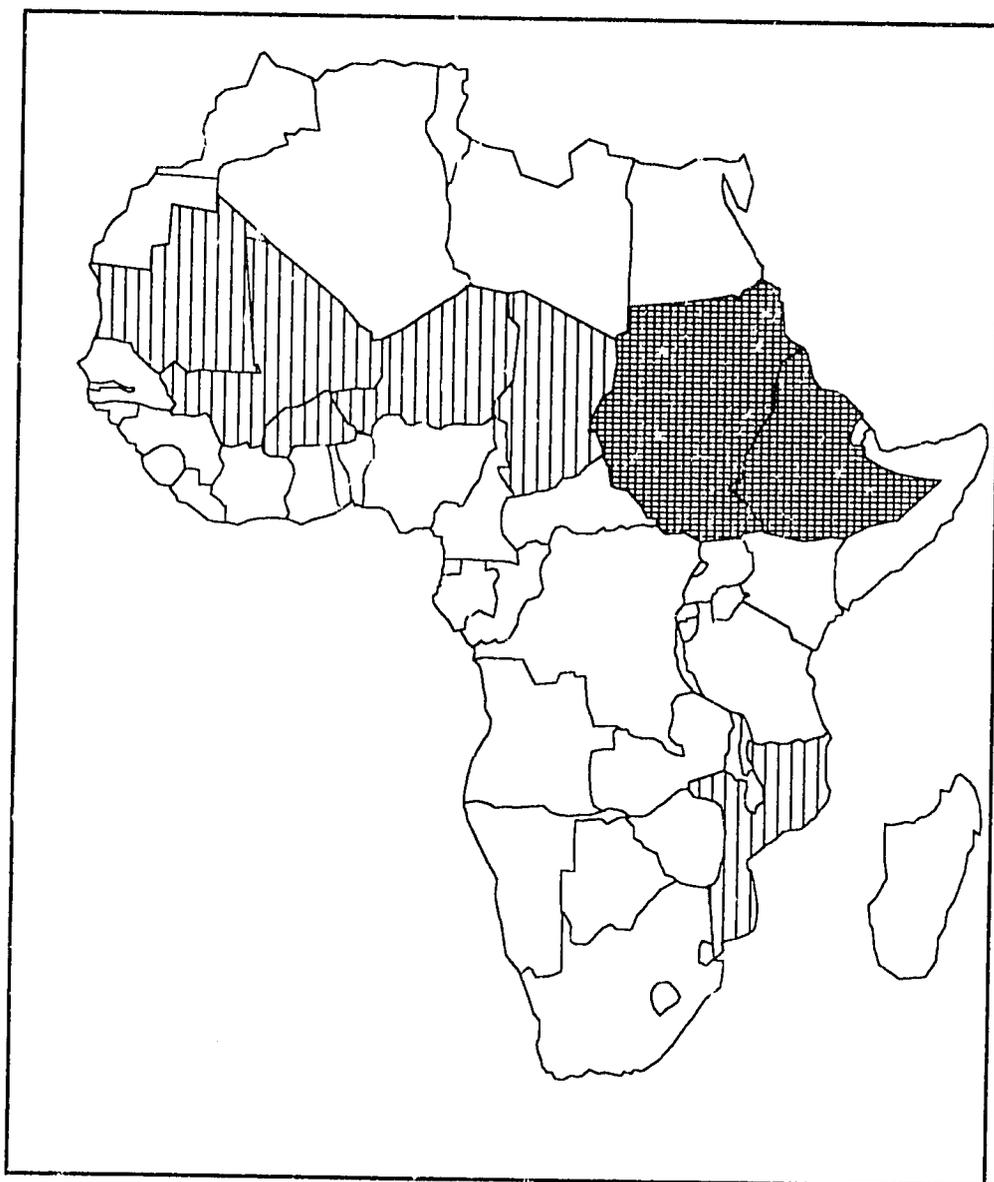


Report Number 11

May 1987

FEWS Country Report

ETHIOPIA and SUDAN



Africa Bureau
U.S. Agency
for International
Development

Summary Map



ETHIOPIA

And

SUDAN

Good Rains In Ethiopia; Insecurity In Sudan

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

Prepared by
Price, Williams & Associates, Inc.
May 1987

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INTRODUCTION

This is the eleventh in a series of monthly reports on Ethiopia and Sudan issued by the Famine Early Warning System (FEWS). It is designed to provide decisionmakers with current information and analysis on existing and potential nutrition emergency situations. Each situation identified is described in terms of geographical extent and the number of people involved, or at-risk, and the proximate causes insofar as they have been discerned.

Use of the term "at-risk" to identify vulnerable populations is problematical since no generally agreed upon definition exists. Yet it is necessary to identify or "target" populations in-need or "at-risk" in order to determine appropriate forms and levels of intervention. Thus for the present, until a better usage can be found, FEWS reports will employ the term "at-risk" to mean...

...those persons lacking sufficient food, or resources to acquire sufficient food, to avert a nutritional crisis (i.e., a progressive deterioration in their health or nutritional condition below the status quo), and who, as a result, require specific intervention to avoid a life-threatening situation.

