

	Commercial	Aid Food	Total
January-April	77,800	50,000	127,800
May-December	27,800	50,000	77,800

The fact that required fleet capacity January - April is 65% greater than in May - December, indicates the important need to commence fertilizer shipments earlier and any action possible to bring forward 1988 shipments should be taken immediately. Similarly it is important that rescheduling of any other non-essential cargos should be put in hand.

On the assumption of the transfer of 204 long haul trucks to the northern regions, long haul truck capacity within the fleets of EFTC (government and Ketena 5), RRC (RTU I, RTU III and undesignated trucks) the NGOs and WTOE on a historic performance basis (less an allowance for some deterioration in 1988 anticipated performance) is estimated to be 113,000 MT per month. This will be seen to be approximately 14,000 MT/month short of January-April peak needs.

The Mission examined the possibility of addressing the January-April shortfall in the South by the purchase of additional trucks immediately. This proposition was rejected on two grounds:-

- (i) That it is unlikely that funding arrangements, truck supply and infrastructural needs could be organized to have any significant numbers of additional trucks operational early in 1988.
- (ii) That it would be extremely difficult to persuade donors to fund additional trucks that would evidently be surplus to capacity from May onwards for 8 months.

An alternative approach to the problem is to consider the extent to which it may be acceptable to allow some build up of commercial or relief food cargoes in Assab during the January-April period, for movement when the fertilizer deliveries have been completed.

It can be assumed that some part of the commercial imports could be subject of deferred movement : for relief food cargoes the degree of priority will depend on the level of stocks at inland stores, including the need to effect pre-positioning at destinations served only by dry-weather roads and the level of distribution to beneficiaries which is determined for the January-April period.

It is quite possible that these factors may eliminate the need for additional trucks for the southern regions, but the Mission considers that a contingency plan should be prepared for the engagement of an external haulage contractor (on similar lines to the Kenyan trucker in 1985/86). Availability of such an operator to commence early January should be investigated during October in parallel with more accurate re-assessment of the extent of need which will become possible as relief food stocks /beneficiaries become more accurately quantifiable.

The Mission concluded that this constitutes the most practical, reliable and cost effective way of addressing the problem.

RECOMMENDATIONS

The Mission's recommendations for the southern regions for the 1988 emergency are:

1. That top priority be given by the government to move 204 long-haul trucks to the northern regions.
2. That the Mission's recommendations for RRC fleets (RTU I, RTU III and RRC "Undesignated" trucks) and for WTOE, should be implemented as a matter of urgency, since they have the potential for increasing capacity within the peak transport period.
3. That immediate action be taken to re-schedule fertilizer deliveries for November and to delay those commercial cargoes intended for the January - April period which would not jeopardize essential needs.
4. That the availability of an outside contractor should be investigated for the possible transportation, in the period January - April 1988, of such proportion of the 14,000 MT per month shortfall as cannot be reduced by rescheduling and port stockpiling. Donors should be sought to provide the necessary funding. Estimated costs for four months at 10,000 MT per month is US\$ 5.2 million.
5. Additionally, some stockpiling of relief food (or other) cargoes in the January-April period for clearance

in May - June should be planned, if necessary in conjunction with utilizing, and subsequently replenishing the Food Security Reserve and AMC stocks.

6. That all such cargoes which would be subject to the above stockpiling procedure should not be charged quay-rent in the period February to June 1988.

III C. Northern Food Requirements for 50,000 MT per month

- A. Recent informal reports about crop conditions in the North indicate that the current estimate of the food requirement for the North of approximately 33,000 MT per month (see part III A above) may soon need to be revised to a much higher level, perhaps as much as a total of 50,000 MT.
- B. Set out below are the estimated additional truck requirements for a 50% increase from the original RRC estimate of 400,000 MT relief aid food for the North together with Food For Work and refugee requirements. The new requirement then becomes 600,500 MT per year plus 204,000 MT of commercial imports or 67,000 MT for truck haulage per month.

North

	<u>Truck nos Required per Current Estimates</u>	<u>+ 50% Extra Trucks Required</u>	<u>Total</u>
Massawa-Asmara	320	77	397
Asmara-Eritrea destinations	111	55	166
Asmara-Tigray destinations	200	100	300
	---	---	---
Total trucks req.	631	232	863
Less existing fleet	<u>327</u>		<u>327</u>
Total required	<u>304</u>		<u>536</u>
	===		===

C. Analysis of Additional Truck Requirements for Increase in Food for 1988 to 50,000 MT

The truck requirements for this amount of food would be 863

bringing a new deficit of 536 trucks.

The following factors for dealing with the deficit of 395 trucks in par C above must be reconsidered based on the new requirement.

1. Prepositioning of Food:

If the food requirement for the north increases to 50,000 MT per month we believe that the buildup of demand to that level between October-December would virtually eliminate those stocks currently scheduled to be prepositioned at distribution points prior to January 1988. In effect the full requirement of 50,000 MT would have to be delivered each month to avoid stock-outs and build-up of shelters. This puts a premium on assuring that adequate numbers of trucks are made available to the north immediately. Some back-up of Hercules-type aircraft will be required as soon as possible under this scenario.

2. The effect of doubling the number of trucks on the Massawa-Asmara road, i.e. whether it is feasible for that many trucks to move continuously on that road:

If the fleet of 270 trucks required daily were to go in convoy it would be strung out over about 43 kms. The expectation that this many trucks could make the round trip in one day (230 km) with the road only open from 0800 to 1400 is not great. It is also believed that the port of Massawa would have to reorganize its loading operations, established two additional loading facilities outside the port and add 15 additional tractors and flat bed trailers to haul bagged grain from the port to the new sites.

Efforts to open the road at 0600 at both Asmara and Massawa check-points would improve the possibilities for a one day trip. If this were to be arranged we would expect an average of 1.5 days per trip or a daily requirement of 168 truck/trailers to Massawa and a total fleet requirement for this route of 220 trucks as opposed to 397.

We do not see any possibilities for reducing the requirement for the other routes of Asmara to Mekelle, Asmara to Axum and Asmara to Eritrean routes.

3. Capacity of current Northern truck fleets to be expanded by an additional 300 trucks above what is already recommended for 1988:

Our analysis of the truck fleets in the north indicates that current capacity could be expanded to accommodate the approximate 300 additional trucks required to move 30,000 MT in the north.

We do not believe that any large numbers of additional trucks could be absorbed and operated efficiently within a reasonable period of time to meet demands.

4. The feasibility of adding a new fleet of 300 trucks in the north:

We again reviewed the possibilities of establishing a new self-contained, self sufficient fleet of 300 trucks in the north.

There are two possible options:

- a. A new fleet from Europe as stated in (para III A) would cost US\$ 31 million and would require from 6 to 9 months to become operational fully based on historical experience. This is not a practical option given the requirements for performance in early 1988.
- b. It might be possible to expand the WTOE northern fleet from 100 trucks (projected by the 1988 Scenario) to 200 trucks, if WFP approved and if sufficient funds were available to expand staff and purchase all equipment. The cost for such an additional fleet of 100 trucks would be US\$ 10.4 million. However, this would require total funding to be available by early October 1987.
- c. The use of contracted truck fleets from a neighboring country such as the CRS contract with the Kenyan Contrax Company in 1985 seems to be the only practical alternative available given:

(1) The necessity for timely action and (2) The need for a self-contained and self-sufficient fleet. (This latter requirement is a result of limited managerial, personnel, organizational and facilities capacity of the current northern truck fleets.)

Based on past experience it would take approximately 60 days from signing a contract to have a Kenyan fleet of 100 trucks fully operational in Ethiopia.

Contracting of at least one such fleet (100 trucks) would be required if the WTOE fleet addition is approved, otherwise two such fleets of 100 trucks would be required. This would be in addition to one such fleet for the south under the southern requirement for 1988 (in III B above).

The estimated cost for this option would be US\$2.2 million per month and would haul approximately 22,000 MT per month.

The total cost for these option for one year operation :

a.	new fleet	US\$ 31 million
b.	WTOE	US\$ 10.4 million
c.	Kenya truck fleets(2)	US\$ 26.4 million

5. Air Transport

However, if these options do not work out or if there is a delay in execution of these proposals there would be a serious shortfall in food deliveries. It would therefore be prudent to arrange for a "back-up" fleet of Hercules-type aircraft to cover any shortfall. The minimum number of aircraft required to cover this contingency would be 2 at a cost of 1.2 million per month. These two aircraft could move about 4000 MT per month. However, more may be needed.

Consideration should also be given to the possibility of air haulage from Massawa to Mekelle and Axum. This would relieve some of the truck constraints at Massawa. However, such operations would require rehabilitation of the runway at Massawa.

The Ministry of Transportation and Communications should rehabilitate the Massawa runway as soon as possible.

Contingency Recommendations for the north for 50,000 MT of Food Aid per Month

1. That the GOE take action to open the Massawa-Asmara road at 0600 at each end of the road.
2. That 15 tractors and flat bed trailers be added to the

Massawa port operation and sufficient funds for leasing two sites for loading operations

Estimated Cost - US\$ 1.25 million

- 3a. That the WTOE Fleet in the north be expanded by the addition of 100 trucks above current 1988 north scenario.

Estimated Cost - US\$ 10 million

and

That a contract be executed for a fleet of 100 trucks from Kenya.

Estimated Cost - US\$ 1.1 million per month

- 3b. That contracts be executed for two fleets of 100 trucks from Kenya.

Estimated Cost - US\$ 2.2 million per month

4. That the Ministry of Transportation rehabilitate the Massawa airport runway.

PART 2

**TRANSPORT CAPACITY FOR FOOD RELIEF
IN ETHIOPIA**

I. EXECUTIVE SUMMARY AND RECOMMENDATIONS

Part 2 of this report deals with the overall port and non-military transport capacity in the country with emphasis on the truck fleets that transport relief cargo. Included are simple tabulation and various scenarios of relief food/truck requirements based on historical data.

Major Findings and Recommendations

A. General Problems

There exist a number of problems which are common to relief transport in Ethiopia :

1. There is a need for a UN Emergency Transport Contingency Fund, similar to the one established in 1985, to solve urgent problems when they arise.

That the donors in consultation with the UN Resident Coordinator in Ethiopia, establish a "Transportation Contingency Fund".

2. Consigning food to specific locations and relief organizations inhibits reallocation to needy areas, causes port congestion and misuse of truck capacity.

That the Ethiopian Government and the donors ensure that when required, consigned food can be reallocated to critical areas of need.

3. Donors do not always pay for all inland transportation costs for their food. This creates delays in food movement and problems in truck utilization.

That the Ethiopian Government and the donors should seek to ensure that inland transportation finance is available for all consignees prior to arrival of food shipments.

4. Coordination among government, donors and relief organizations for all aspects of food supply and transport could be improved, especially in the southern areas.

That the Ethiopian Government, donors and NGOs once

again address the difficult problem of coordination of shipping, port handling, truck transport and food allocations.

5. Ministry of Transportation should develop the transport sector to provide for all truck transport requirements including food relief.

That the Ministry of Transportation should set a five year goal in conjunction with the Ethiopian Freight Transport Corporation (EFTC) to accommodate all future inland truck transport requirements including the provision for emergency relief food transportation.

6. Fertilizer shipments typically arrive at Assab port during January through April, coinciding with large relief food shipments thus creating a peak demand for trucks.

That the Ethiopian Government authorities responsible for procurement of fertilizer explore cost effective ways of spreading deliveries to the port over more months than at present. Urgent consideration should be given to executing earlier delivery of the 235,000 MT procurement for 1988 now scheduled to begin in late December.

7. Full use of AMC stocks as backstop for food relief supply as well as to avoid backhauls has not been systematically addressed by the relief community to solve urgent problems. The new FSR should also become an integral part of the relief food supply system.

That the relief community insure that the FSR and AMC stocks are exploited fully in smoothing out the relief food pipeline.

8. Truck tariffs for Tigray do not compensate owners for long delays.

That the relief community insure that the FSR and AMC stocks are exploited fully in smoothing out the relief food pipeline.

9. Some truck fleets' hours of operation of trucks do not achieve maximum utilization of truck capacity.

That all long-haul truck fleets operators in Ethiopia should insure that their trucks achieve at least 8 hours of running time per day, especially during food relief emergencies.

B. Relief Transport

Some 90% of the total transport capacity in Ethiopia is owned or operated by EFTC or RRC. All the vehicles in their fleets suffer from chronic shortage of spare parts and workshop equipment arising mainly from insufficient foreign exchange.

Of the major fleet operators, WTOE and RTU III are better organized and achieve higher performance levels due to their commercial orientation and professional management.

The maximum monthly port capacity is 145,000 MT for Assab and 80,000 MT for Massawa. This is adequate for all foreseeable requirements. However, monthly port offtake and road transport requirements are distorted by the massive importation of fertilizer over the first four months in the year.

Port equipment in both Assab and Massawa are deteriorating at a rapid rate.

No short term improvements can be expected in the rail offtake capacity from Djibouti. The maximum amount of food transported per month is 10,000 MT to Dire Dawa only.

A substantial number of improvements in the ports and some of the truck fleets will be required to sustain performance. In particular most of these will require immediate support to cope with the 1988 food transport requirements.

The following recommendations are proposed to provide the needed support and appropriate funds to assure performance during 1988.

ETHIOPIAN FREIGHT TRANSPORTATION CORPORATION (EFTC)

10. That GOE request acceleration of the release of the World Bank funds for the proposed "Transport Project" so that EFTC can procure new equipment and spare parts in 1987.
11. That GOE accelerate the EFTC truck replacements, rehabilitation and workshop programmes scheduled for 1989 to begin immediately.
12. That GOE accelerate the EFTC programme for expanding or

building new government and private sector workshops.

WORLD FOOD PROGRAM TRANSPORT OPERATION IN ETHIOPIA (WTOE)

13. Although the WTOE operation has recently been extended to June 1988, this period is considered insufficient, and RRC should now request WFP for a further extension to June 1989.
14. It will be necessary for some US\$ 6.2 million of WTOE's future revenue to be received in hard currencies in order to buy spare parts and tyres. Donors are urged to make their internal transport contributions in a manner that NGOs and RRC can pay a substantial portion of haulage charges in hard currency. If this is achieved the WTOE will be able to finance the following improvements.
15. The appointment of two experienced expatriate truck transport advisers to manage the truck operations in Asmara and Assab and to provide on-the-job training is recommended. The cost is estimated at US\$ 120,000 per annum.
16. That the shuttle system be adopted between the port and the Assab Base. An additional 28 semi-trailers are required. Estimated cost US\$ 941,000.
17. WTOE should introduce and enforce a demurrage charge for off-loading delays. Free time of 5 hours is suggested.
18. WTOE should erect a separate containerised workshop in Dire Dawa to service their fleet. Estimated cost is US\$ 120,000.

RELIEF AND REHABILITATION COMMISSION (RRC)

Road Transport Unit I (RTU I)

19. A request should be made to the prospective donor for funding of the rehabilitation programme for the Volvos and Mercedes trucks. Estimated cost is US\$ 2.4 million.
20. The RRC Central Workshop bays (2) designated for rehabilitation work on Volvos should be made available for their intended purpose.
21. Authorization should be granted for the use of external

workshop facilities when appropriate to achieve programmed targets.

22. Recruitment procedures should be reviewed for the purpose of streamlining appointments to vacant positions. Appropriate measures should be taken to minimize absenteeism from work.
23. Procurement must be speeded up :-
 - (a) By greater flexibility in Purchasing Committee procedures.

Road Transport Unit III (RTU III)

24. Containerized workshops (2) are required to provide additional capacity at Nazareth. Estimated cost US\$ 260,000.
25. RRC should approve contracts for the completion of civil works at the Assab workshop as soon as possible.
26. Staff recruitment and training should be expedited and consideration given to expatriate appointments at Assab and Nazareth.

THE PORTS

Assab

27. The seven "Mastiff" dump trucks should be replaced immediately to sustain existing bulk conveying capacity of the port. Estimated cost US\$ 600,000.
28. The four bagging/stitching machines should be replaced immediately and an adequate supply of spare parts procured. These machines should be of the same specifications as those provided by WFP in 1986. Estimated cost US\$ 950,000.

Massawa

29. Immediate steps should be taken to provide sufficient spare parts to put the 6 portal cranes in good operational condition and provide for spare parts for other equipment. Estimated cost for one year US\$ 120,000.
30. Supply the port with more efficient tractors (8 units).

Estimated cost for equipment and spare parts for one year is US\$ 600,000.

Port Charges

The Mission understands that the reduced port charges for relief and development cargos negotiated with the UN Assistant Secretary General in October 1985 are still in effect.

The Mission accepts that port charges for the normal commercial cargo throughput should be based on full port costs recovery, including overhead costs.

31. Inasmuch as relief and development cargos represent additional throughput for the port charges in respect of these should be based on full recovery of the additional variable costs only.

