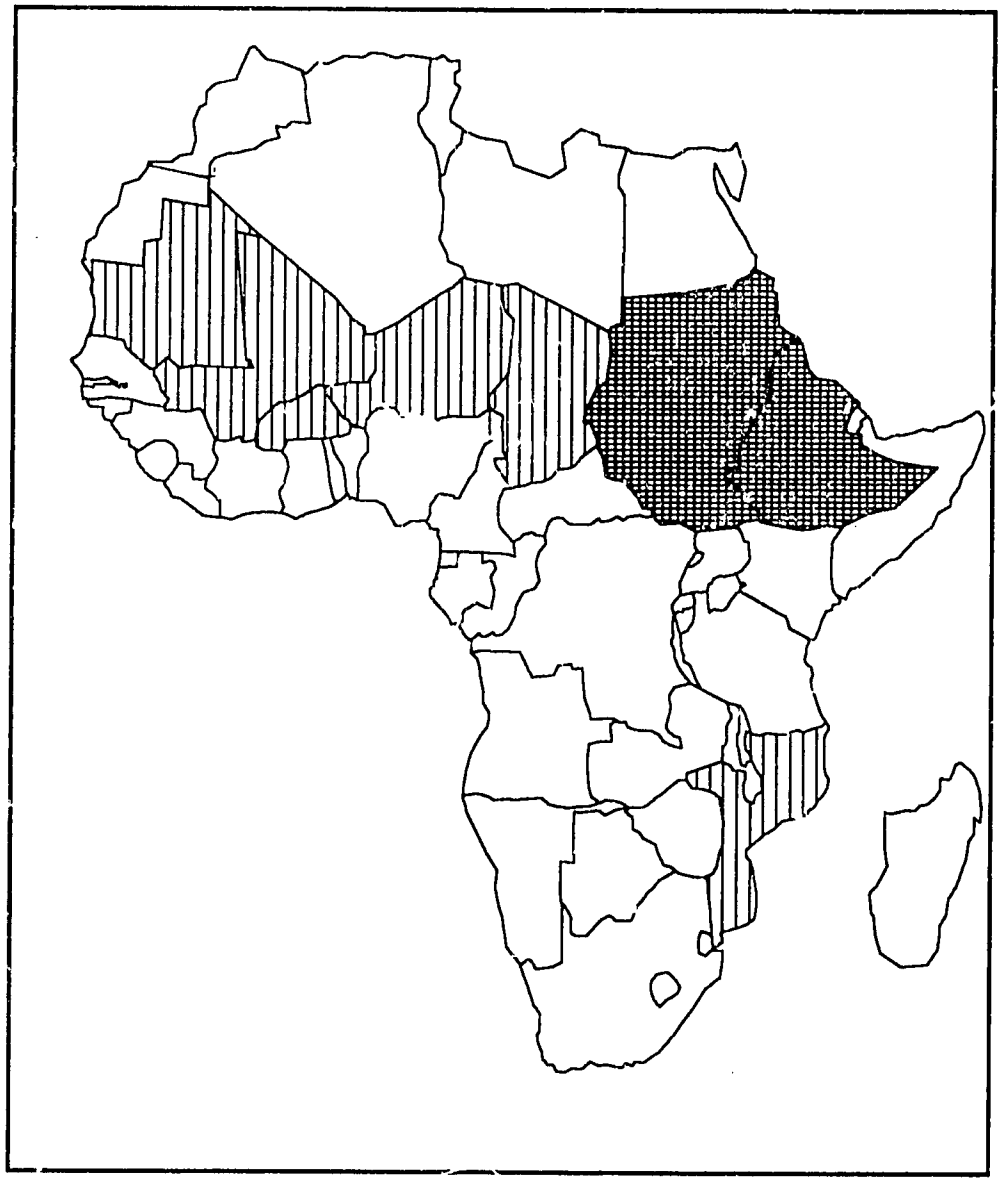
Report Number 10
April 1987

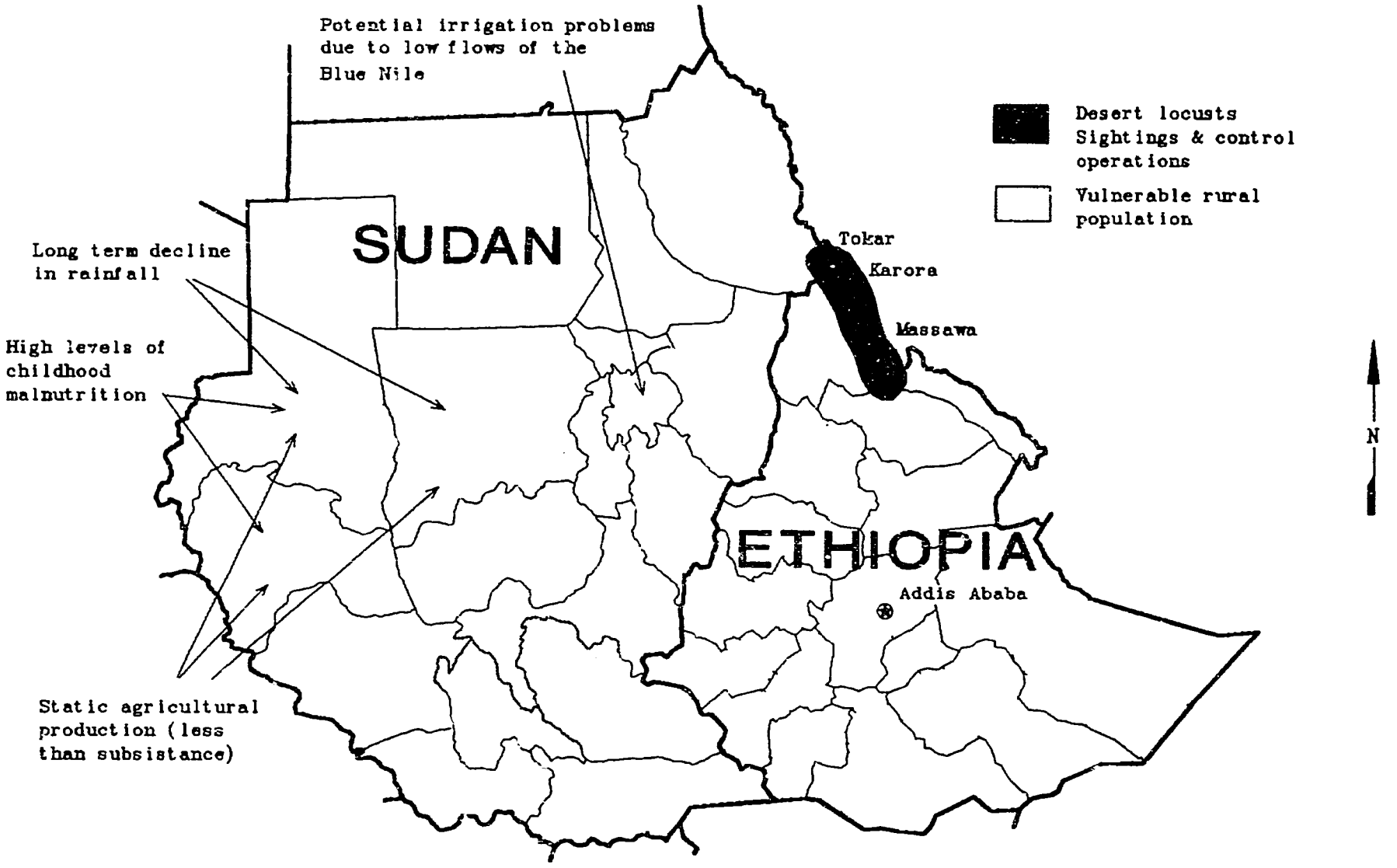
FEWS Country Report

ETHIOPIA and SUDAN



Africa Bureau
U.S. Agency
for International
Development

Summary Map



FEWS/PWA, March 1987

MAP 1: SUDAN and ETHIOPIA

Famine Early Warning System Country Report

ETHIOPIA
SUDAN

Combined Report

Prepared for the
Africa Bureau of the
U.S. Agency for
International Development

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INTRODUCTION

This is Report Ten, in a monthly series on Ethiopia and Sudan, issued by the Famine Early Warning System (FEWS). Its purpose is to provide decision and policy makers with the information and analysis necessary to understand both current and potential nutritional emergencies. It includes the geography of the situation, the number of people estimated to be involved (at-risk), estimates of food availability, measures of health, and the causes of each problem, to the extent they can be identified.

There is no generally agreed upon definition of the term "at-risk". But, the design of responses to widespread nutritional emergencies requires the identification of target "at-risk" populations. FEWS reports uses the term "at-risk" to mean...

> ...those people without sufficient food, or resources to acquire sufficient food, to avert a nutritional crisis (a progressive deterioration in their health or nutritional condition below the status quo), and who require some specific outside response to avoid a life-threatening situation.