Perhaps of most importance to decisionmakers, the process underlying the deteriorating situation is highlighted by the FEWS effort, hopefully with enough specificity and forewarning to permit alternative intervention strategies to be examined and implemented. Food assistance strategies are key to famine avoidance. However, other types of intervention can be of major importance both in the short-term and in the long run, including medical, transport, storage, economic development policy change, etc.

Where possible, food needs estimates are included in the FEWS reports. It is important to understand, however, that no direct relation exists between numbers of persons at-risk and the quantity of food assistance needed. This is because famines are the culmination of slow-onset disaster processes which can be complex in the extreme.

The food needs of individual populations at-risk depend upon when in the disaster process identification is made and the extent of its cumulative impact on the individuals concerned. Further, the amount of food assistance required, whether from internal or external sources, depends upon a host of considerations. Thus the food needs estimates presented periodically in FEWS reports should not be interpreted to mean food aid needs, e.g., as under PL480 or other donor programs.

FEWS depends on a variety of US Government agencies, private voluntary organizations (PVO's), international relief agencies, foreign press and host government reports as sources of information used in the country reports. In particular, a debt of gratitude is owed to many individuals within various offices of the US Agency for International Development (USAID) who routinely provide valuable information especially, the USAID Missions in Addis Ababa and Khartoum; the Office Of Emergency Operations (OEO); the offices of Food For Peace and Voluntary Assistance (FVA/FFP); and the Office of Foreign Disaster Assistance (OFDA). Special acknowledgement is also given to the Climate Assessment Branch and the Models Branch of the National Oceanic and Atmospheric Administration (NOAA/NESDIS/AISC) for meteorological information which has made it possible to monitor the progression of the agricultural season in Ethiopia. Additional useful information is also provided by the UN Food and Agriculture Organization (UNFAO) and the World Food Programme.

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

The Belg (secondary season) rains in Ethiopia were unusually heavy during March and most of April, possibly portending a bountiful Belg harvest. The locust situation has been described as alarming, although the Desert Locust Control Organization (DLCO) continues to effectively control locust concentrations through aerial and ground treatment. The emergency food aid shipments already received this year, or scheduled to arrive by the end of June, should satisfy over 80% of food needs as estimated by the Ethiopian Relief and Rehabilitation Commission (RRC).

Indicators

- Continued heavy rainfall should assure an exceptional Belg harvest.
- Continued sightings of Desert locust swarms and hopper bands are normal and expected; the capable control operations of the DLCO should negate any threat of plague.

Sudan

Reports of civil strife within the Southern Region of Sudan do not point to any increase in risk to rural people in the central area, where the bulk of the rural population resides (about 3,000,000). On the periphery of that area, army, militia and rebel actions continue to limit the security of relief shipments to urban areas. Locust breeding continues in spring breeding areas along the Red Sea Coast in Sudan (Red Sea Province) and Ethiopia (Eritrea Region). Constant monitoring and control efforts should ensure that this activity will have only a normal impact on this year's agricultural efforts. Rat control efforts are required, especially in the western provinces, and efforts are being made to make resources available. Current Sudanese Relief and Rehabilitation Commission estimates of emergency food needs in the western provinces, coupled with the results of last year's nutrition surveys and crop production estimates, suggest that childhood nutrition levels will remain poor in Darfur Region.

Indicators

- Monitoring of rainfall in the Southern Region during May will provide early indications of this season's agricultural potential. It will also indicate the possible extent of military operations in rural areas as heavy rains would limit access to vast areas of the Southern Region.

ETHIOPIA Rainfall

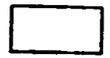
Heavy Belg rainfall in Ethiopia during March and April bodes well for this year's Belg season production. Many areas of the country received 170% to 290% of normal levels during March and most of April (see bar graphs on Maps 2 and 3). In the central part of the country, the heavy rains are encouraging the development of Belg crops (in those areas where they are grown), now more than halfway through their growing season. Root systems should be well established and soil moisture is adequate to see the crops through a short dry spell, if that were to occur.