Aircraft requirements

The Mission concluded that there are immediate unmet requirements for some NGOs to employ light aircraft for areas which are inaccessible by road, e.g. JRP in the North and the Baptist Mission in Northern/Western Shewa and for FHI in Northern Shoa and Gonder in the South. Other air transport for programme support and monitoring also needs to be provided.

The Mission concluded that all other haulage requirements should be met by the truck fleets.

In the event that the full requirements for additional trucks for the north is not met soon there will be a need for heavy duty Hercules-type aircraft.

32. Donors should give urgent consideration to the funding requirements for light aircraft for the NGOs and RRC for inaccessible areas in both the north and south since they may be needed as early as November. A minimum of 2 such aircraft need to be made available in Ethiopia for this work.

Estimated costs for leasing and operations for one year US\$ 2.4 million.

33. The UN Resident Coordinator and the RRC should approach external donors immediately for the possible rapid mobilization of heavy duty aircraft

on a contingency basis

34. Donors should contribute funds to the proposed "UN Coordinator's Emergency Transport Fund" to be used as a contingency to initiate major airlift operations, if necessary.

II. INTRODUCTION

The Mission commenced work on August 12th, 1987 with the objective of completing its Report within 4 weeks. The first two and a half weeks were involved in field visits which included Kombolcha, Dessie, Assab, Massawa, Asmara, Mekelle, Djibouti, Dire Dawa, Awash, Nazareth, Debre Zeit; at each of these visits the Mission members had discussions with organizations involved with transportation, and inspected vehicles, warehouses, workshops, (including private sector) equipment, etc. In Addis Ababa numerous visits have been made to the headquarters and operating units of transport organizations.

The Mission enjoyed the assistance of an Advisory Committee, chaired by the Chief Commissioner RRC; other members represented the Ministry of Transport and Communication, the NGOs, the Donors and the U.N/WFP. This Committee provided guidance on overall policy and on revisions to the scope of the work as the assessment progressed.

The Mission is grateful to the WFP Addis Ababa for the facilities provided for travel, movement permits, office accommodation and secretarial services throughout the course of their work.

Section III describes the basic assumptions adopted by the Mission. Section IV commences with a study of some of the problems which are common to all road haulage units in Ethiopia and is followed by sub-sections which deal with individual long-haul fleets and on the ports, with notes on the possible use of aircraft.

The Mission's approach to the subject of future needs was to take five different levels of food aid transportation requirement ranging from 0.75m. MT to 1.7m MT, and make an assessment of the requirements of the port and inland transport facilities to meet each level. The result will be found in Section V.

III. ASSUMPTIONS

The following are the most important assumptions utilized by the Mission. Some were provided by the advisory committee and some were developed in the course of our analyses. Other assumptions are stated in the appropriate sections.

A. Levels of At Risk Population.

Our worst case scenario was derived by a review of persistent drought prone areas and historical levels of at risk populations. On this basis we estimated the maximum reasonable tonnage for each region taking into account projected population increases. Based on available 1984/85 statistics, we projected that the worst case scenario possible would require 1.7 million tons of emergency food.

B. Truck Fleet Performance

The Mission have utilized as its base for performance of the several truck fleets and the ports the years 1985 and 1986, or a construction of those time periods when the pipeline of food was at its highest. In all cases, actual records of performance were utilized except in the case of NGOs where estimates were made following interviews .

Continued performance at these historic baseline levels are assumed for purposes of estimating future truck requirements. However the sections of the report which analyze the individual truck fleets and the ports indicate where we feel deterioration of performance is predictable. In those cases recommendations are made regarding the necessary assistance to bring back or maintain the past performance levels of these units.

C. Time Limits of the Assessment and Character of Recommendations.

We have set the time limits of our projections of fleet and port performance and most of our specific recommendations at two years.

In making our recommendations the mission have tried in every case to take into account both feasibility and the practical realities of implementation given the long procurement lead times for port and truck related items, and the institutional and managerial constraints of the involved organizations. Unless otherwise stated our recommendations are those which could be implemented within the first year will have some impact on performance during that year and prove acceptable to government and donors.

D. North/South

We have accepted the fact that Eritrea and Tigray must be serviced from the Massawa/Asmara corridor and that the northern transport capacity must be analyzed separately from the rest of the country. Although it is possible to reach Tigray from the South it has been achieved only rarely.

E. Imports Other than Emergency Food

The mission has agreed that the allocation and commitment of transport assets in Ethiopia for relief cargoes should not interrupt movements of commodities such as fertilizer, commercial food imports, haulage of domestic food production and other commercial imports, unless the disaster is of such proportions that disruption of the economy is inevitable.

F. Maximum Truck Demand Period

Based on historical performance, fertilizer arrives in late December and concludes in April in order to meet the preplanting deadline of June in most areas. As a result our peak period for maximum truck demands occurs between January and April because of the convergence of imports of emergency food and fertilizers.

G. Long Haul Trucks

The mission has determined that estimates of haulage requirements should be based on using long haul trucks (22MT or above) to carry food to the farthest destination accessible to such trucks. Based on the professional truckers knowledge of Ethiopia road conditions and as confirmed by World Bank consultants, this is the most efficient and effective use of the long haul trucks in Ethiopia. The use of these trucks reduces the problems of intermediate storage, off loading, re-loading and subsequent transport by low payload short haul trucks and they put the payload closer to the point of need in a shorter time period. If however the long haul fleet is stretched to full capacity at a time when there is unutilized capacity in short-haul fleets this policy may need to be reversed to establish an equilibrium.

H. Use of Internal Resources

In each case where the Mission has made a determination of the need for additional resources it has first sought to find those resources from within Ethiopia, either from the GOE or from the existing fleets and other organizations.

IV TRANSPORT CAPACITY FOR FOOD RELIEF IN ETHIOPIA

A. GENERAL PROBLEMS

The Mission's review of transport capacity and current food haulage performance of the various truck fleets uncovered problems which were of concern to several of the fleet operators, to the Government of Ethiopia and to the donors.

1. U.N. Transportation Fund

In 1985/86 the UN Assistant Secretary General for Emergency Operations in Ethiopia established an Emergency Transport Fund. Disbursements from the fund were at the discretion of the ASG and the intention was to provide a means of rapidly overcoming any transport bottlenecks. Contributions amounting to over US\$ 3 million to the fund were received from Norway, Sweden, Australia, Canada, EEC, UK and USA.

Disbursements covered a wide variety of activities including support of NGO trucking operations; transport and clearing charges for storage of tents; tyres and spare parts.

In 1986 the balance of the remaining funds was utilized to form part of the start up costs of the WTOE fleet.

Many of the recommendations contained in this assessment will be funded by specific donors based on their own special procedures and funding conditions and; they will be made directly to the needy organizations. However, based on previous experience there will be many unmet needs as the situation unfolds. There is a requirement for such a transportation contingency fund which would be used to fill these gaps. In particular (as recommended elsewhere) funds to cover emergency airlifts of food by Hercules type aircraft could be deposited in the proposed fund to provide the greatest flexibility in responding to such a need if it arises.

In view of the usefulness of such a fund it is recommended that the UN Resident Coordinator in Ethiopia in consultation with the donors establish such a fund, and that the donors again contribute towards an emergency transport fund for discretionary use by the UN Resident Coordinator.

2. Food Ownership and Inland Transportation

The system of granting and consigning donated food to Ethiopia is well established by the donors. The major donors are the European Economic Commission (EEC), Canada, Australia, United States of America (US) and World Food Programme (WFP). In addition many of the individual EEC countries and other bi-lateral donors make up the bulk of the balance of food donations.

Most of the relief food donations of 1984-1987 to RRC were designated to serve specific areas and distribution points within Ethiopia. To some extent these consignments may be moved by Relief & Rehabilitation Commission of Ethiopia (RRC) to other areas upon agreement with the donor. However, the other part of the food is consigned to specific domestic and international Non-Governmental Organizations (NGOs) operating in Ethiopia. Normally the consigned food is specifically targeted to the areas designated by the NGOs. NGOs are expected to account to the donor for all this food and show by its records that it has in fact distributed its food in the agreed upon areas to the target groups.

Some of the major donors pay all transportation costs to point of final distribution, some pay a portion of costs from port to final distribution, some pay port charges only and at least one only pays up to the point of discharge from the vessel. The balance of costs are the responsibility of the consignee. Some NGOs and often the RRC do not have funds to pay for transport by Ethiopian Freight Transport Corporation (EFTC) or WFP/Transport Operation in Ethiopia (WTOE) and must rely on their own trucks. This results in an inability to clear ports on a first in first out basis and reduces the ability to allocate and assign trucks in the most efficient manner.

The RRC and food donors should seek a means to ensure that either financing or sufficient trucks are available to haul food out of the port prior to its arrival. It is recommended that if donors are unable to cover full transport cost to final destination, they should consider the possibility of permitting partial monetization of the food to cover such costs.

Another constraint to efficient transport utilization is a condition applied by most donors that a distribution plan be drawn up and agreed to by NGOs or the RRC, often before the donation is finally confirmed. No diversions to the plan are allowed

without prior agreement of the donor. In practice, by the time the food arrives at the port conditions may have changed and demands may be quite different. But the requirement to fulfill the previously agreed distribution plans and account for the food inhibits change. Often the NGOs and sometimes the RRC informally arrange loans between themselves to overcome stock-outs and the Christian Relief Development Association (CRDA) plays an important role as broker among the smaller NGOs to avoid serious food shortages.

Typically, problems are resolved on an ad hoc basis and informed observers have cited cases where one distribution point is overstocked while another is critically short. Transport of food from a surplus NGO to a deficit NGO does occur.

As long as food is consigned to specific organizations for specific locations it is difficult and complex to reallocate food to where it is more urgently needed. Not only may the original plan be out of date by the time the food arrives, but uncertainty over the arrival of the next shipment can result in hedging and overstocking.

Since late 1984, the WFP has played an effective role in coordinating the scheduling of shipping and does assist in its regular donor meetings by advising of potential shipping problems and food allocation. The RRC assumes overall responsibility for coordination of food allocation through its early warning assessments and agreements with NGOs and the provision of its own distribution plan to donors channelling their food through the RRC. To resolve the problem on a day to day basis, the mission has suggested to the Advisory Committee that the major donors consider consigning shipments destined for NGOs to WFP Addis, with an agreement that the intended NGO would receive the full quantity perhaps not immediately and not necessarily from the donors actual shipment. If WFP and the intended recipient agreed that the grain could be directed towards another agency in more urgent need, that agency in turn would arrange for replacement at a later date.

The Mission was advised that this system although logical may not be acceptable given some donors' policy, procedural and accounting constraints. The Mission nevertheless feels that this is one real and continuing constraint to a more efficient scheduling and utilization of both food resources and transport assets which deserves attention of the donors. Even

partial solutions would help.

Recommendations

That the Ethiopian Government and the donors ensure that when required there is sufficient flexibility that consigned food can be reallocated to critical areas of need.

That the Ethiopian Government and the donors should seek to ensure that inland transportation finance is available for all consignees prior to arrival of food shipments.

3. Coordination

The Mission is aware of the considerable efforts during 1985-86 to resolve the problems of coordination in the priorities and allocation of food to meet urgent stockouts, coordinate shipping schedules and port berthing, to coordinate, allocate and schedule truck transport from the ports and help in local short haul transport problems.

Based on our discussions with knowledgeable observers, the Transportation Coordination Committee in Asmara for Eritrea, its counterpart in the port at Massawa, and the Coordination Committee which dealt with food movement between Asmara and Tigray, food distribution were exceptionally effective in resolving most of the major problems of 1985-86.

On the other hand, we are aware of the problems in sustaining the effectiveness of several of the coordinating groups in Addis and of achieving a comprehensive view of all elements of the food system i.e shipping, port handling, documentation, port/truck interface, truck allocation and scheduling, food allocation and stock level management, warehousing, etc.

These are extremely difficult problems to attack with complex systems and management issues to resolve, especially since there are so many different requirements, agencies and special interests involved.

The Mission wishes to cite coordination of food relief operations as a special problem and advocates that the government, the donors and the NGOs address this

problem once more in anticipation of the 1988 emergency.

4. Low performances but high "Utilization"

Serviceability defines the percentage of trucks in a fleet that are roadworthy i.e. not withdrawn for maintenance or repairs. A common serviceability figure in Ethiopia is 70%. Utilization is defined as the amount of time a truck is running as a percent of the time it is available to run e.g. 10 hour a day. Two hours each day may be spent on delays in scheduling, awaiting paper-work, loading and off loading and other idle time. This would leave 8 hours running time and represent 80% utilization - which would be a good achievement.

However, the term Utilization appears to be misunderstood in some fleet operations which evidently use it to show the proportion of days on which a truck was running even if only for a few hours. See RTU I and RTU III performance figures in Annex.

The result of the above is that suitable standards for utilization do not get set for drivers to achieve and low performance becomes the accepted norm by management. The Mission recommends that all truck operations in Ethiopia at a time of emergency should ensure that their trucks achieve at least 8 hours running time per day.

5. Relief Food Transportation - a "National responsibility"

The Mission is aware of the history of relief problems in Ethiopia since the early 1970's. The problems of transportation to needy people has been the predominant concern and we believe they will continue to plague the government and donors alike. The establishment of a separate emergency transport unit in the Ministry of Transportation in the late 1970's was a result of the inability of the private truck sector and the newly emerging EFTC, to cope with the problem. The Government decided to assign relief transport responsibility to the RRC which was the best decision at that time.

In 1984, as a result of the enormous shortage of transportation, the NGOs built up truck fleets, so that today they own upwards of 250 long haul trucks.

Substantial donations of trucks from donors has also increased RRC's long haul fleet to 332 trucks. In late 1985 donors established a quasi-independent UN fleet of 250 trucks, the World Food Programme Transport Operation in Ethiopia (WTOE).

WTOE, by its performance has shown what a professional truck organization can accomplish in a very short period. In a similar manner the RTU III which was organized in 1985 and had the help of a number of professional advisers performed well initially.

We believe that over the next several years both will be sorely needed to continue trucking relief food. However the Ministry of Transportation is ultimately responsible for development of the transport sector and should also be responsible for assuring that all of Ethiopia's vital transport needs are satisfied including emergency food transport.

Recommendation

That the Ministry of Transportation should set a five year goal in conjunction with EFTC to accommodate all future inland truck transport requirements including the provision for emergency relief food transportation.

6. Foreign Exchange Allocation

Our analyses of EFTC (both the government fleet and the Ketana private fleet) as well as of the RRC revealed a severe and continuing shortage of spare parts and tyres to maintain their fleets in good working order. The ability of EFTC to replace their truck losses as well as the aged trucks in the private fleet, is not keeping pace with the minimum requirements as stated by EFTC, the World Bank and informed observers. This problem is attributable to the very low allocations of foreign exchange from the central government. In the case of spare parts and tyres for EFTC, we estimate that less than 10% of normal operating requirements can be procured with the foreign exchange available to them this year. The Mission is extremely concerned that the current and projected shortage of foreign exchange for the truck transport sector and the RRC can only result in rapid reduction in transport capacity at a time when it appears that another maximum effort of the order of 1984-85, may be required. If there is no action to reverse this situation rapidly it can be expected that the GOE may again be faced with decisions to forego

moving fertilizer, commercial imports or inter regional domestic crops in order to meet emergency needs.

Recommendations:

That the Ethiopian Government should accord a higher priority for allocation of foreign exchange to EFTC and RRC for spare parts, maintenance equipment and replacement and new trucks, commencing with an urgent allocation of sufficient foreign exchange to meet the minimum spare parts requirements to these fleets to cope with the 1988 food emergency.

7. Scheduling of Essential Imports

The Mission noted that imports of fertilizer historically have arrived at the ports between January and April. This creates an extraordinary demand at the ports and an even greater problem for trucking.

Recommendation

That the Ethiopian Government authorities responsible for procurement of fertilizer explore cost effective ways of spreading deliveries to the ports over more months than at present.

8. Constraints on the Private Truck Fleet.

The Mission is aware of constraints on the private truck fleet other than those relating to access to spare parts, tyres and new trucks. Even though private truckers have a better rate of serviceability than most other fleets, i.e., downtime for maintenance is only approximately 15%, utilization rates appear to be not much above 40%. We believe that the private truckers attempt to maximize their returns and reduce wear and tear on their trucks by utilizing their trucks on the more lucrative runs in which there is a backhaul. One way runs which are typical of relief food haulage (although there is an empty return premium paid) do not provide an equitable return. Much of the relief food is transported to areas where the roads are bad and tyres are consumed faster: other disincentives may also come into play. By and large the preferred route is the Assab-Addis run with its better prospects for return loads.

We believe that there is opportunity to encourage private truckers to increase their truck utilization, especially for relief food. The changes in tariffs suggested by the World Bank assessment to meet current operational and cost realities in Ethiopia should be introduced now.