For decision makers, the FEWS effort can highlight the process of a deteriorating or improving situation. This can be done with enough specificity and advance notice to allow the consideration of alternative intervention strategies. Food assistance strategies are a key to famine avoidance. Other types of intervention (medical, transport, storage, economic development policy changes, etc.) could be of more importance both in the short-term and in the long-run, if enough time is provided for their design and implementation.

FEWS reports food need estimates where possible. There is no direct relation, however, between numbers of people at-risk and the quantity of food assistance they might need. This is because famines are the culmination of slow-onset disaster processes which are extremely complex. The food needs of people, identified as at-risk, depend upon when in the process they are identified, and the cumulative impact of the disaster on the people concerned. Furthermore, the amount of food assistance people require, whether from internal or external sources, depends upon a host of considerations. FEWS estimates of food needs <u>should</u> <u>not</u> be interpreted to mean food aid needs (as under PL480 or other donor programs).

FEWS is operated by AID's Office of Technical Resources in the Bureau for Africa in cooperation with numerous USG and other organizations.

SUMMARY

Ethiopia

Belg rains in Ethiopia are continuing at moderate to locally heavy levels and thus far promise a good Belg harvest. The rains have also spurred the normal movememt of Desert locusts from their winter breeding areas in the Eritrean foothills to the Red Sea coastal plains. The Desert Locust Control Organization (DLCO) is effectively surveying and controlling the locust situation. No mature adults appear to have escaped inland. Market prices in Addis Ababa have dropped since last year, reflecting the improved food supply situation in 1987.

April Indicators

- Continued sightings of locust hopper bands and adults are to be expected along the Red Sea coast and further inland following the greening of vegetation. The vigilance and prompt action of the DLCO and Ethiopian Ministry of Agriculture (MOA) are expected to effectively control the threat.

- Belg rains, if sustained at present levels, will foster Belg and Meher season production, helping to offset food shortages in some localities.

Sudan

The Ministry of Agriculture's most recent 1986 crop production estimates for Sudan are reduced from the record levels they had previously reported. These reductions point to a lower food supply in Darfur and Kordufan Regions than previously believed and suggest that the numbers of people at risk in those areas in 1987 will remain unchanged from 1986. The nation's cereal surplus, while lower than previously believed, adds to existing stocks left over from the record 1985 cereal production. Low world prices for sorghum have left those stocks essentially unmarketable as exports. Significant locust concentrations have been sighted along the Red Sea coast of Ethiopia but are controllable and should pose no threat to summer breeding areas. Evidence to support estimates of 1,000,000 Southern Sudanese displaced to northern urban centers, is slim and such estimates are probably overstated.

Issues

- Concern has been expressed in Sudan over next summer's irrigation resources and electricity production, due to the low level of the Blue Nile. Rainfall within the Blue Nile's Ethiopian watershed, however, has begun and appears good. Low water levels at the Aswan High Dam are of great concern to Egypt, where a succession of dry years upstream have resulted in dramatic decreases in lake levels. Competition between Sudan and Egypt for scarce water resources could become important.

ETHIOPIA
Rainfall

The Belg (minor) season rains in Ethiopia have continued at a moderate to heavy volume into mid-March. The punctual start and sustained volume of this season's rains bode well for the 1987 Belg harvest, pending their continuation through the end of the Belg season in late May. Thus far, the rains have provided adequate moisture for Belg crops (short-maturing grains, such as wheat and barley) to be planted on schedule. Continued good rains will also permit the April planting and germination of those long-maturing main (Meher) season crops (maize and sorghum) that are normally planted during the Belg season. Table 1 provides a relative measure of the importance of the Belg season in each region of the country.

The National Oceanographic and Atmospheric Administration (NOAA) notes that key rain stations in Ethiopia are all reporting a good start to the Belg season. Kombolcha, in Wello Region, which had received unusually heavy rains during late February, has experienced moderate rainfall in March. Addis Ababa reports moderate to heavy rains. To the north, Mekele (Tigray Region) also received moderate rainfall (18 mm) during the second week of March.