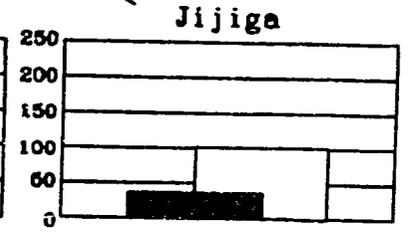
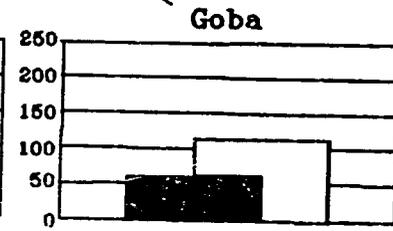
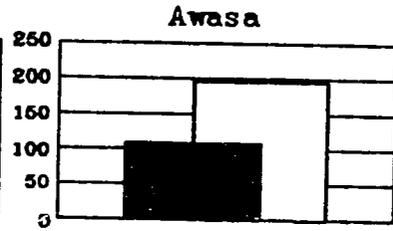
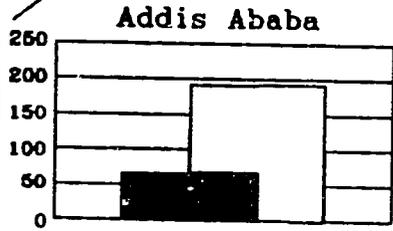
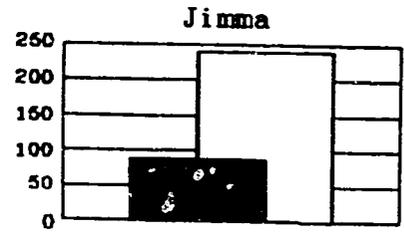
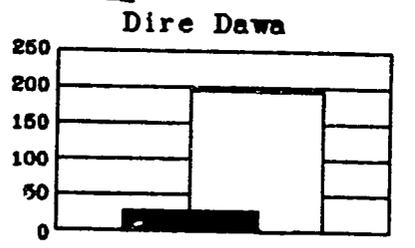
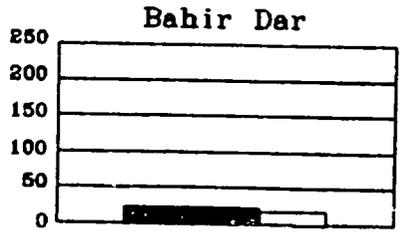
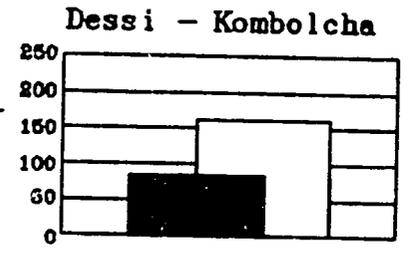
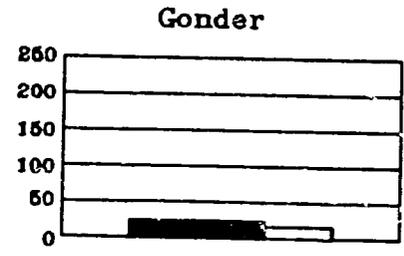
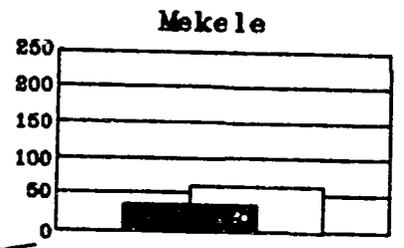
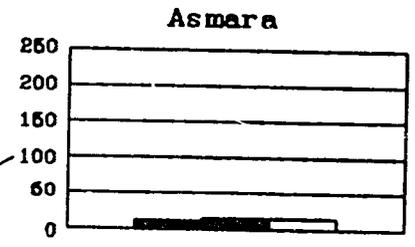
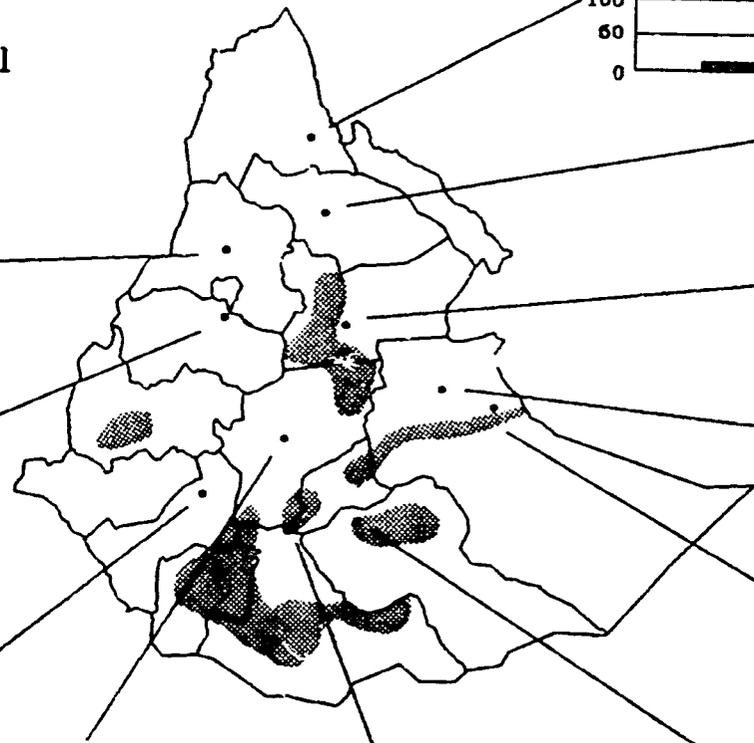
Only partial reports were received from rain stations in the westernmost regions of Ethiopia (Gore in Illubabor and Nekemte in Wellega) during March, but those that were received indicate rainfall there has been at least close to normal levels. Since these regions suffered from poor rains during the 1986 Belg season, this is particularly good news. While Belg production is relatively unimportant in Illubabor, the long-maturing Meher (main) season crops that depend on the Belg rains for planting and germination, account for 70% of annual regional production. In Wellega, both the Belg and the long-maturing Meher crops are important. The good Belg rains are thus expected to benefit both Belg and Meher production. Good harvests will be needed to compensate for the food shortages created by last year's poor agricultural yield.