A special and unique problem exists in the north. When truckers haul relief food to Mekelle or Axum their truck may be delayed for up to 15 days before returning because the road is closed. Neither are there any possibilities for back hauls from these areas. We believe a special premium or demurrage charge should be paid which would offset a sufficient portion of their revenue foregone as to make the trip attractive. Special incentives such as above could also help the EFTC Government fleet financially.

Recommendation:

That the Eritrean premium tariff should be applicable for deliveries in Tigray with an additional demurrage allowance for trucks delayed for abnormal periods.

B. ETHIOPIAN FREIGHT TRANSPORT CORPORATION
(formerly known as NATRACOR)

1. The Role of EFTC

All road transport services in the country including the private sector are organized, closely regulated and controlled by the Ethiopian Freight Transport Corporation (EFTC) a transport entity under the Ministry of Transport and Communications (MOTAC). This was formerly NATRACOR.

2. Fleet Capacity

The Government fleet is comprised of about 1015 cargo trucks (25 tons - 30 tons payload), with a total capacity of 26,210 tons and has about 2900 employees, of whom 1,100 are drivers.

The total trucks (with exception of tankers) owned by the private sector known as the "Associates" amounted to about 5803 trucks of various sizes with a total capacity of 19,647 MT which is about 65% of the total commercial fleet capacity.

3. Truck/ Traffic Management.
Activities of the Ketenas (Zone offices)

For dispatching purposes, the country is divided into six freight zones or Ketenas. The Addis Ababa - Assab road which is the main transport corridor has been designated as the AAA Division. Allocation of trucks is according to zones and within those zones, routes to be followed during transport of each load are specified. The system works as follows: When truckers register with EFTC they are assigned to one of the six zones and receive assignments for freight consignments within the zone.

Consignments are assigned to truckers on a first come, first served basis, but are allocated according to capacity between the Government and private fleets. The procedure for a consignee to obtain transport is based on completing a standard request form which is received by the local Ketena which then assigns an available trucker. The selected trucker will be given a freight order which serves as a pass through the check points to travel the route.

4. Fleet Condition

The average age of vehicles in the privately-owned fleet is over 13.5 years while that of the government-owned vehicles

is about 5 years. In addition to the problem of the age of the equipment, the "Associates" are confronted with breakdowns, lack of spare parts and inadequate maintenance facilities. Standardization is also a problem: the fleet of the "Associates" is composed of about 20 different makes, while that of EFTC has 5.

5. Truck Performance Level

Truck performance has been poor in Ethiopia and the principal causes are:

(a) Low Utilization

EFTC introduced a relay system between Assab and Nazareth recently and have been getting a 7 day turn around. The use of driver incentives has made a difference in performance. But the 41% serviceability rate leaves considerable room for improvement.

(b) Lack of Preventive Maintenance

Garages are few and inadequately equipped. EFTC existing workshops are better equipped but preventive maintenance procedures are lagging.

(c) Lack of Foreign Exchange for Spare Parts

Although significant efforts have been made by EFTC, delays in acquiring foreign exchange permits have resulted in continuing shortages of spare parts. Moreover the old age of the fleets and different models has aggravated the problem.

(d) Excessive Paper work

The flow of cargo on the road is impeded by unnecessary paperwork and complex procedures to process freight clearance and transport. Although EFTC has reduced its forms from 80 to 34, much more needs to be done. To improve their record a coordinated effort was made by EFTC, RTA, and MTSC to reduce the Assab-Addis turn-around time from about 20 days to 10-12 days. Many procedures were improved and process time for paper work was reduced, though much still needs to be done in this direction.

6. The Parts Inventory and Distribution Division (PIDD)

EFTC sells spare parts and tyres to the EFTC fleet and to the private sector. Government-owned vehicles get preference for this service but private truckers may apply

for, and are able to purchase from the PIDD, when available. Otherwise the private sector buys parts and tyres from garages in the private sector at high prices to avoid having to take their vehicles out of service. Consequently the private sector's repair charges are significantly higher than EFTC's. The private garages are usually able to obtain premium prices for every part sold. Actual funds spent on import of spare parts and tyres for the private sector is as follows:

PLANNED AND ACTUAL EXPENDITURES
ON SPARE PARTS AND TYRES
(IN BIRR '000)

SPARE PARTS

<u>FISCAL</u> Year	<u>PLANNED</u> Purchase	<u>ACTUAL</u> Purchase
1982-83	9,158	6,808
1983-84	10,313	6,408
1984-85	11,310	5,405

TYRES AND TUBES

<u>FISCAL</u> Year	<u>PLANNED</u> Purchase	<u>ACTUAL</u> Purchase
1982-83	8,503	638
1983-84	10,186	7,109
1984-85	10,600	42

Recommendations:

The following are proposals which could have positive effects though only likely to increase EFTC capacity and performance marginally in the short term.

1. That the GOE seek to accelerate the release of the World Bank funds for the proposed transport project so that EFTC can procure new equipment and spare parts in 1987.
2. That the GOE accelerate EFTC truck replacements, rehabilitation and workshop programs scheduled for 1989 to begin immediately.
3. That the GOE accelerate EFTC program for expanding or building new government and private sector workshops.

C. The World Food Programme Transport Operation in Ethiopia (WTOE)

1. Background

WTOE was established in November 1985 by agreement between the U.N World Food Programme and the Ethiopian Government Relief & Rehabilitation Commission to assist in hauling relief food from the port of Assab to the drought stricken people of Wollo, Southern Tigray, Gonder and Northern Shoa. The change in the pattern of the emergency during the first half of 1986 led to the deployment of part of the a WTOE fleet in Asmara for operating in Eritrea and Tigray regions. For the same the reasons, the WTOE Cocrdinating Committee approved several extensions of the "WTOE operational boundaries" for the Assab based fleet which now covers all the Southern and Central part of the country. The improvement of the harvest output in 1986 also led to a further enlargement of the WTOE mandate by the Coordinating Committee to include the transportation of Food-For-Work commodities with the same grade of priority as relief food. The period for operation of WTOE was to commence in November 1985 and continue for 12 months after the arrival of the last truck. The fleet of 250 long haul trucks was supplied by USAID and Band Aid. In addition USAID, Band Aid and other donors provided a fund of US\$6.2 million to finance workshops, equipment, spare parts, tyres and initial working capital. WTOE was expected to be operated on the basis of commercial standards and charge consignees for hauling their food.

The WTOE fleet was scheduled to conclude its operations on December 31, 1986 and subsequently to be handed over to the Ethiopian Government. On request of RRC the fleet operation was extended to December 1987. During the period it was thought the fleet would be handed over plans were made to fill management positions with RRC appointees. In June this year, WFP agreed to a further extension of the fleet operation to June 1988.

2. Organization

WTOE is directed by WFP with the WTOE Coordinating Committee in Addis Ababa providing overall policy guidelines. The latter is composed of the RRC Chief Commissioner as Chairman, WFP representative as Vice Chairman, Band Aid, USAID, the CRDA representing the NGOs, and the Vice Minister of Transport and Communications.

WTOE is managed by a WFP appointed expatriate Project Manager and staff with expatriate and Ethiopian personnel. Staffing position as at June 1987 was at 657 with 363

drivers and assistant drivers, 155 support staff (i.e. maintenance and traffic), and 139 administrative personnel serving the operational bases in Assab, Asmara, Kombolcha, Dire Dawa and its headquarter at Addis Ababa.

Included in the staff are 6 expatriate appointees namely the Project Manager, Associate Head of Maintenance, Head of Finance (Vacant) Monitoring and Reports Officer and two Expert Mechanics.

3. Operational and Financial Performance

With its fleet of 248 trucks and two tagmasters, WTOE in the period of one year to June 30, 1987 delivered 226,613 M.T and ran 10,000,624 kms. A surplus of US\$735,000 was accumulated for the period of operation since its inception. This surplus is however in Ethiopian Birr.

4. Findings

The Mission visited all WTOE bases and assessed the condition of all trucks and physical assets and the viability of management systems, personnel and operational controls. Its findings are as follows:

a. Current truck fleet payload capacity:

WTOE FLEET INVENTORY (CURRENT)

	Number	Make	Model	Capacity
Assab	54	MAGIRUS	320.26	
	43	DAF	3300	
	55	FIAT	330.30 HT	
	36	MAGIRUS	380.32(T-T)	18 MT
	2	DAF TUGMASTERS		
Asmara	30	DAF	2505(T-T)	12 MT
	10	MAGIRUS	380.32	18 MT
Dire Dawa	20	IVECO	330.30	
Write offs(1)	16			
Total Trucks	250			
Total Trailers	278			
Semi Trailers	202			28 MT
Trailers	76			12 MT

(1) 6 IVECO MAGIRUS 320.26, 5 DAF 330, 4 IVECO FIAT 330.30, 1 DAF 2505.have been written off.

Of the vehicles written-off, 4 second hand vehicles were not operative since arrival in Ethiopia while 12 trucks were lost due to accidents. As agreed with the donors in June 1986 in the context of the extension of operations, these vehicles have not been replaced.

- b. During the 12 month period July 1986 to June 1987 the fleet achieved an impressive average of 80,000 km per truck for all trucks in the central and southern area.
- c. A "shuttle system" at Assab was designed and tested with success in 1986. The rationale behind this system is to maximize the utilization of the tractor units by reducing the downtime due to loading of trailers at the port. For that, a number of semitrailers must be shuttled between the Assab Port and the WTOE site in order that there would always be loaded semitrailers waiting for haulage. The tractors returning to Assab would drop the empty semitrailer and connect a loaded semitrailer at the WTOE site obviating delays in the port. This system has not been implemented due to lack of adequate numbers of semitrailers.
- d. In view of the prevailing situation a system of small convoys (5-6 units) is considered the most effective means for optimising truck efficiency in Ethiopia and has been utilized regularly. However, the full potential of such a system could not be realized due to deficiencies in planning, scheduling and management.
- e. WTOE's financial position over the short term is good. The policy of flexible tariffs for haulage over rough roads instituted in 1986 has assisted in the improved financial position. However, payments by NGO's and R.R.C. in Ethiopian currency for haulage have eroded the level of WTOE's foreign exchange which is required for purchase of spare parts and tyres.

Current foreign exchange reserves (June 1987) can provide up to 6 months supply of parts and tyres at current operational levels. If such reserve were to decrease further, it would restrict making advance procurements in a timely manner because of an average procurement lead time of 4 months. If operational levels are to increase substantially to meet the needs of the 1988 emergency, it will be necessary for WTOE to receive a higher proportion of its revenue in hard currencies.

- f. Of late WTOE has been experiencing considerable difficulties with maintenance facilities in Dire Dawa. In mid 1986 WTOE erected a prefabricated structure in the RRC compound in Dire Dawa to service their vehicles hauling relief food the Ogaden. Since the introduction of a RRC fleet of 32

vehicles based in Dire Dawa a few months ago, the WTOE maintenance operation has suffered due to the increased congestion.

- g. The expectation that RRC would take over by December 1987 resulted in transfers, replacements and terminations of personnel at upper and middle management levels. This has led to breaks in management continuity in key staff positions. In addition, new appointees have had limited or no truck operational experience. At the same time experienced expatriate staff in key operational positions have been reduced.

The combined effect of these actions is to create the danger of reduced effectiveness at the very time at which it is necessary to achieve performance levels higher even than in 1986/87.

RECOMMENDATIONS

Based on the assumption that WTOE will be required to achieve maximum capacity from January 1988 onwards, the Mission recommends the following measures be implemented. The effect of these recommendations is expected to result in a 15% increase in performance.

- (1) Although the WTOE operations has recently been extended to June 1988, this period is considered insufficient, and RRC should now request WFP for further extension to June 1989. This is considered the minimum necessary to provide staff confidence and continuity and thus to provide a base from which to meet the challenges of 1988 and beyond. The Mission however, appreciates that WFP will require assurance of the economic viability of the trucking operation over the proposal extended period. WTOE should submit to WFP their forward projections to confirm this viability.
- (2) In order to acquire sufficient foreign currencies to facilitate the purchase of tyres and spares for the operations, it will be necessary for some US\$ 6.2 m of WTOE's anticipated annual revenue to be received in hard currencies. In this context donors are urged to effect their internal transport contributions in such a manner as will enable NGOs and RRC to pay a substantial portion of haulage charges in hard currency. If this is accomplished, WTOE will be able to finance the following improvements.

- (3) Due to the emergency in 1988 and the consequent work load and pressure put on WTOE management, the performance of recently appointed Base Managers and Traffic officers require strengthening. The appointment of two experienced expatriate truck transport advisers to manage the truck operations in Asmara and Assab and to provide on-the-job training is recommended. The cost of these appointments is estimated at US\$120,000 per annum.
- (4) In order to enhance further the WTOE operations and relieve pressure on port storage it is recommended that the shuttle system be adopted between the port and the WTOE Base in Assab. This would require a provision of an additional 28 semi-trailers. Estimated cost US\$ 941,000.
- (5) WTOE will encourage a speedier turn around of vehicles through the avoidance of off-loading delays at some destinations by introducing and enforcing a demurrage charge which will commence after the expiration of an established off-loading time. Free time of 5 hours is suggested.
- (6) To alleviate the congestion experienced by WTOE at their presently located temporary workshop, WTOE should erect a separate containerised workshop facility within Dire Dawa to service their fleet. The cost of the workshop is estimated at US\$ 120,000.

D. RRC LONG HAUL TRANSPORT OPERATIONS

1. DESCRIPTION

RRC Road/Water Transport Department (RSTD) is organized in six different units of which 2 are self financed (Relief Transport Units I and III) and the remaining 4 are financed by the RRC budget.

The transport units in RSTD are divided into two longhaul units (RTU I and III) and one shorthaul unit (RTU II) operating mainly 4 - wheel drive trucks organized in one central traffic section and one regional traffic section.

This Report sub-section is concerned only with RRC long-haul fleets and concentrates therefore on RTU I and RTU III. It also contains an addendum concerning 65 long-haul trucks under the jurisdiction of RRC which are not designated to any of the established units.

2. LONG HAUL FLEETS SIZE, COMPOSITION AND AGE

RTU I Located in Nefas Silk area, Addis Ababa, is operating 192 trucks and 185 trailers with a total carrying capacity of 2684 tonnes.

The fleet composition is:

7	Mercedes Benz 1924, 4x2	Trucks	2	Years Old
59	Volvo FIO	"	7	"
7	Volvo FIO	4x2 Trucks	8	Years Old
70	Volvo FIO	"	9	"
46	Mercedes Benz 1924	"	9	"
2	Volvo NIO	"	10	"
1	"	"	7	"

RTU III Established mid 1985 and operational in September the same year, located in the town of Nazareth 98 kms Southeast of Addis Ababa. It operates 111 tractors, 29 trucks, 126 semitrailers and 30 trailers with a total carrying capacity of 3716 tonnes.

Fleet Composition:

70	FIAT PT 300, 6x4	Tractors	2	Years Old
20	" PC 619, 4x2	Trucks	2	"
9	" N3 682	"	2	"
40	Mercedes Benz 2624, 6x4	Tractors	1 1/2	"
1	Scammel 526, 6x4	Tractor	1	"

3. MAINTENANCE FACILITIES

- (i) RTU I With the new workshop extension now in operation at RTU I premises, reasonably good maintenance facilities are available to cope with normal demand, although not adequate for the back-log of trucks awaiting repair. 2 bays at central workshop are supposedly allocated for repair of Volvo trucks.
- (ii) RTU III This consists of a small four bay container workshop with very limited resources. It is understaffed and, in spite of efforts to obtain supplies, this workshop still operates without electricity.
- RTU III is facing severe problems in maintaining an acceptable degree of truck serviceability. A permanent workshop construction (initially suggested by RRC) is still kept pending.
- (iii) RWTD/CENTRAL WORKSHOP is supposed to carry out all major repairs of all RWTD vehicles.
- (iv) REGIONAL WORKSHOPS with limited service capacities are situated in following regions: Sidamo, Gamo-Gofa, Wello, Harrarge, Tigray, Eritrea and Gonder. Regional workshops are planned for Gojam and Illubabor.

4. RTU I & RTU III ESTIMATED CAPACITY FOR 1988

The assumptions used in the Mission's calculations for the available capacity of relief fleets are based on the latest performance levels available for a period of full cargo availability.

The projections arrived at from using these assumptions will only be valid if there is good reason to suppose that the performance level can be maintained through 1988.

Examination of the available performance data (see Annex) suggests the following:-

(i) RTU I

The improved serviceability of 60% in 1984/85 decreased to 52% in 85/86 and 49% in 86/87. Taking the lower rate between the last two years (5.77%) and applying it for an eighteen month period (8.66%) produces a projection of 45% serviceability for the calendar year

1988, which would reduce the kms per truck per year from 25,590 to 23,374 kms. Although utilization is recorded as 83% (86/87), the performance figures for operational trucks (calculated on the basis of a 365-day year and an average speed of 40kms per hour) is only an average of 3.6 hours per day. The corresponding figure for 85/86 was 3.5. Performance calculated for all trucks in the fleet is only 1.8 operating hours per day.