Table 1: Relative Importance of Belg Season By Region

		Percent of Annual Regional Production		
Region	1987 Population	Belg Crops	Meher Crops Dependent On Belg Rains	Total
Illubabor	1,049,590	1	70	71
Bale	1,096,619	15	5	20
Gamo Goffa	1,359,791	15	70	85
Arssi	1,811,081	2	15	17
Wellega	2,581,875	5	60	65
Tigray	2,625,481	-	-	-
Keffa	2,669,792	<0.5	65	65
Eritrea	2,848,839	-	-	-
Gonder	3,165,529	0	20	20
Gojjam	3,535,452	0	20	20
Wello	3,933,176	10	35	45
Sidamo	4,130,012	3	70	73
Harerge	4,523,477	2	85	87
Shewa	8,815,051	3	35	38

Sources: Percentages from RRC publication "The Belg Rain and Its Effect On The Current Food Supply," June 1986. Population figures are FEWS projections and exclude Addis Ababa.

Rains are similarly good to date in Ethiopia's western regions, where production was severely curtailed by the failure of Belg rains last year. While Belg crops are relatively unimportant in Gojjam and Illubabor Regions, the Belg rains are necessary for the timely planting and germination of the long-maturing Meher crops (which in Gojjam account for 20% of annual production and in Illubabor, 70%). In Wellega Region, Belg rains are important both to Belg crops (5% of annual production) and long-maturing Meher crops (60%). A good 1987 Belg season could thus relieve food shortages as early as June in areas of Wellega and will provide a good start to Meher crops, which will be harvested in September in all three of these regions. As Gojjam Region is traditionally an area of agricultural surplus, a successful Meher harvest in Gojjam would benefit the populations of other regions as well.

Locusts

The good Belg rains, while a boon to the agricultural season, have spurred the growth of Desert locusts in the Eritrean foothills, one of their traditional recession areas. Bands of hoppers (nymph stage) have been sighted moving toward the Red Sea coast; such sightings are relatively normal there at this time of year (appearing in 6 to 10 years out of 25). The capable Desert Locust Control Organization (DLCO) has assessed the situation as serious but controllable. Both the DLCO and the Ethiopian Ministry of Agriculture (MOA) are conducting survey and control operations in the area and, thus far, have effectively prevented adult locusts from moving inland.

Hopper bands are relatively easy to control once sighted, since they generally move no more than a mile per day. Adult Desert locusts, however, present a greater challenge to control efforts, since they are extremely mobile and have an explosive growth potential under optimum conditions (warm temperatures and abundant green vegetation). During February, aerial surveys sighted hopper bands, immature adults and adult locusts in the area along the Red Sea coast between Tokar, Sudan, and Massawa (also known as Mitsiwa) in Eritrea Region (See Map 1). The DLCO was thus prompted to use the insecticide Dieldrin to control ten large and medium size hopper bands and adult locusts in February, despite the high toxicity of that product to mammals (including man). Although the appropriate Ethiopian ministries are undertaking an inventory of all pesticides in the country, it is expected that current stocks will be sufficient to meet 1987 needs.

The Red Sea coastal plains are historically an area in which locusts easily become gregarious (tending to group together), but the swarms rarely reach excessive size and readily break up. There is no evidence that any swarms from this area have ever started a plague. This region may be of importance, however, as a reservoir from which locusts, under the right circumstances, could migrate to adjacent breeding areas and thus contribute to the start of a plague. Aerial surveys should continue, not only to locate possible concentrations, but also to locate the sites of heaviest rainfall and greening, where breeding is most likely. Ground surveys should then be conducted in these areas.

Market Prices

Retail prices in Addis Ababa were 5.3% lower this January than in January 1986, according to a report from USAID/Addis. The private sector prices for cereals and pulses are a dramatic 32% lower than in both January 1986 and January 1985.

These low prices reflect the markedly better 1986 harvest, but are still somewhat surprising given that the RRC has estimated a food shortfall of 2.1 million metric tons (MT) and an emergency food requirement of 409,000 MT in 1987. As shown in Chart 1.[1], prices in Addis Ababa have generally reflected national food supply levels; perhaps this correlation can be attributed to the capital city's central location and the agricultural focus of the national economy. If 1987 Addis Ababa cereal prices follow the same trend as in 1986 (See Chart 2), the annual 1987 cereal price will be still lower than the January 1987 level. Once inflation is taken into account, the 1987 January market prices are lower than the annual average market prices prior to the drought.

USAID/Addis reports that the price for teff (a grain grown as a staple food in Ethiopia) was 110 Birr/quintal in Addis Ababa in January, down from the 300 Birr/quintal level during the drought. The lower price this year can be attributed to the increased area planted in teff in 1986 due to rising teff prices and to the use of short-maturing teff as a substitution crop when long-maturing crops failed earlier in the last agricultural season.