The Belg crop area in Hararghe Region (see Maps 2 and 3) appears to have received exceptionally heavy Belg rains (based on reports from the two rain stations and satellite imagery showing heavy cloud cover). Dire Dawa, which normally receives 27 millimeters (mm) of rain during March, received 195 mm (622% above normal) this year. During the first three weeks of April (March 29 through April 18), thunderstorms brought 250 mm of rain to Dire Dawa (863% above normal). Although 140.8 of that 250 mm fell just during the second week, Belg crops should not be adversely affected since they are grown primarily in the highlands and root systems should have already become established. A normal Belg season in Hararghe yields approximately 6,000 MT, enough to feed 60,000 people for six months. The rains should also assure that the long-maturing Meher season crops (representing 85% of total annual production in Hararghe Region) normally planted in late April or May, will not suffer from delayed planting.

From a national perspective, the current rains promise a Belg production that could potentially surpass last year's excellent harvest. The rains will similarly benefit those long-maturing Meher season crops (maize and

MARCH RAINFALL (Millimeters)

 Belg Season Crop Areas
 Normal*  Actual

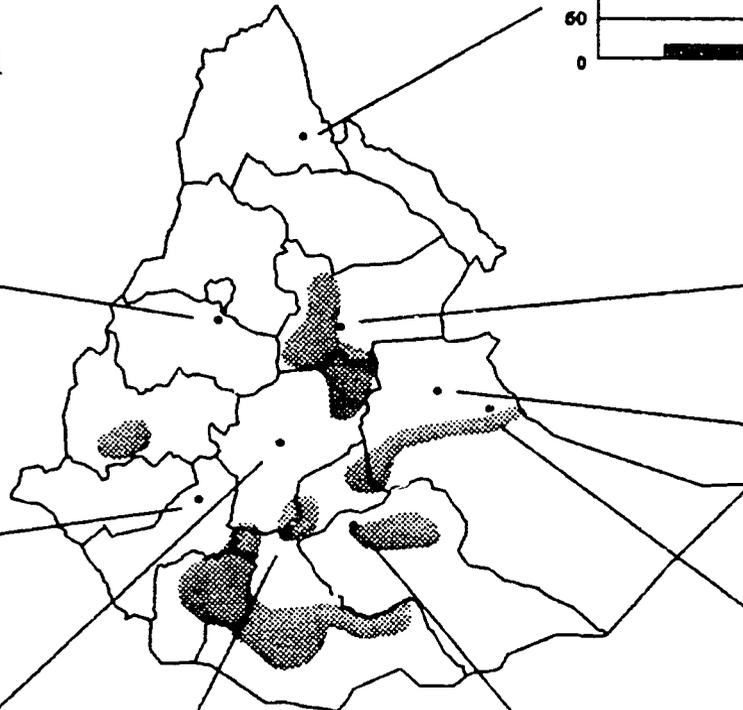
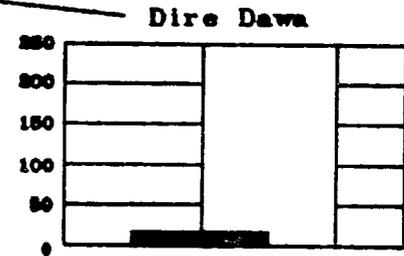
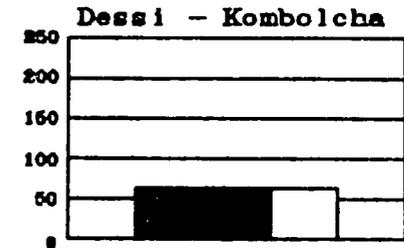
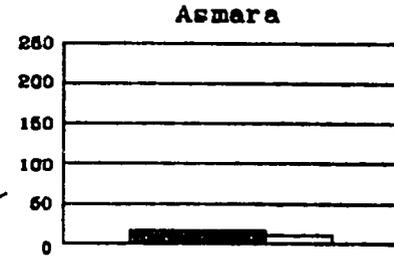
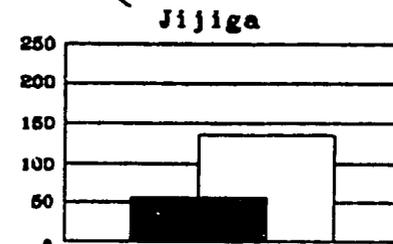
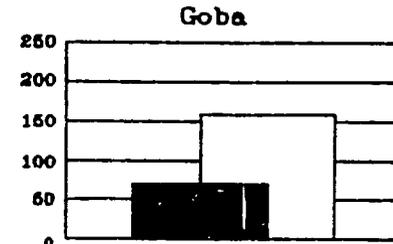
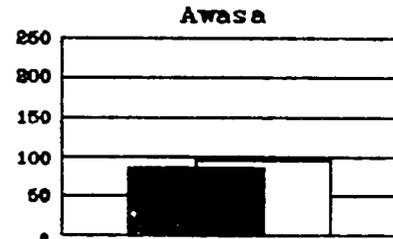
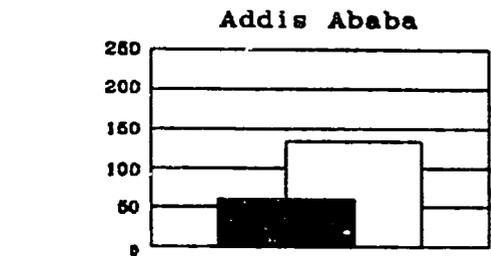
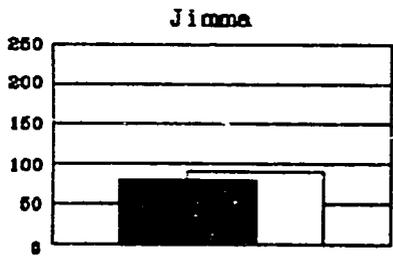
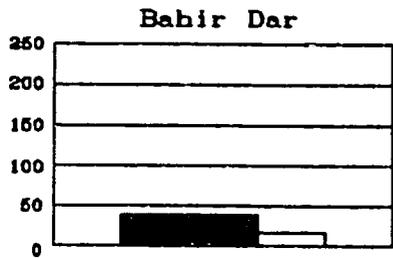