(ii) RTU III.

The decline in serviceability from 78% in 85/86 to 62 in 86/87 (20.2%) is believed to be attributable to the inadequacy of maintenance facilities and staffing levels and continuous deployment of truck/trailer units on rough roads.

The average figure for the three months April-June 1987 was only 55%. For the calendar year 1988, with the average truck age 1.1/2 years greater than 1986/87, it is reasonable to expect that maintenance/repair requirements will be significantly greater than in 1986/87. Without an increase in the provision of workshop facilities, there is a probability of serviceability declining further, though the rate of decline will be reduced if workshop capacity remains constant. The Mission employs the assumption of a reduction of serviceability to 50 per cent for 1988, which underlines the urgency of providing more workshop capacity immediately.

The performance of 72,052 kms per year for operational trucks indicates an average of 4.9 operating hours per day (on the same assumptions as for RTU I above): for all trucks (54,743 kms p.a. 85/86) indicates 3.7 operational hours.

The mission feels that Management should regard this figures as being of greater significance than the "Utilization" statistic of 99% which reflects regularity of daily running rather than any measure of daily performance.

5. FINDINGS - RTU I AND RTU III

RRC projections on relief food requirements for 1988, together with the need to be prepared at all times for any greater emergency, demand that maximum capacity from the RRC fleets be available when required.

The approach of the Mission to this situation has been to

examine the structure, the operational procedures and the facilities available to both RTU I & RTU III in order to formulate recommendations directed towards achieving maximum capacity.

Two possibilities for structural changes in RTU I which have been the subject of recent proposals have been studied by the Mission before rejection:

- (i) That RTU I be merged with RTU III in order that the limited expertise available within the two units should be concentrated in one entity and thus used more effectively. An additional advantage of this proposal was thought to be that it would enable the dismantling of the RTU I management structure in favour of extending the preferred management system of RTU III to cover the combined fleet assets.

The Mission found this proposal to have considerable merit but was obliged to reject it as being irrelevant to effecting any improvements through 1988 or 1989, due to the length of time required for obtaining decisions and then implementing the merger. Indeed in the short term it was feared that such a proposal would be counter-productive in terms of output,

- (ii) That RTU I trucks should be disposed of to the private transport sector.

The Mission's rejection of this proposal is based on the fact that the capacity represented by the RTU I fleet is at present 100% available to relief food transportation and there could be no assurance of a similar availability from the same trucks in the hands of commercial operators.

Nor is there any assurance that this transfer would lead to an increase in performance levels due to the existing constraints to which the private truck sector is subject. Indeed it is probable that performance would decline.

6. ANALYSIS OF RTU I

(a) Improvements to management structure

The Mission's acceptance of the need for RTU I to continue as a separate unit is accompanied their belief that certain measures should be implemented speedily to raise the low current performance levels

of this fleet. The Mission identifies four principal areas where improvements are required within the management structure :-

- (i) At present it appears that decision-taking and implementation on the part of the General Manager is subjected to lack of helpfulness on the part of several committees. These factors and other un-necessary bureaucratic procedures result in the Manager being unable to fulfil a proper, decisive, management role. Thus problems are not being faced up to and resolved rapidly. e.g. an "Action plan to minimize present repair- backlog" in respect of the Volvo trucks, from the Adviser to RTU I, dated 18/2/87 and addressed to the General Manager, was the subject of Management Meeting discussion on 25/2/87 and general agreement was achieved for a go-ahead by the end of March. Very few of the agreed measures have been implemented. Most importantly no formal request has been formulated to the potential donor in respect of the spare parts and expert mechanic assistance required, (and set out in the Action Plan) for the rehabilitation of the unserviceable Volvo trucks.
- (ii) The advantages that could accrue from regular Management Meetings are not being realized and when such meetings are held they do not include representation from, or participation by, the committees whose cooperation may well be crucial to the successful outcome of the decisions taken.
- (iii) Absenteeism is cited as a significant problem and Management needs to introduce effective disciplinary measures to ensure that staff are at their posts continuously through the working day.
- (iv) The several shortcomings in management referred to above have occurred throughout a period in which the unit has been the subject of a very substantial input of expatriate advisers.

Conclusions on management structure

In seeking to arrive at its recommendations for improvements in the management system the Mission has had discussions with the very recently appointed General Manager of RTU I as well as with members of the advisory team.

It is very difficult for the Mission to judge on the extent to which the evident failure of the effectiveness of the advisers is attributable to :

- (i) The reluctance of unit management personnel within RTU I to accept in whole or in part valid recommendations submitted to them.
- (ii) The internal constraints imposed by the various committee activities in frustrating the implementation of agreed procedures.
- (iii) The external constraints which derive from the general truck-operating problems listed elsewhere in this Report e.g. hard currency availability for spare parts etc. and
- (iv) Shortcomings on the part of the Advisers themselves in persisting tirelessly in their pursuit of excellence within the unit and the motivation of all around them to this end.

What the Mission does conclude is that all four factors are probably involved in a situation where general morale is at a very low level.

The Mission is acutely aware of the need for this problem to be addressed rapidly. It believes that all the human resources are available within the unit, or can be obtained from willing donors, to raise the performance levels of this fleet dramatically provided only that each problem component is recognized, tackled vigorously and resolved promptly. This will require a completely fresh approach and this matter is the subject of our first recommendation. It is placed in that position since the Mission believes that without it there must be serious doubts as to the other recommended measures yielding their full intended benefit.

(b) Workshop capacity

This will be considered under 2 sub-headings:

(i) Space and equipment

Existing RTU I capacity is adequate for the normal fleet requirements, but cannot cope with the rehabilit-

ation programme required for the trucks presently out of service. Although two bays at Central Workshop have been allocated to RTU I for this purpose, they are rarely available in practice. Work recommended to be carried out in external workshops does not receive the appropriate authorizations.

(ii) Staff

Eight mechanic posts are at present unfilled. Recruitment procedures appear to be extremely time consuming and few applications from suitably qualified persons are received due to the low pay rates offered.

The combined effect of (a) & (b) above together with inadequate management control is that RTU I's performance continues at a low level of 49% serviceability (1986/87).

(c) Stores/Spares

A key unfilled post is causing delays in the issuing of spare parts. The Stores Foreman vacancy since April 13th, 1987 was still not internally advertised as of September 10th. The Storekeeper being the only other key-holder, was charged with irregularities early in June and as a result the store become inoperative at that time and is only now shortly to be functioning again more than 3 months later. The heavy burden of responsibility for total accountability in respect of complex stocks of spares may well act as a substantial deterrent to new applicants for these posts.

(d) Procurement

Long delays in procurement appear to be attributable to one or more of the following:-

- (a) Lengthy Purchasing Committee procedures for local purchases.
- (b) Time consuming aid agency procedures including fund transfers, which have in some instances led to delays in the release of spares from manufacturers.

Recommendations for RTU I :

The Mission recommends that the new General Manager should stimulate a new spirit of cooperation throughout the unit making full use of all the talents available to him including those of the advisers. He may well find that the

challenges which the relief needs of 1988 are about to bring could act as a rallying point to which to direct the attention of all concerned. The Mission further recommends:

1. A request to the prospective donor for funding of the rehabilitation programme for the Volvos and Mercedes trucks should be formulated and submitted forth with. The Mission's assessment is that this should be achievable at a cost of approximately US\$ 2.4 million.
2. Central Workshop bays (2) designated for rehabilitation work on Volvos should be made available for their intended purpose.
3. Authorization should be granted for the use of external workshop facilities when appropriate to achieve programmed targets.
4. Recruitment procedures should be reviewed for the purpose of streamlining appointments to vacant positions. Appropriate measures should be taken to minimize absenteeism from work.
5. Procurement must be speeded up:-
 - (a) By greater flexibility in Purchasing Committee procedures.
 - (b) By negotiation with donors to establish simpler procedures.

7. ANALYSIS OF RTU III

By contrast with RTU I the Mission considers the standard of management to be good.

The main problem facing RTU III is the inadequacy of available work shop capacity and number of mechanics. This is reflected in the decline of serviceability from 78% (1985/86) to 62% (1986/87).

This will become even more a problem as the age of the fleet increases.

At the RTU III workshop site at Nazareth there is adequate space for more workshops and the Mission recommends that imported containerized units, complete with tools and equipment, should be sought immediately. Donor funding for such units is understood to be available.

At Assab, the T.S.U. workshop funded by SIDA is now agreed to be taken over by RTU III. Speedy completion of the remaining civil works will ensure that the unit is operational in the near future. Every possible effort to fill the remaining vacant positions as quickly as possible should be made.

Extra staff will be required for both these new facilities and some use may need to be made of expatriate mechanics for a period in which they also serve as on-the-job trainers.

Recommendations for RTU III

1. Decisions in favour of containerized units to provide additional capacity at Nazareth should be initiated immediately Estimated cost US\$ 260,000.
2. RRC should approve contracts for the completion of civil works at Assab as soon as possible.
3. Staff recruitment and training should be commenced shortly and consideration be given to expatriate appointments at both locations.

8. UNDESIGNATED RRC TRUCKS

The truck fleets which RRC has received recently, having been previously operated by World Vision and FAI, include the following long-haul components:-

	<u>Number</u>	<u>Make and type</u>
EX W/V	12	DAF NAT 3300 Truck/Trailer
EX W/V	13	DAF 2500 Truck/Trailer
EX W/V	12	DAF FTT 3326 Tractor/Semi-trailer
EX FAI	28	FIAT N3.682/PC.619 Truck/Trailer
	--	
Total	<u>65</u>	

Although these trucks have been at the disposal of RRC for some time now, the Mission understood that no decision has yet been taken regarding their allocation to specific operational units. It is further understood that some of these trucks have been loaned to UNHCR and to the Tana Beles Project.

The Mission included these vehicles within the long haul truck numbers in the calculation of transport capacity in

the southern regions on the basis of the expectation that the RRC would be shortly mobilizing them.

In view of the Mission's recommendation that 53 of these trucks should be moved to the northern regions for 1988 the only further recommendation included here is:

That the 12 DAF Tractor/Semi-trailers (ex W/V) should be transferred to WTOE as they are the only trucking fleet operating this model of truck.

E. NON GOVERNMENT ORGANIZATIONS (NGO)

In the south and central regions 17 NGO relief agencies operate long haul trucks with a total fleet capacity of 4774 MT. Of the 224 trucks involved, 202 are operated by 10 of the NGOs. Included in this fleet is the CRDA fleet of 37 long-haul trucks. This fleet was formed in December 1984/April 1985 to transfer relief cargo from the port to storage centres of member organizations. CRDA also assists its members with some service and repairs on a limited scale.

Within the northern regions only 2 agencies with 27 vehicles are involved in long haul transport, with a total capacity of 445 MT.

The NGOs also operate 278 short haul trucks of which the majority are 4x4.

WORKSHOPS

Presently CRDA is constructing a workshop in Addis designed primarily to service personnel and light vehicles but will be able to handle servicing of CRDA's own short haul trucks and truck tractors. It will also assist some of its members with servicing for their light vehicles.

The CRDA facility is expected to be fully operational in January 1988. Major repairs will however continue to be contracted out to dealer and Local workshops.

Other organizations with workshop facilities are ICRC, LWF, SCF/UK and RRC. These workshops are sufficient for their own vehicles but would not be able to cope with extra work. ICRC have workshops at Asmara, Dessie, Mekelle, and Addis while SCF/UK have a combined facility with OXFAM in Dessie. Most of these workshops would need extra equipment and special tools to enable them to carry out the full range of repairs to their respective fleets. They could also benefit from some assistance in implementing Traffic/Maintenance procedures, spare parts stores, stock management, and procurement procedures.

The majority of vehicles operated by NGOs are either Mercedes, DAF, Volvo or Scania. Spare parts not in stock are usually ordered from Europe, and sometimes long delays occur. Some of these delays might be avoided if availability in other NGO stores had been known.

There would appear to be a substantial advantage for NGOs to set up a spare parts information/inventory system in order that organizations are aware of spare parts availability. This could perhaps be achieved by negotiating the use of the G.T.Z. computer at the RRC Central Workshop where all information with regard to

spares should be updated weekly. A payment/replacement system would need to be devised.

For smaller NGOs a centralized procurement system on a 6 months stock level will assure a steady supply of spares and cost saving through bulk contracts.

TRUCK OWNERSHIP

The trucks were brought into Ethiopia in 1984-85 to alleviate the severe truck shortage for relief food haulage. Most of these trucks are financed by bilateral donors. The NGOs by and large feel a duty towards those who paid for the trucks to ensure that the trucks are primarily used to haul relief cargo consigned to them.

Not all of the NGOs have trucks and few have sufficient trucks to haul all of their consigned food rapidly. At times this result in part consignments being left in the port for long periods while the NGOs limited truck fleets relay the food to their respective stores. Some larger fleet operators contract with EFTC and WTOE to supplement their own trucks.

The Mission was informed at the ports that maintaining the individual NGO consignment at the front of the line, ready for delivery in a way to ensure its integrity, creates problems of congestion and even confusion. This problem is not unique to NGOs since it happens with other relief cargo as well.

Consequently, relief cargo left in the port now accumulate quay rent which accrues after a free storage period of 30 days and adds to the financial woes of consignees.

This problem is not easily solved since some NGOs receive only partial, or in some cases no inland transport grants to move their food. With limited funds they are compelled to utilize whatever trucks they possess and may not be able to pay for EFTC or WTOE to haul their food.

As yet, no formal arrangements for coordination of transport requirements among NGOs exist. Informal coordination does take place, and there is great cooperation at times of emergency. Some NGOs are very effective in maximizing their truck usage and frequently help others. The Mission believes that a more effective means for truck utilization and truck sharing could help many of the NGOs.

CONCLUSION

The Mission believes that the NGOs will over the next year be able to perform at the levels achieved during 1985 and 1986 and will continue to be a vital, critical and irreplaceable factor in filling the need for relief food haulage.

However, as the NGO fleets get older, the need for maintenance and repairs will be an increasing consideration. The Mission members, in discussion with NGOs, submitted the case for a small evaluation/advisory team to be formed to advise them of any scope that may exist for group facilities to be developed. This suggestion was actively welcomed and is now the subject of further deliberation.

If the NGOs decide on the merit of this proposal, the Mission recommends that a donor provide adequate funding to ensure full readiness for the trucking pressures of 1988.

F. OTHER LONG HAUL TRUCK FLEETS

The Agricultural Marketing Corporation is a chartered government organization established to buy grain from farmers primarily for supply to urban centres.

In order to carry out its duties AMC has 1,800 collection centres in the country to meet the transport demand. It has its own transport department which operates 230 trucks with total load capacity of 3207 tonnes in Addis Ababa and 179 short haul trucks allocated in different regions.

These fleets are used to transport grain from the collection (purchasing) centers to the main warehouses following the harvest. Usually, December to April is considered the peak season for such activity.

AMC has a workshop with 15 bays in Addis Ababa for proper maintenance. However they suffer from an acute shortage of spare parts - a common problem in the country.

Since AMC transport is actively engaged in its own operation- i.e. transporting grain from different purchasing points to warehouses, these trucks would not be available during their peak period of January through June and are normally put into maintenance during the off peak period.

Similarly a few government forms like Ethiopian Domestic Distribution Corporation (EDDC), Ethiopian Coffee Marketing Corporation (CMC) etc have a number of long-haul vehicles and are mainly used to meet the transport demand of their respective organization. Therefore these trucks are fully occupied doing their own business in the peak periods and can not be used to transport relief supplies.

G. Short haul trucks

There are a total of 2459 short haul trucks operating under the Ethiopian Freight Transport Corporation (EFTC). These trucks are owned by private individuals and are allocated in different regions as shown below :

Capacity (ton)	Region	No. of fleet	Total capacity (ton)
5-12	North	538	4514
	West	735	6811
	South	685	5406
	East	453	4061
	Sub Total	2411	20792
5-9	Eritrea	48	296
	Total	2459	21088

Although the trucks are assigned in different regions, most are dispatched from the regional offices found in Addis Ababa. The only exception is Asmara (north) which have 48 trucks with an average capacity of 7 tons operating in the northern regional offices of EFTC. There it is noted that trucks with a payload capacity of more than 9.1 tons are utilized as long-haul trucks operating as far south as Maichew when situation seems relaxed.

The average capacity of the short haul trucks in the rest of the regions (south) is 6 MT with a total of 20792 MT capacity.

It should be noted that the EFTC fleet contains vehicles of many types and capacities. Included are - half ton trucks but we have disregarded those types as our main concern is to assess those which could help transport relief food to different destinations.

The models and conditions of these trucks varies with the individual owner and his interest or ability to maintain his vehicle. The vehicles range in age from one year to over 35 years. Many of the older vehicles have been maintained well and are still in reasonably good condition. On the other hand, some of the latest models have greater need of major work to bring them back to a satisfactory condition for service because "Associates" do not have adequate access to

spare parts, tyres and garage facilities.