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[1] The correlation (r^2) between the Addis Ababa cereal price index and the national food deficit (Atwood/Pagano, February 1987) equal to .9, which implies a very strong correlation. In Chart 1, the line graph represents the estimated national food deficit as predicted by the regression of the actual national food deficit on the cereal price index.

National Food Supply Deficit

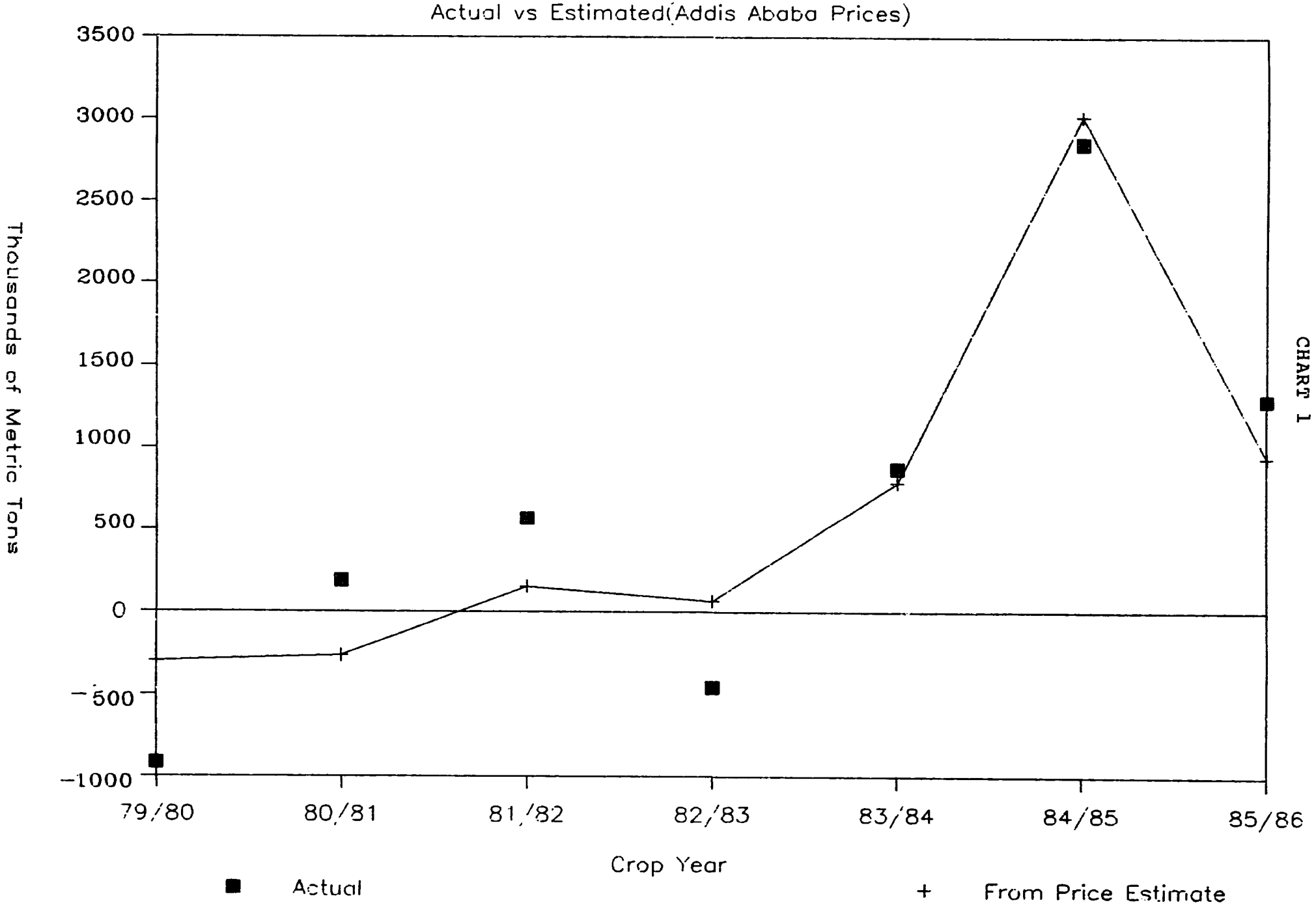
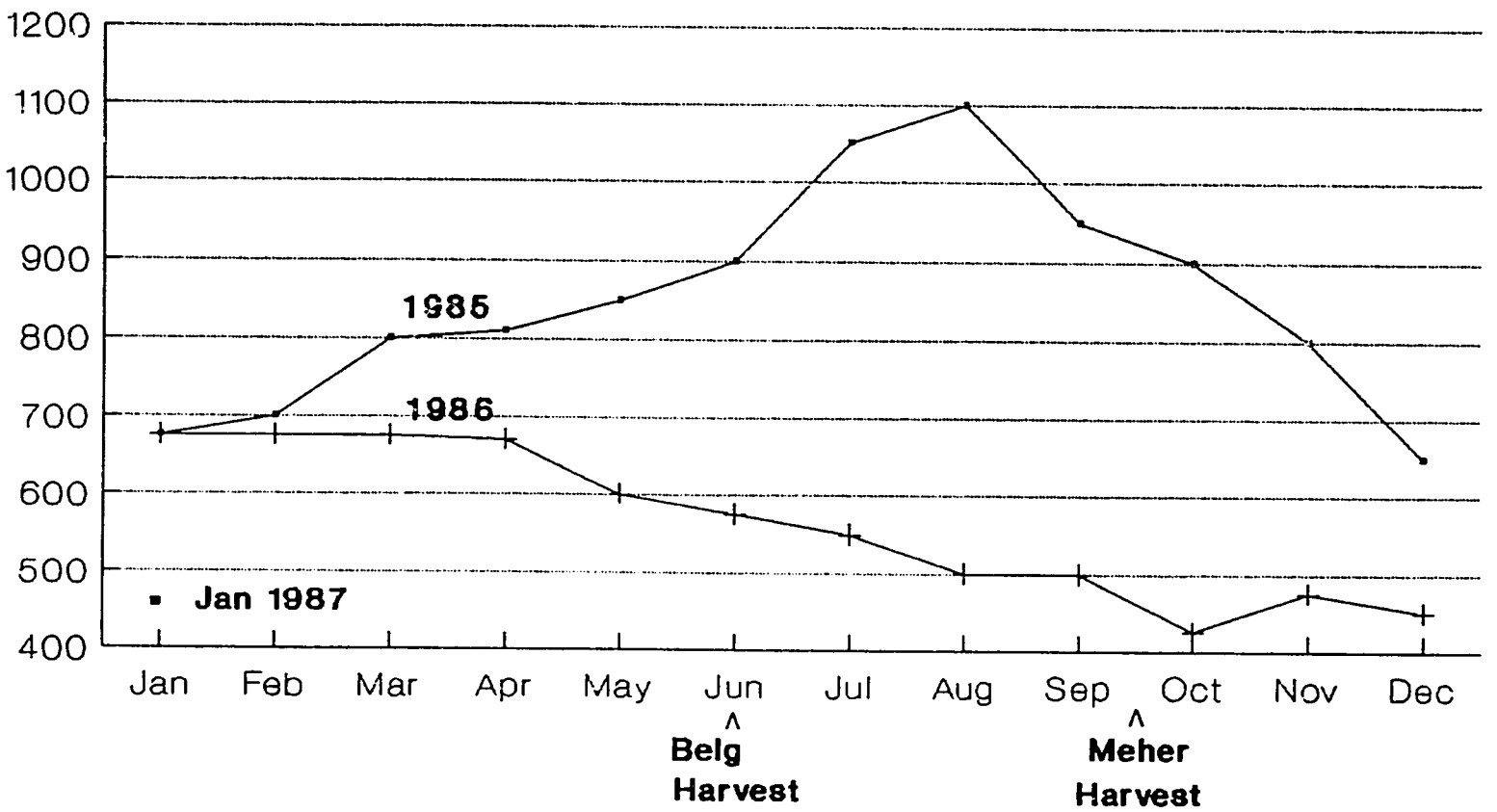