*Based on 10 to 30 year averages

Source: NOAA/Climate Assessment Branch
FEWS/PWA, April 1987

APRIL RAINFALL (Millimeters)

● Belg Season Crop Areas
■ Normal* □ Actual



*Based on 10 to 30 year averages

Source: NOAA/Climate Assessment Branch
FEWS/PWA, April 1987

sorghum) that are planted during the Belg season. If Meher season rains live up to the trend set by the Belg rains, Ethiopia could have an exceptionally good agricultural year. Pastoralists will also benefit from the greening of grazing lands as a result of these rains. Many pastoralists currently counted as at-risk, however, will still not have adequate herds for self-sufficiency.

As mentioned in the March FEWS Report, the Climate Analysis Center of the National Weather Service has observed a weak correlation between El Niño Southern Oscillation (ENSO)* events in the South Pacific and heavier than usual Belg rains in southwestern Ethiopia. There seems to be general consensus in the meteorological community that an ENSO did occur this year, although its relative strength is the subject of some debate. It is interesting to note, however, that the association appears to have held up this year.

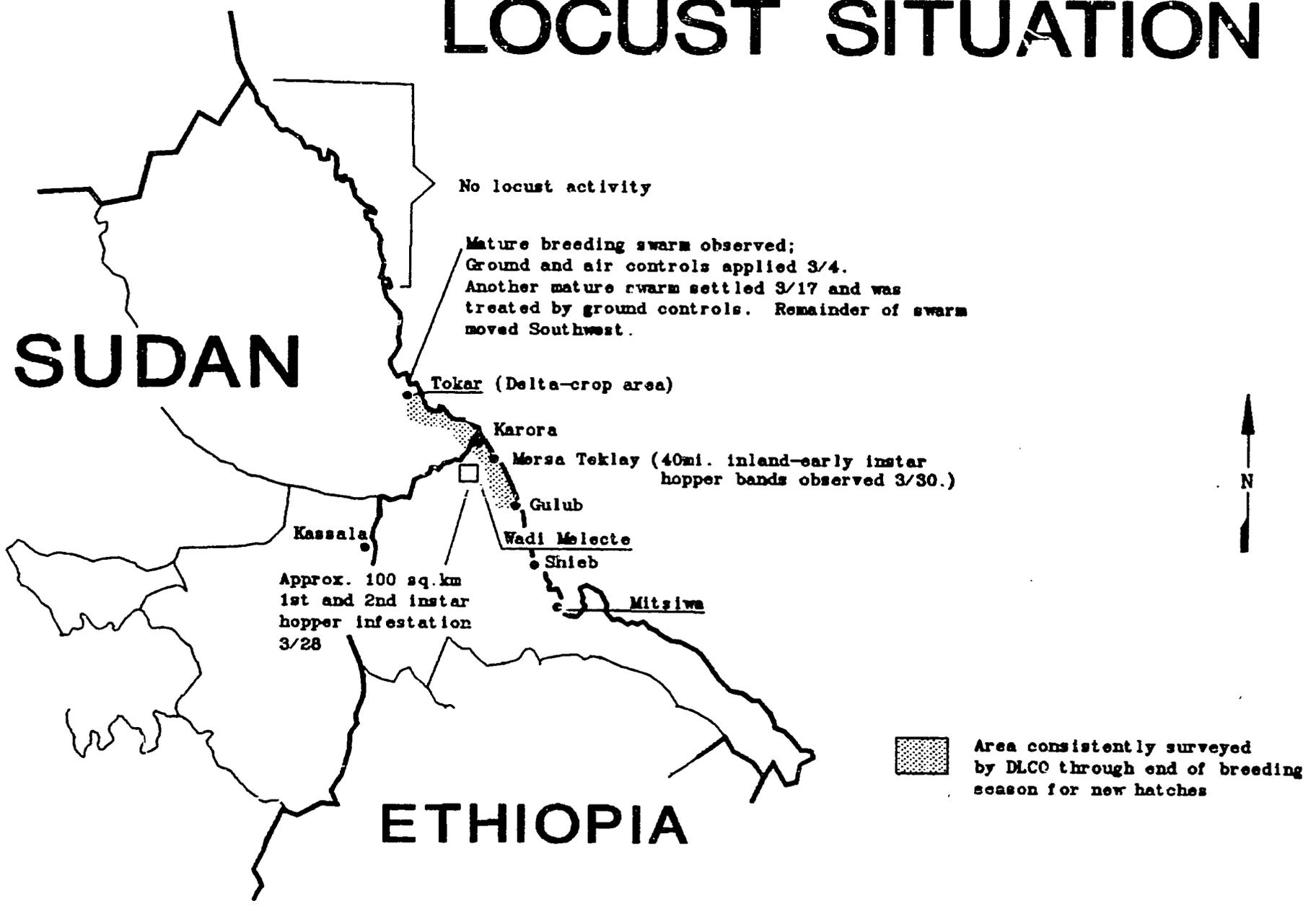
Locusts

The locust situation in Ethiopia continues to be very serious, but controllable. Sightings of hopper bands, mature locusts and breeding swarms were reported along the northern Red Sea coast during March and April (see Map 4). The Desert Locust Control Organization (DLCO) has effectively administered both ground and air control measures in Ethiopia and Sudan. Aerial surveys of the region were conducted through the end of April to guard against the great danger of Desert locusts beginning to swarm unobserved in remote areas. One small swarm is reported to have broken out of the coastal region headed west toward Sudan.

The plentiful rains this year have provided one of the two conditions necessary to prompt an accelerated lifecycle progression in locusts. Information on the other necessary condition, higher than normal temperatures, is not currently available in a form that will permit generalization over the varied topography in Ethiopia. Widespread greening, as a result of good Belg rains, should help to keep the populations dispersed. If rains were to slacken to the extent that green vegetation

* ENSO is an anomalous warm current off the Pacific coast of South America caused by disruptions of normal annual sea surface temperature patterns. This disruption has been correlated with some climate anomalies elsewhere on the planet later in the year in which it appears.

LOCUST SITUATION



SUDAN

ETHIOPIA

No locust activity

Mature breeding swarm observed;
Ground and air controls applied 3/4.
Another mature swarm settled 3/17 and was
treated by ground controls. Remainder of swarm
moved Southwest.

Tokar (Delta-crop area)

Karora

Morsa Teklay (40mi. inland-early instar
hopper bands observed 3/30.)

Gulub

Wadi Melecte

Shieb

Mitsuwa

Approx. 100 sq.km
1st and 2nd instar
hopper infestation
3/28

Kassala

 Area consistently surveyed
by DLCO through end of breeding