Therefore, the private truckers have the greatest need for maintenance facilities. The "Traffic Lane and Decentralization Programme" of EFTC recommends that trucks of both the government and private fleets be deployed to match the flow of freight with drivers and vehicles domiciled at the demand points for freight movement. Workshops are to be located on the basis of the volume moving over significant traffic legs for the entire operation.

It is therefore recommended that relief supplies could be transported from the ports to the furthest distance accessible by long haul trucks and then from these centers distributed by short-haul trucks. However, the implementation of decentralization of traffic lane should be carried out this year.

There are a total of 964 short haul trucks operating with RRC and NGOs.

RRC has 686 trucks with an average unit capacity of 6 MT. The RRC transport division RTU II which manages the short haul trucks is divided into two sections; central traffic and regional traffic. The former has 438 multi-models and type of trucks under its' direct command while the latter have 248 of them in the different regions as shown below.

Region	Average load Capacity	No. of Trucks	Make of Trucks
Bale	8 ton	26	Mercedes
Gamo Gofa	6 ton	13	"
Gojam	6 ton	20	"
Gonder	4 ton	14	"
Harerghe	6 ton	20	"
Illubabor	7 ton	13	"
Keffa	6 ton	6	"
Shewa	6 ton	6	Styer
Sidamo	6 ton	24	Mercedes
Tigray	6 ton	25	"
Wollega	8 ton	20	-
Wollo	6 ton	30	"
Assab	7 ton	7	"
Eritrea	8.5 ton	24	", Volvo, Daf

The age of these trucks range from 2 - 10 yrs. with 20% of the trucks in the 5-10 year bracket.

Most of the RRC short haul trucks are used to haul relief food to distribution points. The majority of the fleet was stationed in central traffic (Addis Ababa) and served relatively long distant routes this proved to be non-economical and RRC has decided to decentralize and reallocate them in accordance with the transport demand of the regions. Only a reserve fleet of 60 short haul trucks will be stationed in Addis Ababa for emergency proposes.

The non governmental organizations have 278 trucks with an average unit capacity of 6 MT. Currently these are mainly used for project work with few assigned for food distribution.

The total short haul fleet capacity for NGOs and RRC is 5784 MT. It is noted that RRC has one large central workshop and smaller ones in the different regions. Few NGOs suffer from lack of manpower, proper facility spare parts and tyres. RRC in particular needs to strengthen its short haul maintenance. Donors could provide assistance in the erection of new workshops in the regions, expand and facilitate old ones and allocate adequate funds for spare parts. Therefore the mission concludes that available short haul trucks are sufficient to handle the emergency needs.

H. THE PORTS

BACKGROUND

A thorough analysis was conducted of the characteristics and operating capacity of the ports of Assab, Massawa and Djibouti. The mission utilized current and historical statistics and reviewed World Bank studies and assessments. Each port was visited by the mission and on site inspections were made of port handling equipment, berths, bulk and bagged grain handling equipment, warehousing, uncovered storage areas etc. Port offtake capacity was determined.

In assessing the facilities and activities of the ports, the mission concentrated on the operational capacity of each facility. The extent of incremental throughputs possible by the injection of shore handling equipment and labour were estimated on the basis of present capabilities in each port. Infrastructural studies and investigative activities have begun for the longer term development under the auspices of the World Bank. Additional new berths are however, unlikely to be operational within the next 5 years.

The mission noted that the facilities of both the Ethiopian ports of Assab and Massawa were well maintained and are capable of absorbing further additional throughputs. No firm schedules however exist for the replacement of the existing ageing equipment nor the provision of additional equipment.

In assessing the adequacy of port capacity, the attached schedules reflect scenarios of funding requirements for equipment and maintenance for both the south (which includes throughputs from Assab and Djibouti) and the north (i.e Massawa). Funding requirements for equipment maintenance in the second year are also included.

In anticipation of operational requirements for 1988 the Mission recommends that 4 bagging machines be procured for at Assab to increase present throughputs to 120,000 MT per month. Funding of US\$ 950,000 would be required for additional equipment and maintenance of present bulk grain handling facility. At Massawa US\$ 628,500 will be required for the purchase of tractors and for maintenance and repair of present equipment.

PORT OF ASSAB

1. GENERAL

Port operations and facilities have not changed significantly since the provision of bulk grain handling equipment by WFP in early 1985 from British and Dutch contributions. With these inputs, the port handled an all time record of over 1.46 million tons of dry cargo in their fiscal year 1985/86 of which over 1.33 million tons consisted of imports. Inbound cargo included 666,553 tons of wheat, 92,925 tons of flour, 37,254 tons of milk powder and 94,364 tons of vehicle & factory spares. Although exact figures are not available, it is estimated that approximately 60% of all inbound cargo was for the relief effort. Fertilizer made up for 92,925 tons of all imports.

Experience gained at the peak of port activity in 1985 and 1986, indicates throughput handled over this period to be within the realistic capabilities of the port units existing condition, although it must be recalled that average waiting time for berths was well over 20 days at the height of the emergency.

The Mission noted that while the Port authority has submitted their requirements to the Ministry of Transport and Communications, no firm schedules exist for the replacement of existing equipment or provision of additional equipment. Under the auspices of the World Bank, studies and investigative activities have begun for the longer term infrastructural improvement of the port. These include the construction of a tug berth between berths 3 and 8 and the development of two multipurpose/container berths beyond the South Jetty. The improvements are designed to approximately double existing capacity of the port although completion is likely to be at least five years away. As a result we foresee no improvements to berth capacity over the next 2 years. Meanwhile, current capacity is being eroded by normal wear and tear and shortages of spares parts for equipment.

Since the peak of its performance in 1985/86, the port has lost a significant portion of its bulk handling capacity due to the degradation of its bulk conveying fleet (dumptrucks) and bagging and stitching machines. While the loss of its automated bagging and stitching capability could in part be compensated by additional manual work, the reduction of its bulk conveying capacity cannot be alleviated without significant reduction of berth utilization and vessel discharge rates.

Ten Leyland "Mastiff" dump trucks were secured through donor contributions in 1980 and a further ten units of Leyland "Clydesdale" trucks were obtained in 1985 through WFP. From the outset, only seven Mastiffs have been operational and although these vehicles have recorded mileages of only between 15000 and

31000 kilometers, their intensive use on short hauls for bulk grain from shipside to storage sheds have taken a heavy toll on their efficiency. The ten "Clydesdale" vehicles are still in good operating condition. The mission is satisfied that this dumptruck fleet is being properly maintained given the prevailing operating conditions. If the existing bulk conveying capacity of the port is to be sustained, the seven "Mastiff" dump trucks will have to be replaced. Stocks of spares for the "Clydesdale" vehicles are very low and will also have to be replenished.

In 1980 the port procured four rotating type bagging/stitching machines by international tender. These turned out to be of poor design and were unsuitable for the conditions in Assab. All required frequent repair and were described by the port's head of maintenance as even "dangerous" as the counter weight overhead falls easily as a result of the vibrations. Two were recently scrapped and the remaining two are not expected to last the next few months. In order to restore the bagging capacity and to continue the twin mode of discharge in bulk on to dumptrucks and in tandem into bagging machines at shipside to be removed in bagged form, the mission recommends an immediate replacement of four bagging/stitching machines with adequate supply of spare parts. In order to reduce the spread of inventory, these machines should be the same specifications as those provided by WFP in 1985 which have proved to be suitable and easily repairable.

2. PRESENT OPTIMUM CAPACITIES

On the basis of the present port configuration and existing equipment, the optimum capacities of each facility and activity is calculated hereunder. However it must be borne in mind that the capacities of each activity cannot be considered in isolation as the effective overall operational capacity is determined by the lowest capacity in the entire activity chain.

(i) Berth Capacity

In view of the draft limitations of the shore-end berths and the frequent need to utilize berth 8 for military vessels, accommodation is restricted to two berths (Berths 1&2) for bulk grain vessels and three berths (Berths 3, 10 & 11) for general cargo vessels

In the calculations contained herein the total vessel operating capacity (loading or unloading) is estimated at 6,000 tons per day giving a theoretical saturation level of 2.19 million tons per annum. However, as berth utilization will depend heavily on scheduling of vessels, it is unlikely that the theoretical saturation level can be attained. From past experience, allowance must also be given to unexpected closures of Assab port and adhoc changes in

regulations which disrupt regular cargo work. In the circumstance, the effective optimum capacity of the berths is estimated at 80% or approximately 1.75 million tons per annum.

(ii) Discharge of Bulk Grain With Grabs

Each crane/grab is capable of 25 moves per hour. The grab payload is 2 tons. Each crane/grab is capable of discharging 50 tons per hour or 1000 tons per 20 hour working day. Total bulk grain discharge capacity for 6 cranes/grabs on two berths (only 6 hoppers are available) is therefore 6000 tons per day. Allowing for a level of 75% efficiency, a maximum daily discharge rate of 4,500 tons or 1,642,500 tons per annum can be realistically expected.

(iii) Discharge Capacity for Bagged/General Cargoes

All 16 portal cranes are in good working condition. On the basis of two general cargo vessels at berth at any one time, there should be sufficient cranes to work as many hatches as are likely to be available for discharge. Productivity for discharge of bagged cargoes is estimated at 300 tons per hatch/day but discharge rates for general cargoes are considerably lower. Average rate for both types of cargoes (given the possibility of working more than the 6 working hatches per day assumed for the current purpose) is estimated at 250 tons per hatch/day or a total daily capacity of 1,500 tons or 547,500 tons per annum.

(iv) Bulk Cargo Conveying Capacity by Dumper Trucks

From experience gained thus far, each truck is capable of 40 round trips per day from shipside to bulk storage areas. The total capacity of the 17 vehicle fleet is 6,800 tons per day. Assuming an average serviceability of 75%, daily bulk conveying capacity by dump trucks is estimated at 5,100 tons or 1,861,500 tons per annum

(v) Conveying Capacity for Bagged/General Cargoes from Shiplide to Stores

Conveyance of bagged/general cargoes from shiplide to stores is provided by the port's fleet of 36 tractors and 130 trailers. Allowing for 4 tractors and 8 trailers to be occupied for transport of grain from bagging machines at the two grain berths, the balance of available capacity is computed at 2,000 tons per day for bagged/general cargoes or 730,000 per annum.

(vi) Bagging/Stitching Machines

Although the four newer bagging/stitching machines have design bagging capacities of 50 tons per hour, only 30 tons per hour can be realistically expected. Due to frequent maintenance requirements and thread changes 16 operating hours per day per machine is assumed. The remaining two rotating bagging machines procured in 1980 can only be expected to produce 20 tons per hour. Consequently, total mechanized bagging/stitching capacity is computed at 2,500 tons per day or 912,500 tons per annum.

(vii) MANUAL BAGGING & STITCHING

There is no scarcity of manual workers in the port. Productivity for bagging/stitching is estimated at 250 tons per gang per day. The hangar within the port perimeter where bulk grain is traditionally stored is capable of accommodating at least three gangs. Manual bagging and stitching of at least 750 tons per day or 273,750 tons per annum can therefore complement the estimated automated bagging capacity.

(viii) VAC - U - VATORS

The six vac-u-vators currently in use are in working condition although supply of lighter flexible hoses is necessary to facilitate portability. Conveying capacity from bulk storage to bagging machines is estimated at 30 tons per hour per unit resulting in a total output of 3,600 tons per day or 1,314,000 tons per annum.

(ix) PORT STORAGE

(a) For Bulk Grain

Covered storage for bulk grain is provided by a hanger within the port perimeter and 5 grain sheds outside the main port premises approximately 2 kilometers from the port gates. Total storage capacity is 50,000 tons.

(b) For General and Bagged Cargos

General and bagged cargos are customarily stored within the port in the open on dunnage under tarpaulin covers. The open areas are capable of receiving at least 100,000 tons. Although sheer physical space will accommodate considerably more, the mission feels that any quantity beyond this level will be unmanageable. Sufficient pallets/dunnage materials and tarpaulins will have to be procured to assure protection of grain in open areas.

3. RECOMMENDATIONS

- (a) The Ministry of Transport and Communications firms up plans for the replacement of existing equipment and the provision of additional equipment on an urgent basis.
- (b) Replacement of the seven "Mastiff" dump trucks to sustain existing bulk conveying capacity of the port.
- (c) An immediate replacement of four bagging/stitching machines with adequate supply of spare parts. These machines should be of the same specifications as those provided by WFP in 1986. Estimated cost US\$ 950,000.

4. INCREMENTAL THROUGHPUT SCENARIOS

While it is possible to increase throughput to some extent by injection of shore handling equipment and labour, it must be noted that berth capacities cannot be increased without long term infrastructural changes. As mentioned in the foregoing the additional new berths are unlikely to be operational within 5 years.

Over the last three years, exports through the port of Assab have varied marginally between 124,000 to 137,000 tons. Due to the state of the economy, it is unlikely that the volume of commercial cargo will vary significantly except for fertilizers which is expected to rise substantially. For the following scenarios, it is assumed that the volume of other imports will remain static for 1988 calendar year and increase 10% each successive year and any increase in current throughput will be made up by relief cargo.

ASSAB -- PORT REQUIREMENTS FOR VARIOUS LEVELS OF FOOD AID.

LEVEL	Monthly Requirement Food AID (MT)	Monthly Commercial Grain Imports (MT)	Other Commercial Imports (MT)	Monthly Exports (MT)	Total Monthly Port Thruput (MT)	Additional Equipment Requirements	Funding For One Year of Operation (US\$)	Second Year Spare Parts (US\$)
A	120,680 (10,000)	17,000	27,500	11,000	176,180	10 Dump Trucks 8 Bagging Machines 8 Vertical S.C. Conveyors and Inlet Hoppers 3 Wheel Loaders	3,126,500	660,000
B	100,748 (10,000)	17,000	27,500	11,000	156,248	7 Dump Trucks 4 Bagging Machines 4 Vacuators	2,125,000	495,000
C	81,476 (10,000)	17,000	27,500	11,000	136,976	3 Dump Trucks 4 Bagging Machines	1,290,250	412,500
D	63,788 (10,000)	17,000	27,500	11,000	119,288	4 Bagging Machines	949,000	320,000
E	45,308 (10,000)	17,000	27,500	11,000	100,808	2 Bagging Machines	582,000	247,000

- FOOTNOTES: 1. Includes capital costs, shipping, project management and first year of spare parts.
 2. Additional 10,000 M.T. through Djibouti is additive.
 3. Note: this throughput exceeds existing berth capacity.

PORT OF MASSAWA

1. GENERAL

As in Assab, the port of Massawa has not changed significantly over the years. Its heavy dependence on the changing levels of aid cargo going through the port makes it difficult to justify any long term infrastructural development. Export cargo consistently hovered around the 40,000 ton per year level over the last three years. Imports varied from 330,913 tons in the last fiscal year 1986/87 to the 1985/86 high of 452,853 tons. The component of aid cargo in percentage of all imports for the years 1984/85, 1985/86 and 1986/87 are 54%, 56% and 41% respectively. Total commercial imports over the last three years have been a consistent +190,000 tons per annum.

With regard to bulk grain, the port handled a record 125,277 tons in 1984/85, 17,765 tons in 1985/86 and 49,159 tons in 1986/87. The pattern of arrivals of bulk grain however is erratic. In the fiscal year 1984/85, the port handled a regular average bulk import of 14000 tons per month for a nine month period from October to June; in 1985/86, the entire annual bulk grain import of 17,765 tons arrived in April 1986. In the last fiscal year, 32,117 tons arrived in September followed by the balance in December 1986.

Manpower is not a problem in Massawa as people from the hinterland flock into the port when work is available. Due to a highly disciplined labour force, productivity is good.

A look at the equipment in the port gives an impression of a historically forgotten lot. Much of the machinery still in use dates back over 30 years. Spare parts are either not available from the manufacturers or tardy in arrival. One forklift engine has been waiting for 8 months now for a drive chain. Consequently, many parts have to be machined with the help of some archaic lathes that have seen better and more accurate days. The entire fleet of 13 tractors are assembled locally. No spare parts are available from the manufacturer and if any part cannot be repaired, the entire vehicle is abandoned - much like modern disposable razors.

Despite its handicaps, the port has maintained its facilities well and has performed efficiently in the past. However, each passing moment brings closer the day of reckoning when the basic infrastructural support will collapse from sheer fatigue. Much rehabilitation work will be necessary regardless of the vagaries of cargo throughput. The mission recommends that immediate steps be taken to provide sufficient spare parts to put the 6 portal cranes in good operational condition and to supply the port with more efficient tractors. With regard to the latter, at least 5 units are required, irrespective of any contingency plans for

relief cargo.