CHART 2

Addis Ababa
Private Sector Retail Cereal Prices
(1963-100)



SUDAN
Crop Production

The latest 1986 production estimates by the Ministry of Agriculture (MOA) show reductions in yields from the MOA's previous estimates in November of 1986. (See Table 2.) These reductions are most serious for Darfur and Kordufan Regions, and show decreases of 58% in South Darfur, 15% in North Darfur, 16% in South Kordufan and 52% in North Kordufan. In general, the production of these provinces is more or less (given the potential error) the same as in 1985. This suggests that the number of people at risk in these areas should remain unchanged from 1986.

The latest MOA estimates show a much smaller surplus from 1986 production than had been previously believed. The Agricultural Bank of Sudan (ABS), however, continues to purchase grain and is expected to purchase 750,000 MT of sorghum (from 1986 production) by April of this year. This is in addition to the huge surplus it still holds from 1985 production. The economics of this operation are questionable, as a sack of sorghum is sold by the ABS for 46 Sudanese pounds per sack, but sold by commercial sources for 28 Sudanese pounds per sack. Contrary to newspaper reports, the ABS has been unable to reach sale/barter agreements for its sorghum stocks, except for 27,000 MT. Bulk sorghum (FOB Port Sudan) is selling for $102/MT compared to $76/MT (FOB) at U.S. Gulf ports.

Table 2: Cereal Production by Region and Province in Sorghum Equivalents Based on Ministry of Agriculture Assessments.

Province(s)	Estimated 1987 Pop	Sorghum Caloric Equivalents					Per Capita Surplus/ (Deficit)
		Cereal Reqd.	Cereal Production		Surplus/(Deficit)		
		(000)MT	Gross	Net	(000)MT	% Req	Kilograms
Central Region	4,585,190	669	1,858	1,487	837	125	183
Kassala	1,736,797	254	1,214	978	727	287	419
Khartoum	2,179,281	318	29	23	(295)	(93)	(135)
Nile	696,375	102	25	19	(81)	(80)	(117)
Northern	459,828	67	48	35	(26)	(38)	(56)
Northern Darfur	1,691,499	247	93	75	(172)	(70)	(102)
North Kordufan	1,888,561	276	130	105	(171)	(62)	(90)
Red Sea	824,453	120	17	14	(106)	(89)	(129)
Southern Darfur	2,061,539	301	121	98	(203)	(68)	(99)
South Kordufan	1,441,261	210	248	200	(11)	(5)	(7)
SUBTOTAL							
Northern Sudan	17,564,784	2,564	3,783	3,033	500	19	28
Southern Region	5,675,835	517	200	157	(358)	(69)	(63)
TOTAL	23,240,619	3081	3,983	3,190	142	5	6

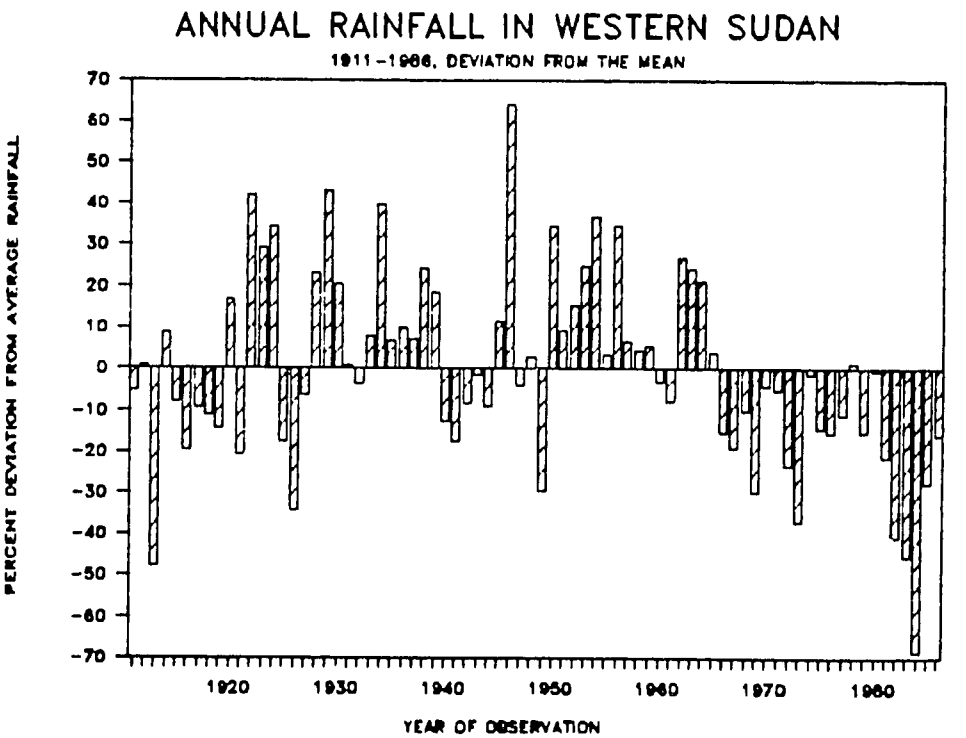
Sources: MOA, Division of Agricultural Statistics Preliminary Production Report, January 31, 1987. GOS historical production figures on wheat, maize, and rice. 1983 GOS census results, extrapolated to 1987. Gos consumption requirements by region. Crop specific seed, post-harvest loss factors, and caloric values calculated by ABT Associates.