season for new hatches

becomes more scarce, swarms could form as locusts become concentrated in smaller areas. Rainfall patterns will therefore continue to be a key indicator of the risk from Desert locusts in coming months.

**Pastoralists
At-Risk**

The RRC's estimates of pastoralists at-risk in 1987 show dramatic decreases from 1986 levels in most regions. Given reports of local conditions and the logistics of restocking herds, the magnitude of the estimated decreases (see Table 1) are difficult to resolve.

Many of the pastoralists, who comprise approximately 10% of the Ethiopian population, saw their herds decimated by the 1983-1984 drought. Once herd sizes drop below the level required for self-sufficiency, it generally takes several years to rebuild or restock, even under optimum conditions. In some areas of Ethiopia, however, this process has been severely impeded by continued low rainfall, livestock deaths by Trypanosomiasis, and unfavorable market conditions. A combination of these conditions is largely responsible for the increases in the numbers of pastoralists at-risk in Wello and Illubabor Regions. (The increases in Eritrea and Tigray are attributed to low rainfall and the inavailability of livestock on the market.)

TABLE 1: Reduction in RRC's Estimates of Pastoralists At-Risk

Region	1987 Pastoralists At-Risk	86 - 87 Percent Change	Absolute Change
Bale	30,450	-64%	-53,550
Eritrea	100,980	+	+100,980
Gamo Gofa	7,170	-89%	-56,430
Hararghe	232,860	-25%	-79,370
Illubabor	17,910	+1019%	+16,310
Shewa	6,570	-91%	-66,050
Sidamo	139,720	-54%	-166,080
Tigray	59,710	+	+59,710
Wello	65,680	+9%	+5,680

Source: Based on 1986 and 1987 RRC estimates

Under good conditions (sufficient pasturage and water supply), livestock herds grow exponentially. Thus, the time required for pastoralists at-risk to regain self-

sufficiency will depend upon the number of head left at the low point of their herds. When herd size dips below the level of family self-sufficiency (approximately 24 head for cattle, mixed ages), the pastoralists must resort to purchasing additional food with livestock that would ordinarily have been kept to build the herd. Those pastoralists who received food aid in 1985 and 1986 should have been able to escape this bind and begin rebuilding, if they had any livestock left. Where conditions were favorable, those who did not lose too many head could now be returning to self-sufficiency; those who lost all or almost all of their livestock will probably be dependent on food aid for a longer period. Unfortunately, conditions for rebuilding herds have not been favorable in many of the areas hardest hit by the drought several years ago.

In Sidamo Region (see map of administrative regions in the appendix), hundreds of thousands of livestock perished during the drought. In the two southernmost awrajas, Arero and Borena, where the population is almost entirely nomadic, the Meher rains were poor in 1985 and the 1986 Belg rains started late. Thus, conditions for rebuilding do not seem to support the 54% drop in the pastoralists at-risk indicated by the RRC estimate.