2. PRESENT OPTIMUM CAPACITIES

(i) Berth Capacity

Although the port has 6 fully equipped berths, a break in the quay wall between berths 5 and 6 and limited drafts in berths 1 and 2 reduces the availability to two berths for large ocean going vessels. The shortened berths 5 and 6 could still be utilised for deep draft vessels of shorter lengths. On the assumption of two bulk grain vessels and one general cargo vessel in port at any one time and discharge capacity of 1,200 tons per ship per day for bulk grain and approximately 230 tons per gang/day for bagged/general cargoes (productivity ranges from 180 ton per gang day for general cargoes to 300 tons per gang day for bagged cargoes), maximum berth capacity is estimated at 3090 tons per day or 1.1 million tons per annum. However, in view of the draft limitations and the poor capacity of port tugs, which increases the turnaround time of vessels and contribute to higher idle time, effective optimum capacity is estimated at 70% or 952,000 tons per annum.

(ii) Conveyance of bagged/general cargo from shipside to store

This capacity is provided by 15 tractors. Actual capacity is determined by tractor availability and turnaround times. Optimum theoretical capacity is estimated at 16 tons per hour per trailer or 4,800 tons per day for the entire fleet. In view of the poor condition of many of the vehicles effective capacity is estimated at 75% or 3,600 per day or 1,314,000 tons per annum. As mentioned above, this capacity is deteriorating at a rapid rate due to age and lack of spare parts.

(iii) Storage Capacity

Covered storage in the port is provided by two twin span hangars and four warehouses of which one is exclusively used by the military. Total covered capacity for non military use is estimated at 25,000 tons but the large open areas around the warehouse compound can accommodate a further 45,000 tons. The latter assumes the availability of dunnage/pallets and tarpaulins which are currently insufficient. Although storage capacities can be increased by the introduction of mechanical stackers to increase the present stacking

height, the mission does not recommend the procurement of such equipment: long term storage in Massawa should be discouraged in view of the harsh climatic conditions which severely reduce the shelf life of many commodities.

(iv) Loading Capacity onto Trucks from Covered Warehouses

The covered warehouses have a total of 14 loading bays. Although this could be a limiting factor to the efficient turnaround of trucks and restrict the offtake capacity from the port, it is not considered as a hindrance in the existing context where accessibility on the Massawa/Asmara road is restricted to extremely limited hours each day. Mechanical loading equipment could be justified if the situation changes dramatically and increased turnaround of vehicles can be sustained.

3. SUMMARY OF FINDINGS AND RECOMMENDATIONS

1. Immediate step be taken to provide sufficient spare parts to put 6 portal cranes in good operational condition and provide for spare parts for other port equipment. Estimated cost for one year is US\$ 120,000.
2. Supply the port with more efficient tractors (8 units). Estimated cost for equipment and spare parts for one year is US\$ 600,000.

4. INCREMENTAL THROUGHPUT SCENARIOS

In view of the smaller hinterland served by the port of Massawa, it is unlikely that it will ever be pressured beyond the optimum capacity of its basic infrastructure in the near future. Consequently, little inputs will be required for the different scenarios contained herein.

MASSAWA -- PORT REQUIREMENTS FOR VARIOUS LEVELS OF FOOD AID.

LEVEL	Monthly Requirement Food AID (MT)	Monthly Commercial Grain Imports (MT)	Monthly Exports (MT)	Total Monthly Port Thruput (MT)	Additional Equipment Requirements	Funding For One Year of Operation (US\$)	Second Year Spare Parts (US\$)
A	46,200	17,000	3,500	66,700	12 Tractors	910,000	220,000
B	39,204	17,000	3,500	59,700	9 Tractors	628,500	165,000
C	32,604	17,000	3,500	53,104	8 Tractors	594,750	137,500
D	26,136	17,000	3,500	46,636	6 Tractors	455,000	110,000
E	19,536	17,000	3,500	40,036	6 Tractors	419,250	82,500

FOOTNOTES: 1. Includes capital costs, shipping, first year spare parts, rehabilitation of trailers and spare parts for port handling equipment.

PORT OF DJIBOUTI

The importance of the Port of Djibouti in the context of Ethiopia lies in its railway link to Addis Ababa which provides a convenient and a cheaper option to the port of Assab and Massawa. Geographically, Djibouti is the natural entreport for the adjacent regions of Hararge and Wollo. However, political, economic and security considerations limit the extent to which the port could be utilised.

Despite the existence of a good all weather road from Djibouti to Addis Ababa, the only effective mode of surface transportation is the jointly-owned Djibouti-Ethiopian Railway (CDE). Surface transportation of freight by road was carried out only once in June 1986 by the WTOE under special dispensation to relieve the massive Ethiopian bound cargo build up in Djibouti at the time.

Existing port capacity is ample even for the throughput growth projections for the next ten years. The World Bank projects that in 1994 only 18% of the general cargo capacity will be utilised. Ship and shore work is provided by private labour and equipment except for the container terminal where cargo handling is provided by the port authority.

The Mission observed that this surplus capacity, coupled with the use of road transport, could constitute an important fall-back option in the event of Assab being unable to receive high levels of food aid.

DJIBOUTI - ETHIOPIAN RAILWAY (CDE)

CDE's 31 mainline locomotives and 290 covered wagons provide the main general cargo carrying capacity along the 781 km. line between Djibouti and Addis Ababa. About half the locomotive fleet are units of less than 1000 horsepower and were secured in the 1950s and 1960s. Some of the wagons date to 1910. Due to the original lower designed capacity of many wagons and the consequences of age, World Bank studies give an average load of only 16.4 tons per wagon. Like all other transport entities in Ethiopia, the railway suffers from chronic shortages of spare parts.

Overall freight tonnage on the railway has steadily declined at a reported rate of 4.5% per annum over the years from its peak of 420.000 tons in 1975/76. In 1986 total inbound cargo was 127.469 tons of which 79% were relief cargoes. In view of the backlog that accumulated in the port of Djibouti at the time it may be assumed that their ultimate performance equate with the railway's maximum operational capacity.

With EEC assistance of 24.8 million ECU, work started in 1981 on the partial rehabilitation of the debilitated railway. The project which was undertaken in three phases involves the supply of two diesel locomotives and some rolling stock, the establishment of a new telecommunication system, renewal of tracks, purchase of maintenance and support equipment, and the provision of technical assistance.

In a bilateral aid program, the government of France is also committed to a contribution of 15 million ECU for the procurement of railway equipment.

Although some of the above inputs have been made and are operational, the net contribution is likely to be only a slow-down of the current rate of depreciation and will not significantly affect the existing capacity of the railway. Much more will be required if freight capacity is to be improved, including the overhaul of the current management system.

The latter seems to be the major obstacle in the reconstruction and rehabilitation efforts with no solution in sight in the immediate future. The problem stems mainly from the diametrically different commercial objectives and management styles of the two countries that jointly operate the railway. Appointments of senior management personnel are made on the basis of different criteria sometimes not necessarily based on merit and each country accords differing priorities in the financial management of the organization.

In summary total freight capacity is unlikely to rise significantly in the next few years. As commercial imports on

the railway through Djibouti have been static over the past years, capacity on the railway for relief cargo is likely to be at levels reached over the last two years i.e. approximately 100.000 to 120.000 tons per annum. While usage of this convenient means of transport should be maximised, close monitoring over a coordinated scheduling of movements should be exercised. The total relief haulage by the railroad is not expected to exceed 10,000 tons per month for the next two to three years.

In spite of the considerable current inputs from the EEC and France, massive capital investment will be required to have any significant impact on the capacity of the railway. With long lead times required to manufacture this specialized equipment, any improvement work can at best be for medium to long term gains. For example, the mission estimates that to utilize block trains to be dedicated exclusively for the conveyance of relief cargo to Dire Dawa to meet the needs of the region, an investment of at least US\$ 12 million will be necessary to procure and maintain 2 trains for the route. Even then, it is unlikely that equipment can be in place in less than 18 month from date of order. To this must be added some months for financial studies.

Consequently, the mission makes no recommendations in respect of physical improvement to the railway.

However the mission notes that utilization could increase if turn around of wagons can be improved. In this context, the mission recommends that the demurrage charges contained in the present tariff (applicable after a 2 day free period) should be more vigorously applied and enforced, to reduce tardiness on the part of consignees.

Air Transportation

1. Air Transport Logistics and Requirements

In the northern regions, only Asmara, Axum, Alamata and Mekelle have airstrips capable of accommodating large aircraft. However only Asmara has a paved runway and is capable of receiving Boeing 707 class aircraft. The other airstrips are unpaved and can only accommodate aircraft of the Hercules type. Asmara would normally be used as the base for any air transport operation in the north using large aircraft due to available facilities such as fuel, ground handling equipment, communication and crew accommodations. Cargo can be prepositioned from the port of Massawa by surface transport. From Asmara, stockpile quantities can be delivered by large aircraft to the major townships of Mekelle and Axum from where most distribution points can be reached by short-haul trucks or from where light aircraft and helicopters can ferry relief items to outlying villages inaccessible by road. The use of Alamata as a collection point for some Hercules pick-ups might be advantageous, inasmuch as it can be supplied via Assab port by road transport, thus alleviating the pressure on Northern truck fleets. Hercules aircraft are capable of hauling approximately 2000 MT/month. Commercial aircraft costs are approximately US\$ 600,000.

If there is a severe constraint on the truck fleet to move food from Masawa to Asmara it may be necessary to fly Hercules-type aircraft from Massawa directly to Tigray locations. However, this would require improvements in the Massawa runway by the Ministry of Transport.

Better facilities in Asmara airport can also provide the necessary support for airdrops by Hercules aircraft although this will hopefully be unnecessary if donor response for early prepositioning of food in the country is forthcoming.

For light aircraft, the experiences gained in the last 2-3 years have proved that STOL (short take-off and landing) aircraft like the Pilatus and Twin Otter are more suitable for the Ethiopian terrain. These aircraft have 1 and 2 ton capacities respectively. Based on 100 flying hours per month, these crafts lease at approximately US\$ 120,000 per month. In addition to this, fuel bladders, tarpaulins and portable cabins/camps will be required if a sustained air operation has to be maintained.

2. Air Transport Requirements

The Mission has approached the problem of air transport by

first maximizing the use of the less costly truck transport to those areas which can be served by truck. Isolated communities which are not capable of being reached by truck will have to be served by air, as in the past. Examples of areas are Gundo Meskel, Sheil Afaf and Rabel in Shoa, Abi Adi, and Temben in Tigre and, Simada Woreda in Gonder.

The Mission was pleased to note that ICRC, is making plans for air transport for the end 1987/1988 in the northern areas they serve. Other NGOs i.e. CRS, ECS and Baptist Mission operating in the north have voiced their concern about the probable need for heavy aircraft. However, in view of the many imponderables and questions yet to be answered in respect of target locations and target groups are as yet not worked out in detail. All parties are agreed that surface transport should be utilised to the fullest extent possible and air transport should be used only as a last resort. Surface transport in the north however depends heavily on security considerations and the cooperation of military authorities for maintaining open roads and neither the Mission nor aid agencies are able to predict these factors with any degree of accuracy.

In the discussion with involved NGOs operating in the Northern Shewa and Central Tigray Regions, the Mission is advised that 4000-5000 Mt per month of relief food may require air transport for the 1988 emergency. Of this, only 1500 tons per month require light aircraft or helicopter due to inaccessibility of these areas to trucks. The balance may need to be airlifted by heavy aircraft if the roads are not opened continuously.

In areas served by ICRC, air transport by light aircraft is required for Afabet in Eritrea and Mehone in Tigray due to physical constraints. In the previous emergency, ICRC utilised Hercules aircraft to position food from Asmara to Mekelle. For 1988, ICRC hopes that the authorities will permit unobstructed road access to Mekelle to avoid a repeat of this expensive option.

Discussions with RRC logistics and air transport services indicated that planning estimates for airlift requirements by location were being developed but accurate requirements were still not available.

In the light of the above, the lead time and cost required for the positioning of aircraft and being cognizant of the financial implications of maintaining commercial aircraft in a standby role, the Mission recommends that :

- (1) RRC provide all necessary information immediately to RRC Air, donors and NGOs on airlift

requirements and target locations.

- (2) Donors give urgent attention to the funding requirements for light aircraft for the NGOs and RRC since such aircraft may be needed as early as November.
- (3) The UN Coordinator in conjunction with GOE make immediate approaches to external organizations for possible mobilization of heavy duty aircraft at short notice.
- (4) All organizations considering air transport should consider the services of local commercial and non-profit air charter/transport business entities including Ethiopian Airlines in order to reduce lead time in providing aircraft, take advantage of local experience and expertise and to avoid duplication of ground facilities.
- (5) Donors should provide a contingency fund for up to US\$ 4 million for heavy air transport to be made available to the UN Coordinator to use on short notice if the roads to Tigray cannot be open continuously.

J. Port Charges and Inland Transportation Costs

Port Charges

The Mission spent a considerable amount of time in exploring this subject with officials in Addis Ababa and at the ports of the Maritime and Transit Services Corporation (MTSC) the agency responsible for collection of port charges and with the Maritime Transport Authority (MTA) the managers and operators of the ports. The Mission were unable to get any clear explanations of the cost elements and the purpose for each given the limitations of time to cover the entire Ethiopian transport sector, we concluded that a special team of port and tariff experts would be required to conduct the necessary studies.

The Mission were advised that a World Bank consulting team had recently arrived in Ethiopia and were carrying out similar studies. We were advised by the UN Resident Coordinator in Ethiopia that the results of those studies with respect to port charges for relief food and development cargo would be provided to the donor community and other interested parties.

The Mission had several meetings with the Minister of Transport and were assured that the following port charges which were negotiated in October 1985 with the then Assistant Secretary General, Office of Emergency Operations Ethiopia (OEOE) will continue to be in effect :

Port Charges for Relief and Development Cargo (Birr/MT)

<u>Term</u>	<u>Bulk</u>	<u>Bagged</u>	<u>General</u>
Charter terms	47	39	44
Liner terms	-	25	29

Inland transportation costs

The Mission were requested to provide the donors with estimates of inland transport costs for relief food.

The following table represents average costs for those areas where significant relief cargos are hauled :

PORT & INLAND TRANSPORT COSTS PER METRIC TONNE OF GRAIN (US\$)

REGION	THROUGH MASSAWA			THROUGH ASSAB			
	ERITREA	TIGRAY	GONDER	WOLLO N/S/OA	S/S/OA ARSSI	SIDAMC BALE	HARARCHE
BULK CHARTER TERMS	136	133	158	120	148	151	136
BAGGED CHARTER TERMS	132	129	154	116	144	147	132
BAGGED LINEE TERMS	125	122	147	109	137	140	125

. CALCULATION INCLUDES, STORAGE, FUMIGATION, HANDLING IN/OUT, SHORT HAULAGE TO FINAL DISTRIBUTION.

. FOR EACH REGION AN WEIGHTED DISTANCE WAS TAKEN TO CALCULATE LONG HAULAGE COSTS. HENCE FOR NGO OPERATING ON A SPECIFIC AWRAJA WITHIN A REGION TOTAL COST MAY DIFFER.

A full listing of truck tariffs only is included in the Annex.

V. Transportation of Emergency Food Aid

A. Background

1. All imported food arrives into Ethiopia through the ports of Assab, Massawa and Djibouti. From Massawa food is trucked to Asmara from where it is distributed to northern Regions of Eritrea and Tigray. The Southern and Central part of the country is served from the port of Assab with Djibouti handling limited quantities of imports. The main constraint hampering a larger utilization of the Djibouti port is the limited capacity of the railways (CDE) and the absence of a regular truck traffic between the two countries.

2. The areas which have traditionally been vulnerable to drought and famine are in the central highlands of Ethiopia, Wollo, Tigray and Eritrea regions, with the problems of Wollo spreading outwards into Gonder and Northern/Western Shoa. The highlands of Hararghe, Sidamo and Southern Shoa were also seriously affected areas in the mid 80s with sudden extensions to the South and South West of the country.

3. In arriving at the transport capacity requirements on the assumption of various emergency scenarios ranging from 750,000 MT of Relief Food to 1,687,000 MT per annum, the Mission took into account the findings of UK TDR study on warehousing and the World Bank funded mission currently examining the capacity of the Ministry of Transport fleets, as well as our own findings on the actual capacity of the different truck operators in Ethiopia.

4. The above factors as well as those assumptions included in Section II provide the phases for our calculations whereas appropriate, additional assumptions are included in the footnotes to the tables.

5. The scenarios submitted for the Mission's projections are :-

	<u>Relief Food Requirements (MT per year)</u>		
	<u>Total</u>	<u>Northern</u>	<u>Southern</u>
Scenario A	2,002,560	554,400	1,448,160
Scenario B	1,672,224	463,248	1,208,976
Scenario C	1,376,160	398,448	977,712
Scenario D	1,079,088	313,632	765,456
Scenario E	778,128	234,432	543,696

6. A common factor in all scenarios, due to the prevailing operational conditions in Eritrea and Tigray, is the acute shortage of trucks in the Northern part of the country. Although in some of the Scenarios this gap can be filled by transferring "surplus" trucks from the Southern part of the country, one has to be aware of the limited capacity of the Northern Region to absorb more than 300 trucks arising from constraints in maintenance facilities, drivers availability, roads, management, etc.