Long-Term Rainfall

A study of rainfall reports (from 1911-1985) from seven rain stations in North Darfur and North Kordufan Provinces, by the United Nations Development Program Early Warning System in Khartoum, documents a general decline beginning in 1965 and continuing to the present (see Chart 3). This same area showed above average rainfall in the 30 years prior to 1965, suggesting that an anomalous cycle of wet years encouraged agriculture above the level possible over the long-term. Current levels of crop production in these marginal areas are not sufficient to feed the population, as can be seen from Table 2 (above). If a cycle of wet years re-occurred (which is neither forecastable nor guaranteed) production could increase to subsistence levels.

Current childhood nutrition levels in Darfur and the amount of food aid distributed in Darfur and Kordufan, point to the need to for reevaluation of attempts to rehabilitate agriculture in the marginal areas of these regions. Alternate strategies, including the promotion of resettlement schemes, probably provide the longer term answer to marginality in western Sudan.

Chart 3



Source: United Nations Development Program, Early Warning System, March 1987.

Pests

During 1986, rats, mice, and American boll worm accounted for most of the reported pest damage to grain crops in Sudan. Vertebrate pests, in particular, are little controlled and could heavily impact this year's crop production. Rat populations in Darfur Region appear to be at very high levels. Locusts, on the other hand, did relatively little damage to crops last year. This year, the Plant Protection Department is once again warning of new threats from locusts.

Winter breeding areas of locusts in Sudan have been extensively monitored and controlled, and the endogenous threat of locusts to this year's crop production has been minimized. While the U.S. Ambassador issued a locust disaster declaration in mid-February, days later, the USAID Mission condemned a Food and Agriculture Organization (FAO) news release, issued in January, as alarmist.

The focus of attention seems to have shifted once again to the cross-border threat from Eritrea Region in Ethiopia. This year, the presence of serious, but controllable, concentrations of hopper bands are confirmed by the Ethiopian government. These bands are within normal winter breeding areas along the Red Sea coast toward the Sudanese border. Aerial spraying operations on both sides of the border should mitigate this threat.

Southern Region

What little new information is available suggests that the situation in the Southern Region has not changed from previous reports. Food aid shipments are not arriving in the amounts deemed necessary by the various donors. There is no evidence of large scale dry season warfare in the central area (See Map 1) that would make the bulk of the rural population vulnerable. Estimates of up to one million Southerners displaced to the north, primarily to urban areas along the rail line, are not well supported.

Descriptions of squatter camps in Khartoum and of displaced people in Kosti are not of a kind that support estimates of one million displaced people. Relief agencies in Khartoum, specifically, refuse to estimate the numbers of people displaced from the South. In Kosti, a census by CONCERN during January showed only 1,938 displaced Southerners resident in the city. The total displaced population is surprisingly small, because Kosti is the primary terminus for river traffic from the South, the first city of importance on the rail line from the South, and sits on the most important road junction on the White Nile.

In Kordufan, the Regional Government will provide 51,000 MT of food aid to all relief activities; this food aid is targeted to reach 658,000 people, all of whom are implied to normally reside in the region. There is an estimate in circulation, however, of 250,000 southerners displaced in Southern Kordufan. If true, there has been no effort to locate or identify these people, much less target food aid to them.

The delivery of food aid to the Southern region continues to face delays. It is certain that the 71,000 MT programmed to be delivered by the beginning of the rainy season will not be delivered. A whole convoy of grain from Kenya evaporated in Uganda on its way to Wau. Convoys in Uganda are delayed for lack of security. A lack of urgency has hindered the shipment of aid from the north and explicit threats by the Sudanese People's Liberation Army (SPLA) have hindered shipment from the north and south. Staging of food aid in northern Sudan and in Kenya should allow quick delivery if security and logistical bottlenecks are ever resolved.

It is an open question whether estimates of people at-risk, their food needs, and people displaced, are realistic. Certainly, urban areas in the Southern Region are especially vulnerable and, come the wet season, could once again be under seige. Nevertheless, the bulk of the rural population has not been grossly affected by warfare and there is no evidence, as yet, of the massive migration of people and their cattle, out of the central area, that would signal a breakdown in traditional coping strategies. People in the central area are vulnerable and could become at-risk if fighting disrupts their lives. These people will suffer nutritional stress during the wet season, as they do every year. It is not clear, however, whether the stress this year will be generally exacerbated by warfare.