In Hararghe Region, the awrajas of Deghabour, Jijiga, and, to a lesser degree, Chercher Aldana Gara Guracha experienced a serious water shortage in 1986, which destroyed pasturage, restricted milk supply and caused some livestock deaths. The poor condition of the livestock and scarcity of grain have resulted in unfavorable market prices for pastoralists.

In Gamo Gofa Region, the 1985 rains failed, resulting in a shortage of water and pasturage in the pastoral woredas of Gelebna Hamerbaco Awraja, particularly Hamer Woreda (population estimated at 21,000). Disease outbreaks in 1985 and 1986 resulted in livestock deaths as well. Although these pastoralists depend primarily on goats and sheep (generally less vulnerable to drought than cattle), the 89% decrease in pastoralists at-risk is surprising.

Shewa Region has enjoyed better weather conditions, producing a food surplus in 1986. The RRC reports, however, that the surplus will primarily go to feeding the urban population, leaving food shortages in some rural areas. Even with good pasturage and an ample water supply, however, a 91% reduction in pastoralists at-risk is an exceptional recovery rate given the logistics of rebuilding herds.

Food Aid Supply

Although the RRC's estimate of people at-risk in 1987 may be artificially low, the grain component of the RRC estimate of emergency food aid requirements is in line with assessments by others. The RRC's estimated total emergency food aid requirement (409,200 MT -- based on an at-risk population of 2,500,000 and rations of 201 kg per person) includes 367,248 MT of grain. Using the FEWS at-risk figure of 3,450,000 (including 1,140,000 pastoralists) and a grain ration of 163 kg per person (pastoralists for the full year and farmers for 6 months), the 1987 emergency grain requirement would be 374,085 MT, only 2% higher than the RRC figure.

The supply of emergency food aid that will be available for distribution in Ethiopia by the end of June, should cover roughly 83% of estimated 1987 needs. USAID has accepted the RRC's estimate of 174,000 MT of emergency food aid carried over from 1986 into 1987 (although the World Food Programme (WFP) Headquarters in Rome estimates carryover stocks at closer to 400,000 MT). An additional 65,314 metric tons of emergency food aid were delivered to Ethiopian ports during January 1987 and 53,468 MT were delivered during February, according to WFP records. With the 47,956 MT scheduled to arrive by the end of June 1987, there should be a **minimum** of 340,738 MT in emergency food aid available for distribution in Ethiopia during 1987. This leaves 68,462 MT of emergency food needs uncovered after June. Another 31,158 MT have been pledged for 1987, but not scheduled.

Table 2: Food Aid For Ethiopia

	Metric Tons
Carryover Stocks(1)	174,000
January Deliveries	65,314
February Deliveries	53,468
Scheduled For Delivery	47,956
TOTAL	340,738

Sources: (1) RRC/USAID negotiated figure.

Remainder: World Food Programme, March 1987

All estimates of emergency food aid needs are based on the expectation of a normal Belg harvest in 1987. Given the excellent rainfall thus far, an exceptional Belg harvest could reduce the level of emergency food aid required.

* Used by USAID/Addis

SUDAN
Southern Region

Wide scale military operations have not occurred in the bulk of the central area of the Southern Region and, as a result, the bulk of the vulnerable rural population there is not at-risk (see Maps 5 and 6). The rainy season just beginning will severely limit military access to this area. Although the rainy season is a time of great nutritional stress for the rural populations of the central area, there should be no extraordinary food emergency for those rural people not currently at-risk, at least until the next dry season. A poor harvest from drought or military action could put these people at-risk beginning in the dry season in the fall of 1987.

Urban populations continue at-risk throughout the Southern Region. If historical precedents are valid, the Sudanese People's Liberation Army (SPLA) will concentrate, during the rainy season, on putting the main cities of the Southern Region under siege. Airlifts of emergency food aid to cities under siege are likely. Reports suggest that the number of displaced people in cities will be lower this rainy season, compared to 1986, due to last year's problems with emergency food aid distributions.

Military activity near to the rail and road corridors linking the city of Wau to northern Sudan continue to place rural people there particularly at-risk, as is evidenced by reports of large numbers of displaced people in Wau and Aweil. Due to the relatively high density of rural population in this small area, coupled with its relative ease of access, it contains the rural population at highest risk in the Southern Region.