7. Massawa Port has been underutilized for the last few years and the port has enough handling capacity to cope with the requirements with the exception of the worst scenario. Under such circumstances, parts of Tigray would have to be reached from the south.

8. In Assab Port maximum berth capacity is estimated at 145,000 MT per month. In theory this capacity is not sufficient to cope with the food aid needs if the normal commercial imports are also catered if the population at risk, in the Southern/Central part of the country, is above 6.7 million persons (case of scenarios A,B,C). A transport structure can not be geared to cover "peak" needs particularly when this peak occurs only one third of the year and the tonnages are three times higher than the mean for other cargos. The mission strongly recommends that the authorities involved in the importation of fertilizer should review their procedures to allow fertilizer shipments to start as early as possible to achieve a larger spread over the timeframe say 7 months. For the worst scenario this will represent a reduction from 198,480 MT per month to 177,051 MT or a reduction of 501 trucks on the trucking requirements.

9. Even with the rescheduling of fertilizer arrivals Assab Port will not have the handling capacity to cope with the total imports (Relief Food plus commercial imports) for the two worst scenarios (9.9 million and 8.39 million people at risk, respectively). However, the extra tonnage can be absorbed by Djibouti Port but this will require the opening of the road link and the provision of additional vehicles if imports through that port exceed 120,000 tons per year. The use of Mombasa Port and Kenyan vehicles provide another option. However, the importation of fertilizers over the short period between January and April creates an artificially high transport requirements and shortfall during the period.

B. Assessment of different food aid demand levels and transportation requirements

10. Scenarios E and D

- a. These scenarios are based on total aid food tonnages throughout Ethiopia of 778,128 MT and 1,079,088 MT per annum respectively. In each base we have assumed that Djibouti port will handle 120000 MT of food aid earmarked for the south eastern part of Ethiopia (mainly Hararghe).
- b. For scenario E, the monthly port discharges and offtakes are as follows :-

	Food Aid(MT)	Commercial imports(MT)	Total(MT)
Massawa	19536	17000	36536
Assab	35308	56371(1)	91679
Djibouti	10000	-	10000

(1) it includes commercial grain and fertilizer. In the case of Massawa port fertilizer import are minuscule. In the case of Assab, commercial import assumes action taken for fertilizer shipments spread out over a period of 7 months.

- c. For scenario D, the monthly port discharges and offtake are as follows :-

Massawa	26136	17000	43136
Assab	53788	56371	110159
Djibouti	10000	-	10000

d. Taking into consideration the actual performance of the southern and central region's fleets, a surplus of 710 trucks is arrived at the scenario E. For scenario D, this surplus will be 345 trucks. In both scenarios the Mission has identified a "truck deficit" for the northern regions of 211 and 287 respectively. In both cases, these deficits can be covered by transferring appropriate numbers of trucks from the south.

- e. In the case of scenario D and under prevailing operational conditions 353 trucks will be required for the Massawa-Asmara road, with an average of 100 trucks loading everyday at the port. This large requirement is due to:

- (i) The Ketena fleet being composed of aged trucks with small payloads (average 9 MT for 193 vehicles). These vehicles should be more effectively deployed in end distribution (short haulage) in Eritrea region.
- (ii) The fact that the Massawa-Asmara road is open for truck dispatches only 6 hours per day, opening at 08h00 and closing at 14h00. Under this scheme only operators with small fleets (e.g. ICRC) can achieve and sustain a one day turnaround between the two cities. Under a major emergency the road must be opened for longer periods.

11. Scenario C

- a. This scenario is based on a monthly total food aid requirement of 114,380 MT with 33,204 MT being imported through Massawa to serve Eritrea and Tigray and the balance via Assab and Djibouti. The monthly port discharges and offtake requirements will be as follows:-

	Food Aid(MT)	Commercial imports(MT)	Total(MT)
Massawa	33204	17000	50204
Assab	64476	56371	120847
Djibouti	10000	-	10000

b. Northern regions

The total truck requirement for the northern regions will be 696 trucks, resulting in a deficit of 369 units. As stated before, the Mission considers that the northern regions have a capacity to absorb not more than 300 trucks under the prevailing conditions. Hence for this scenario there is a shortfall of 69 trucks that cannot be covered by transfers from the south. The following alternatives are available:

- (i) A reduction on commercial imports in the order of 15% will release enough trucks on the Massawa-Asmara road to make up the deficit on the other northern roads. The implications of such a measure are unknown.
- (ii) Under the actual operational conditions 69 trucks

on the Asmara-Adigrat-Mekelle road can transport 7317 MT per month. The same amount of food can be delivered by four Hercules aircraft type but at a cost of US\$ 2400000 per month. This equates to US\$ 328 per MT as compared to US\$ 55 per MT by road.

(iii) Procure containerized workshop facilities, secure the services of experienced managers and trained drivers and extend the opening hours of the Massawa-Asmara road at least for further 4 hours.

C. Southern region

Under this scenario the Mission identified a surplus of 135 trucks for the southern regions. However a transfer of 300 units to the northern regions as mentioned above will result in a net deficit of 165 trucks to cover the Assab offtake requirements during the four months peak period (January - April due to fertilizer imports). After April the trucks released from fertilizer haulage (calculated to be 501) will allow an increase on monthly imports of relief food during eight months (May-December) until the next fertilizer shipments arrive.

Different alternatives can be sought to overcome this shortage of trucks:

(i) On the basis of our calculations 165 trucks represent a monthly delivery of 8364 MT of relief food. This gap can be filled by purchases in Kenya, relying on the Kenyan trucking fleet for deliveries in Sidamo and Nazareth.

(ii) Under normal conditions use of long-haul fleets is maximized by dispatching these vehicles to the farthest point permitted by road conditions. However, in a situation such as the one presented under this scenario and assuming that sufficient short-haul vehicles are available, the long-haul truck distances may need to be reduced. For the southern/central regions it is estimated that by restricting the long-haul destinations to Kombolcha/ Dessie for Wollo and Northern Shoa regions and to Awash for the Harerghe region, the increased capacity resulting from the shorter turnaround will eliminate the deficit.

(iii) Bringing to Ethiopia a foreign fleet to operate over a period of four months.

12. Scenarios B and A

The port arrivals and respective monthly offtakes for each of these two scenarios would be as follows:-

(i) Scenario B

	Food Aid MT	Commercial imports MT	Total MT	Additional Trucks
Massawa	38604	17000	55604	447
Assab	88629	56371	145000	342
Djibouti	12119	-	12119	44
Total	139352	73371	212723	833

(ii) Scenario A

Massawa	46200	17000	63200	539
Assab	88629	56371	145000	342
Djibouti	32051	-	32051	459
Total	166880	73371	240251	1340

The dimension of the problems envisaged above is naturally greater in the case of A than it is for B, but both have a common factor in representing situations which demand extraordinary measures to be deployed.

Inasmuch as they postulate that 26% or 30% of the entire Ethiopian population will be affected, a major disruption to the social and economic infrastructure would be involved.

In addition to the various measures suggested in scenarios E, D and C, and the greater use of aircraft, two additional measures would need to be considered:

- (a) The total mobilization and redeployment of all logistical assets in the country, including the use of such military transport assets as could be allocated for this purpose without jeopardizing national security. The Mission is not privy to information that would enable them to quantify the impact of this option.
- (b) The treatment of domestic food production and of relief food supply as a single entity, with a single distribution plan, that would enable transportation distances to be minimized. The Mission cannot usefully speculate on the degree to which this option would be acceptable.

For this reason the Mission does not feel it to be appropriate either to submit recommendations or to propose contingency plans for these two scenarios.

SUMMARY OF TRUCK FLEETS AS AT JUNE 1987

SOUTHERN/CENTRAL LONGHAUL FLEET

	EFTC (RELAY)	EFTC (TRUCK/TRAILER)	KETENAS	RRC	NGO	WTOE	(1) OTHERS	TOTAL
1. NO TRUCKS	409	564	600	332	215	208	67	2395
2. AVERAGE CAPACITY (MT)	28	22	22	25	22	28	22	23.96
3. SERVICEABILITY (%)	50	50	50	60	75	80	60	56.52
4. UTILIZATION (%)	90	50	40	60	70	80	60	56.18
5. AVAILABLE TRUCKS	184	141	120	120	113	133	24	835
6. TRIPS PER MONTH	10	6	6	5	4	5	5	6.28
7. KM PER TRIP (EXTIMATED)	1700	1700	1700	1500	1200	1800	1700	1620
8. MONTHLY HAULAGE (MT)	51520	18612	15840	15000	9944	18620	2640	132176
9. TON/KM ('000)	43792	168201	13464	11250	5966	16758	2244	109268

(1) OTHERS - 28 FIAT TRUCK AND TRAILERS HANDED OVER TO RRC BY FAI

AND NOT YET ASSIGNED TO A SPECIFIC FLEET. SAME FOR 39 DAF (DIFFERENT MODELS) HANDED
(DIFFERENT MODEL) HANDED-OVER BY WORLD VISION.

(2) SERVICEABILITY - % OF TIME TRUCKS ARE AVAILABLE FOR WORK AND NOT IN MAINTENANCE AND REPAIR
E.G. 35% OF THE FLEET IS IN MAINTENANCE AND NOT IN SERVICE

(3) UTILIZATION - % OF TIME THAT TRUCK IS IN ACTUAL OPERATION DURING THE PERIOD OF TIME THAT IT COULD
BE OPERATIONAL WHICH IS ESTIMATED AT 10 HRS. PER DAY? DAYS PER WEEK. DELAYS
ARE ATTRIBUTED TO AWAITING LOADING, UNLOADING, PAPERWORK, DISPATCH, SCHDULING, SECURITY
CHECK POINTS, CUSTOMS, REFUELING, LUNCH BREAKS, ETC.

(4) KM PER TRIP-AVERAGE ROUND TRIP IN THE CALCULATION OF TON. KM THE LOAD FACTOR INTRODUCED WAS 50%

SUMMARY OF TRUCK FLEET
AS AT JUNE 1987
NORTHERN FLEET
LONG HAUL TRUCKS

	RRC	WTOE	EFTC (TRUCK/TRAILER)	KETENA	NGOs	TOTAL
1. NO. OF TRUCKS	25	40	42	193	27	327
2. AVERAGE CAPACITY (MT)	15	22	22	9	22	14
3. SERVICEABILITY (%)	65	80	65	65	65	67
4. UTILIZATION (%)	60	80	60	60	60	63
5. AVAILABILITY	10	26	16	75	10	137
6. TRIPS PER MONTH	15	20	15	15	20	16
7. KM. PER TRIP	230	230	230	230	230	230
8. MONTHLY TONNAGE	2,250	11,440	5,280	9,788	4,400	33,158
9. TON. KM.	258,750	1,315,600	607,200	1,125,563	506,000	3,813,113

NOTE: BASED ON THE ACTUAL PERFORMANCE WHEN FLEETS ARE OPERATING BETWEEN MASSAWA PORT AND ASMARA. CALCULATION NOT VALID FOR TRANSPORTATION FROM ASMARA TO INLAND DESTINATIONS AS UTILISATION FACTOR AFFECTED BY SECURITY CONSTZAINTS.

IT INCLUDES TRUCKS OPERATED BY KETENA WITH ONLY 8 MT. DUE TO SHORTAGE OF TRUCKS IN THE NORTHERN REGION THIS TYPE OF TRUCKS ARE ALLOWED TO OPERATE AT MASSAWA PORT.

SUMMARY OF SCENARIOS FOR ETHIOPIA
TRUCKS & PORTS REQUIREMENTS

	TRUCKS		PORTS		TOTALS			
	FOOD AID REQUIREMENTS MT. ----	ADDTL. TRUCK REQUIREMENTS UNITS -----	FOREX INVEST. YEAR 1 US\$m -----	FOREX INVEST. YEAR 2 US\$m -----	FOREX INVEST. YEAR 1 US\$ ----	FOREX INVEST. YEAR 2 US\$ ----	FOREX INVEST. YEAR 1 US\$ ----	FOREX INVEST. YEAR 2 US\$ ----
A.	166800	1887	216.43m	37.26m	4.04m	0.88m	220.47m	38.14m
B.	139352	1402	158.23m	26.96m	2.75m	0.66m	160.98m	27.62m
C.	114680	945	104.28m	17.19m	1.89m	0.55m	106.98m	17.74m
D.	89924	514	53.82m	8.12m	1.40m	0.44m	55.22m	8.56m
E.	64844	211	18.67m	1.83m	1.00m	0.33m	19.67m	2.16m

OFFTAKE TRUCK REQUIREMENTS ASSAB

	MAX. IMPORT AT PEAK PERIOD (M/T) (1)	TON KM TO MOVE REQ. FOOD (1'000) (2)	MONTHLY REQ. (3)	MONTHLY TRUCK AVAILABILITY	NO. OF EXTRA TRUCKS (4)	FX INVESTMENT COST PLUS 1 YEAR SPARES US\$ (5)	YEARLY FX REQ. FOR EXTRA TRUCKS(US\$)
A.	198480	170852	3743	2395	1348	166.7M	31.9 M
B.	178548	152913	3350	2395	955	118.1M	22.6 M
C.	159276	135568	2971	2395	576	71.2M	13.6 M
D.	141588	119649	2622	2395	227	28.1M	5.4 M
E.	123108	103017	2257	2395	-	-	-

- (1) COMMERCIAL IMPORTS AT SEASONAL PEAK ESTIMATED AT 77,800 MT INCLUDES 50,000 MT OF FERTILIZER
- (2) COMMERCIAL IMPORTS ESTIMATED AT 1,600 KM/TRUCK/ROUND TRIP FOOD AID ESTIMATED AT 1,800 KM/TRUCK/ROUND TRIP
- (3) TRUCK REQUIREMENTS BASED ON PRESENT SERVICEABILITY AND UTILISATION RATES
- (4) NO. OF TRUCKS REQUIRED SPLIT TO 50% TRUCK TRAILERS, 50% TRACTOR SEMI TRAILERS
- (5) ESTIMATES FOR CAPITAL COST AT US\$100,000/TRUCK PLUS ONE YEAR REQUIREMENTS FOR SPARES AND TYRES AT US\$23,706
- (6) AFTER THE PORT SEASONAL PEAK (AFTER MAY) THERE WILL BE AN EXCESS OF TRUCKS OPERATING OUT OF ASSAB. HOWEVER THAT EXCESS WILL BE ABSORBED BY THE REGIONAL TRAFFIC TRANSPORTING HARVEST.

SUMMARY SCENARIOS
FOR THE NORTHERN REGION
OFFTAKE TRUCK REQUIREMENTS

	IMPORTS PER MONTH	FOOD AID REQUIREMENTS	MONTHLY TRUCK REQUIREMENTS	MONTHLY TRUCK AVAILABILITY	NO. OF EXTRA FX TRUCKS	INVEST. PLUS 1 YR. SPARES & TYRES	YEARLY FX. REQUIREMENTS SPARES & TYRES
A.	63200	46200	866	327	539	49.73m	5.36m
B.	55604	38604	774	327	447	40.13m	4.36m
C.	50204	33204	696	327	369	33.08m	3.59m
D.	43136	26136	614	327	287	25.72m	2.72m
E.	36536	19536	538	327	211	18.67m	1.83m

i. Imports include 17,000 MT of commercial imports to Massawa.
Remaining food aid imports will be distributed to the
Tigray and Eritrea regions in the ratio 57 : 43

2. Truck destinations as follows:

Massawa - Asmara

Asmara - Makelle

Asmara - Axum

Asmara - Eritrea

OFFTAKE TRUCK REQUIREMENTS
Massawa-Asmara

IMPORTS PER MONTH	FOOD AID REQUIREMENTS	MONTHLY TRUCK REQUIREMENTS	MONTHLY TRUCK AVAILABILITY	NO. OF EXTRA FX TRUCKS	INVEST. PLUS 1 YR. SPARES & TYRES	YEARLY FX. REQUIREMENTS SPARES & TYRES
62200	46200	405	327	78	7.54m	1.29m
55604	38604	385	327	58	5.62m	0.96m
50204	33204	371	327	44	4.27m	0.73m
43136	26136	353	327	26	2.51m	0.43m
36536	19536	336	327	9	0.86m	0.15m

Imports include 17,000 MT of commercial imports to Massawa. Remaining food aid imports will be distributed to the Tigray and Eritrea regions in the ratio 57 : 43

Round trip Massawa-Asmara 230 Km (50% loaded)

Assumes 80% serviceability. Utilisation factor included within turnaround time.

Assumes using present fleet available with additional trucks/trailers of 22 ton capacity only.

5. Trucks/trailers cost estimated at US\$80,000 each with spares and tyres at US\$16,518 per truck per annum.
6. Important measure towards achievement of 24 Hrs. turnaround is the organisation of "Block Convoys".

SCENARIOS FOR NORTHERN TRUCKS
OFFTAKE TRUCK REQUIREMENTS
Asmara-Eritrea

	FOOD AID REQUIREMENTS	MONTHLY TRUCK REQUIREMENTS	MONTHLY TRUCK AVAILABILITY	NO. OF EXTRA FX TRUCKS	INVEST. PLUS 1 YR. SPARES & TYRES	YEARLY FX. REQUIREMENTS SPARES & TYRES
A.	19866	161	-	161	13.99m	1.11m
B.	16858	137	-	137	11.91m	0.95m
C.	14020	114	-	114	9.91m	0.79m
D.	11238	1349	-	91	7.91m	0.63m
E.	8400	68	-	68	5.91m	0.47m

1. Assumes 43% of food aid required for Eritrea area.
2. Round trip Asmara-Eritrea 230 Km (50% loaded).
Each round trip takes 4 days. Assume 7 trips per month
for each truck.
3. Assume 80% serviceability. Utilization factor included
within turn around time.
4. Trucks/trailers cost estimated at US\$80,000 each with
spares and tyres at US\$6,895 per truck per annum.

OFFTAKE TRUCK REQUIREMENTS
Asmara-Adigrate-Mekelle

	FOOD AID REQUIREMENTS	MONTHLY TRUCK REQUIREMENTS	EXCESS TRUCKS DAYS AVAILABLE	NO. OF EXTRA FX TRUCKS	INVEST. PLUS 1 YR. SPARES & TYRES	YEARLY FX REQUIREMENTS SPARES & TYRES
A.	15800	150	14	150	14.3m	2.3m
B.	13408	127	14	127	12.0m	1.9m
C.	11150	105	14	105	10.0m	1.6m
D.	8938	85	14	85	8.1m	1.3m
E.	6681	63	14	63	5.9m	0.9m

1. Assumes 34% of food aid required for the Makelle area.
2. Round trip Asmara-Makelle 626 Km (50% loaded).
Operations in two phases. Firstly from Asmara to Adigrate and thereafter Adigrate to Makelle. Each operation will require 8 days to complete.
3. Assumes 80% serviceability. Utilisation factor included within turnaround time.
4. Idle time of trucks available for redeployment to Asmara-Axum sector.
5. Trucks/trailers cost estimated at US\$80,000 each with spares and tyres at US\$15,414 per truck per annum.

SCENARIOS FOR NORTHERN TRUCKS,
OFFTAKE TRUCK REQUIREMENTS
Asmara-Axum

	FOOD AID REQUIREMENTS	REDEPLOYED DAYS AVAILABLE	NO. OF EXTRA FX TRUCKS	INVEST. PLUS 1 YR. SPARES & TYRES	YEARLY FX REQUIREMENTS SPARES & TYRES
A.	10534	14	150	13.9M	0.66m
B.	8938	14	125	10.6M	0.55m
C.	7434	14	106	8.9m	0.47m
D.	5960	14	85	7.2m	0.36m
E.	4455	14	71	6.0m	0.31m

1. Assumes 23% of food aid required for the Makelle area.
2. Round trip Asmara-Axum 358 Km (50% loaded).
Each round trip requires 10 days allowing 3 trips for the extra trucks required, and 1 trip for the redeployed trucks Asmara-Makelle sector.
3. This is the redeployment of the Asmara-Makelle fleet on idel time.
4. Trucks/trailers cost estimated at US\$80,000 each with spares and tyres at US\$4,408 per truck per annum.

ANNEXES

DRAFTScope of work for an assessment of relief-rehabilitation
transport capacity in Ethiopia1. General objectives

To provide the Government of Ethiopia and the donor community with a contingency plan to ensure that transportation assets will be available to meet possible future food aid transport requirements through the ports to inland destinations.

2. General requirements

Examination of the entire food aid transportation system both long-haul and shorthaul, including port throughput, and preparation of contingency plans on the assumption that the relief requirements for a year are:

- (a) 750,000 tons
- (b) 1 million tons
- (c) 1.25 million tons
- (d) 1.5 million tons
- (e) 2 million tons

For the purpose of these scenarios, it will be assumed that regional relief requirements will be in the same proportion as for the 1984-85 emergency.

The requirement to move relief aid should not jeopardize the need to maintain ongoing recovery/rehabilitation programmes that are addressing the root causes of famine.

It is expected that the team will be able to take into account the findings of the UK TDRI study on warehousing. It will also have access to the recommendations made and the data collected by the World Bank Funded mission currently examining the capacity of the Ministry of Transport fleets (i.e. Natracor and Ketena).

3. Specific requirements

3.1 The team will examine the current organization, capacity, effectiveness and operation of WTOE NGO & RRC truck fleets, railroads and ports, including:

- a) truck assets by size, type, make, capacity, condition;
- b) spare and repair parts;
- c) maintenance and supply system;
- d) effectiveness of operations and maintenance, supervision; drivers (and driver training), mechanics, management co-ordination;
- e) access to foreign exchange for replacement and spare parts;
- f) port discharge and offtake; adequacy of port cargo handling; equipment (vacuators; bagging equipment, etc) and storage availability (including pallets and tarpauline);
- g) the possibility of making more use of exchanges of commodities with AMC, in order to reduce transport requirements and costs;
- h) fuel and lubricant supply including the adequacy of fuel supply at key points;

3.2 The team will make proposals regarding the future roles of the RRC Ministry of Agriculture, NGOs, international donors and Ministry of Transport in the transport of relief and rehabilitation food aid.

3.3 The team will develop cost statistics of each link of the transport chain including ports/cargo handling, road and rail transportation, storage and handling. World Bank data will be used where available.

3.4 The team will develop contingency plans for future food shortages

3.5 The team will identify minimum/maximum transport needs to meet future food shortages.

4. Organization

4.1 An advisory committee will be established to provide overall policy guidance and objectives. As appropriate, it will also advise on revisions to the scope of work. It will be chaired by the Chief Commissioner of the RRC and have one representative each from the Ministry of Transport, NGOs, donors, the UN Resident Co-ordinator, and WFP. The committee will meet with the team after arrival and at least once per week thereafter. The advisory committee will act with the various organizations to facilitate the work of the team.

The UN Resident Co-ordinator will arrange for the provision of all support including ground transport; arrangements for air transport, travel permits, secretarial support and supplies.

ANNEX

NORTHERN STOCKS AS OF SEPTEMBER 1987

		<u>MEKELLE</u>	<u>ERITREA</u>
9/25	ICRC	2,000	11,700
9/29	J R P	4,000	10,000
9/19	R R C	<u>3,200</u>	<u>3,500</u>
	TOTAL	9,200	25,200
		=====	=====

Expected Stock Position as at 1st January 1988 in the North (RRC)I Current Stock Position

-	Stock as at September 18	3,500 MT	- Asmara
-		3,200 MT	- Mekelle
-	Arrival Massawa = Canada	15,700 MT	
	= WFP	<u>15,592 MT</u>	
-	TOTAL AVAILABLE	37,992 MT	
		=====	

(Vessels arrived are Aglia. Keltic Confidence, Caroline I)

II Current Feeding Programmes

- Monthly Requirement = 12,000 Ton - Eritrea & Tigray
- Total Requirement for 103 days = 40,500 MT
(20 th Sept. - Dec. 31st)

III Stock Level as at 1st January 1988

- Deficit = 2,508 MT

FOOD AID STATUS ETHIOPIA
01-10-87 - 30-06-88 (M.T.)

ANNEX _____

Oct. - Dec. 87

<u>1. ESTIMATED</u>				
<u>ARRIVALS</u>	MONTH	ASSAB	MASSAWA	DJIBOUTI
	- September	3,500	26,958	
	- October	29,155	35,725	1,950
	- November	104,950	14,850	-
	- December	7,230	12,000	2,500
		-----	-----	-----
	TOTAL	145,000	89,500	4,450
		=====	=====	=====
<u>2. ESTIMATED</u>				
<u>DISTRIBUTION</u>	RRC/NGO	80,000	40,000	
	MOA/FFW	15,500	10,700	
		-----	-----	-----
	BALANCE	49,500	38,800	4,450
		=====	=====	=====

EXCLUDES: _____

BALANCE CONFIRMED 1987 PLEDGE: 7,000 MT

Jan. - March 88

<u>1. ESTIMATED</u>				
<u>ARRIVALS</u>	January	34,300	-	-
	February	61,159	36,518	32,395
	March	-	-	-

<u>2. ESTIMATED</u>				
<u>ARRIVALS</u>	RRC/NGO	-	-	
	MOA/FFW	15,000	-	

APRIL - JUNE 1988	MONTH	ASSAB	MASSAWA	DJIBOUTI
	April	-	-	-
	May	15,000	-	-
	June	-	-	-

<u>2. ESTIMATED</u>				
<u>DISTRIBUTION</u>	RRC	-	-	
	MOA/FFW	15,000	-	

ESTIMATED DISTRIBUTION

July - August 88	183,000	130,000
Oct. Nov., Dec. 88	90,000	65,000

EXCLUDES: _____

UNCONFIRMED UNSCHEDULED 1988 PLEDGES : 57,000 MT

Our Ref. No
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 Your Ref. No
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Relief and Rehabilitation Commission

WORLD FOOD PROGRAMME
 (UN FAO)

Date Rec'd - 8 SEP 1987

Referred to:	Info	Act
WFP Rep.		
Dep. Rep.		
Action(if any):		
WFP File No. 026-30/REC 100-00		

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 Subject
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 Attention to

Mr. David Morton
WFP Director of Operations
Addis Ababa

Dear Mr. Morton,

We recall the meeting held on 14 August 1987, during which we presented the general prevailing climatic situation in the country.

You were informed at the meeting that a field assessment was being undertaken and the findings would be available to you. The team has submitted its findings. However, due to the continuity of the rains, the team has not been able to come up with a precise calculation of the likely crop damage. Consequently we are not yet able to project the number of people who may need relief in 1988.

Nevertheless, in spite of some improvements in the rainfall situation, the assessment still indicates that there would be a considerable shortfall in the Meher production. The Party and the Government are taking all the necessary steps to minimize the impact of the shortfall. Hence, having reviewed our relief stock position along with that of NGOs, and having considered the would-be food shortage, we have come to the conclusion that 950,000 MT of food assistance will be required as of the end of December for the year 1988.

BERHANU JEMBERE
 COMMISSIONER

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				National Bank

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Relief and Rehabilitation Commission

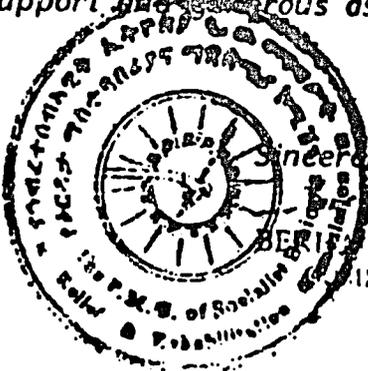
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An intensive and more reliable evaluation of the Meher production is being conducted and the RRC will inform the donor community when the results are finalized. Based on the outcome of the study we will forward our detailed requirements for your kind consideration. Meanwhile, we strongly urge you to seriously consider our food needs presented above.

In anticipation of your usual support and generous assistance.

Sincerely yours,

 BEREMNEM JEMBERE
 COMMISSIONER

TK/sr

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Our Postal Address
 P. O. Box 5686
 Addis Ababa

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 Telephone
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 Cable
 REHAB

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Reminder:

Please always provide reference nos Subject and attention to.

3.8.79. 
Zorck

HAILE MARIAM JEFU
 HEAD RELIEF DEPT (R)

Ser No-	REGION	%	TOTAL (MT)
	<u>South West /South</u>		
1	Hararghe	26	247,000
2	bale	1	9,500
3	Sidamo	2.7	25,650
4	Gamufofa	0.3	2,850
	<u>Central</u>		
1	Wollo	19	180,500
2	choa	3	28,500
3	Arsi	2	19,000
	<u>West</u>		
1	Gonder	4	38,000
2	Wellega	2	19,000
3	Elebabor	1	9,500
	<u>North</u>		
1	Eritrea	16	152,000
2	Tigrai	23	218,500
		100	950,000

REFUGEEES WELLEGA 30600 MT

WFP/FFW 88000 MT
 (GONDER
 WOLLO
 N SHOBA
 GOJAM)

EEC/WFP/FFW-NORTH 30000 MT

WFP/AUST - Sidamo/GONDER 10000

120

TRUCK AND TRAILER SPECIFICATIONS

Oct. 87

- a) 22 M.T. 4X2
- b) 30 M.T. 6X4

Both models will be suitable to operate in Northern Ethiopia. If a 6X4 truck is to be supplied then the wheel base should be kept as short as possible. There are two types of 6X4's operating in the North at present: Magirus 380.32 and DAF 3300 NAT.

The DAF is not suitable to operate from Massawa and Asmara because of its long wheel base which restricts its ability to turn tight corners.

SPECIFICATIONS FOR TRUCKS AND TRAILERS (AFRICAN SPECS)

1/ STANDARDIZATION:

Provide makes and models which are already in use in the country, for which back up and service are available.

2/ COST:

When purchasing new trucks donors to include in the contract:

- a) Technical Assistance in the form of mechanics for a one year period;
- b) Spare Parts Programme -- i.e., parts books, microfiche, computer software if necessary, etc.

3/ COMPONENT SPECIFICATION:

Trucks supplied by any one company can have different: air brake systems, gearboxes, engines, wheels, cabins, etc., fitted to their truck. This should be avoided where possible.

4/ FUEL TANKS:

The truck and trailer to have a total capacity of 1800-2000 litres. Tanks to be made of good strong material with plenty of tank baffles fitted inside. The mountings to be well insulated with rubber.

5/ WATER TANKS:

Each unit to have a 50 litre water tank fitted, to provide the driver with drinking water.

6/ CAB:

For long-haul trucks it is necessary to provide sleeper cabs. Cab construction to be of steel, and cab mountings to be of tough material for rough road driving.

7/ CHASSIE:

To be heavy duty, bolted frame, African Spec.

8/ ENGINE:

Heavy duty diesel, turbo-charged with intercooling. In the case of Massawa-Asmara the engine spec to suit the conditions. The engine manufacturers will provide the engine with the necessary specifications to operate under these conditions -- i.e. fuel system, cooling system, air brake system, etc.

9/ AIR FILTERS:

Should be mounted high up externally, with a cyclone-type pre-cleaner fitted, followed by double air filters.

10/ WATER/AIR COOLED ENGINE:

Both are suitable. Which-ever is to be used, it is important that the supplier has a knowledge of the operating conditions so as to supply the correct type.

11/ EXHAUST:

Short horizontal type exhaust are better than vertical types. To be mounted with good strong brackets, and insulated from the chassie with strong rubber mountings.

12/ TRANSMISSION (GEARBOX):

Heavy duty, rebuildable, manual gearbox, of a proven design to be fitted.

13/ BATTERIES:

Should be of the type with removable cells.

14/ EQUIPMENT:

Each vehicle to be supplied with the following items.

- 1) Fire extinguisher.
- 2) Lockable tank caps.
- 3) Tachometers.
- 4) First aid kit.
- 5) Driver's tool kit.
- 6) Warning triangle.
- 7) Wheel blocks.
- 8) Wheel spanner.
- 9) Suitable bottle jack.
- 10) Grease gun.
- 11) Tarpauline covers.
- 12) Supply of 10mm nylon rope for each truck and trailer.
- 13) Rope tightners on cargo body and trailer.

15/ SPARE PARTS:

One year's supply of fast moving spare parts to be shipped with the first trucks.

The list of spare parts to be made up by the truck operators and not the truck suppliers.

The necessary stores systems to be also supplied with the spare parts.

SPECIAL TOOLS AND MECHANIC TOOL BOXES:

To be shipped with the first vehicles.

IMPORTANT:

All tools, equipment, spare parts, etc., to be shipped in containers to reduce the risk of pilferage.

MOBILE WORKSHOP:

To be shipped with the first units.

TRAILERS:

The same as the truck: provide a make which is already in the country.

- 1/ Tyre and wheel size to be the same as the truck.
- 2/ Tow hitch and drawbar to be of standard make and suitable to operate under tough conditions.

3/ **FUEL TANKS (IF FITTED):**

To be mounted above the chassie.

4/ **DOORS:**

To be of simple design with easy removable hinges.

IMPORTANT:

Truck and trailer to be able to load 20 foot containers inside the cargo body, and have twist locks fitted.

WARRANTY:

To be agreed on by the purchaser and supplier. This information to be also given to the operators.

INSPECTION:

The units should be inspected prior to the shipping by an experienced truck operator who is familiar with the operating conditions of the country.

JIM REYNOLDS