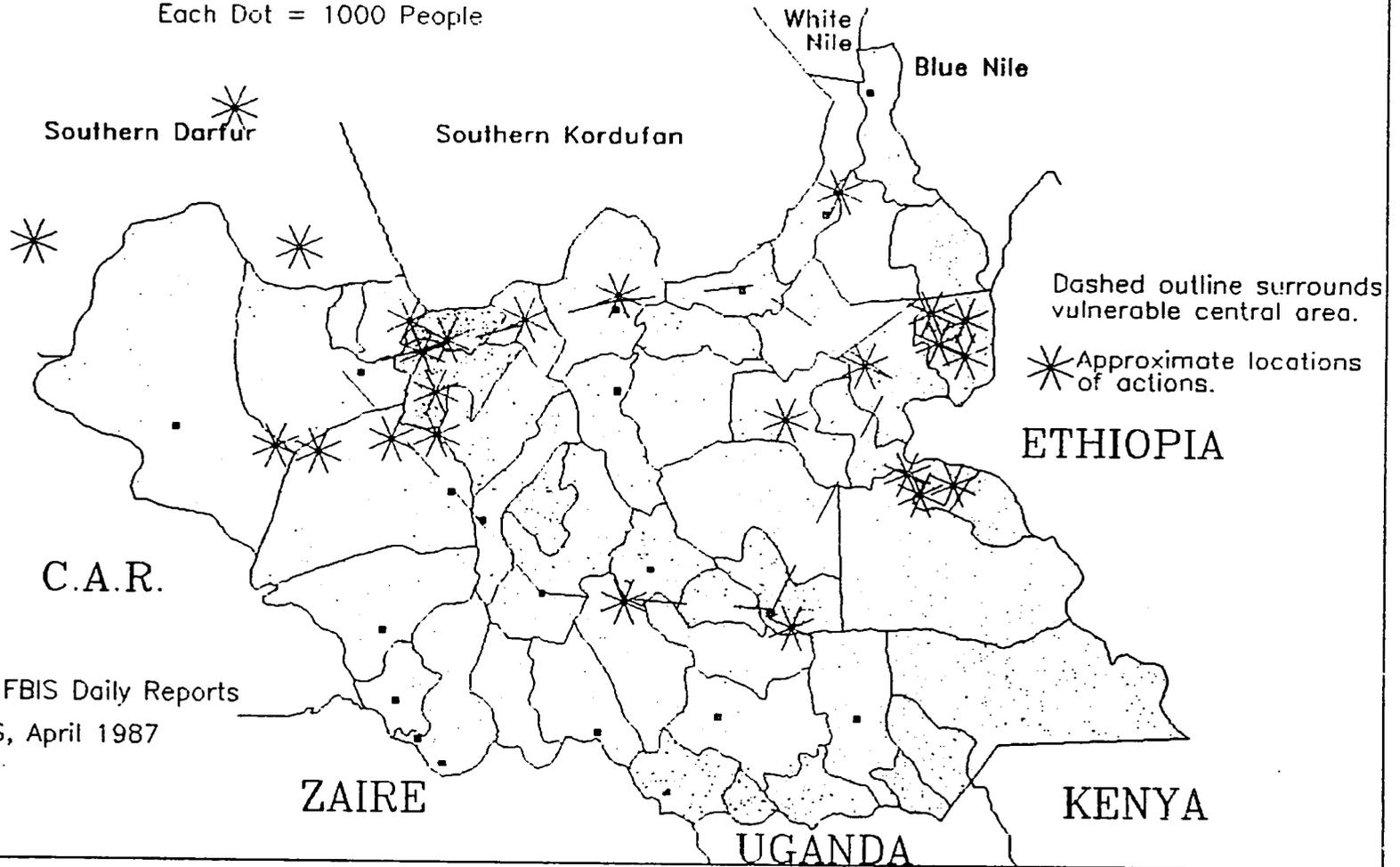
Army, militia, rebel and bandit activities continue around the periphery of the central area. Radio broadcasts, reported by the Foreign Broadcast Information Service (FBIS) between March 16 and April 22, do not report widespread military operations in the central area (the vulnerable area, previously forecast by FEWS to be potentially at-risk of a food emergency--if widespread fighting had occurred during the dry season just ending), a conclusion supported by previous reports. These reports cannot be considered an exhaustive catalog of military and bandit activity, but they can be considered a random sample of the spatial distribution of military activity. Map 5 locates the reports of actions, many of which seem to have been relatively minor clashes, as accurately as available maps and gazetteers allow.

Other than urban areas previously known to be vulnerable from siege, there is only one large area within the central area where population density combines with

SOUTHERN SUDAN: Population Density and Recent Armed Clashes

Actions Reported Through FBIS Monitoring, March 16 to April 22, 1987.

Each Dot = 1000 People



Dashed outline surrounds vulnerable central area.

* Approximate locations of actions.

SOURCE: FBIS Daily Reports
MAP: FEWS, April 1987

SOUTHERN SUDAN: Army, Rebel, Militia and Bandit Activity

Actions Reported Through FBIS Monitoring, March 16 to April 22, 1987.



SOURCE: FBIS Daily Reports
MAP: FEWS, April 1987

Dashed outline surrounds vulnerable central area.
* Approximate locations of actions.

military activity to put its rural population at-risk of a food emergency. This is the area of eastern and north-eastern Bahr El Ghazel Province bounded on the south by the city of Wau and in the northwest by the city of Aweil (along the rail line connecting Wau with northern Sudan). This area, however, has already seen an exodus of people, presently displaced to Wau, Aweil and other points along the rail line and into northern Sudan. The number of rural people remaining in this area (and their current food supply situation) is uncertain. Earlier estimates of people displaced along the rail line ranged to 250,000, which would imply a vast movement out of this area.

Outside of the central area and urban areas, populations in strategic areas adjacent to the Ethiopian border are, or could become, at-risk from military action. Fighting in these areas could continue during the rainy season and the impact on urban and rural people, and their food supplies, could be severe.

Pests

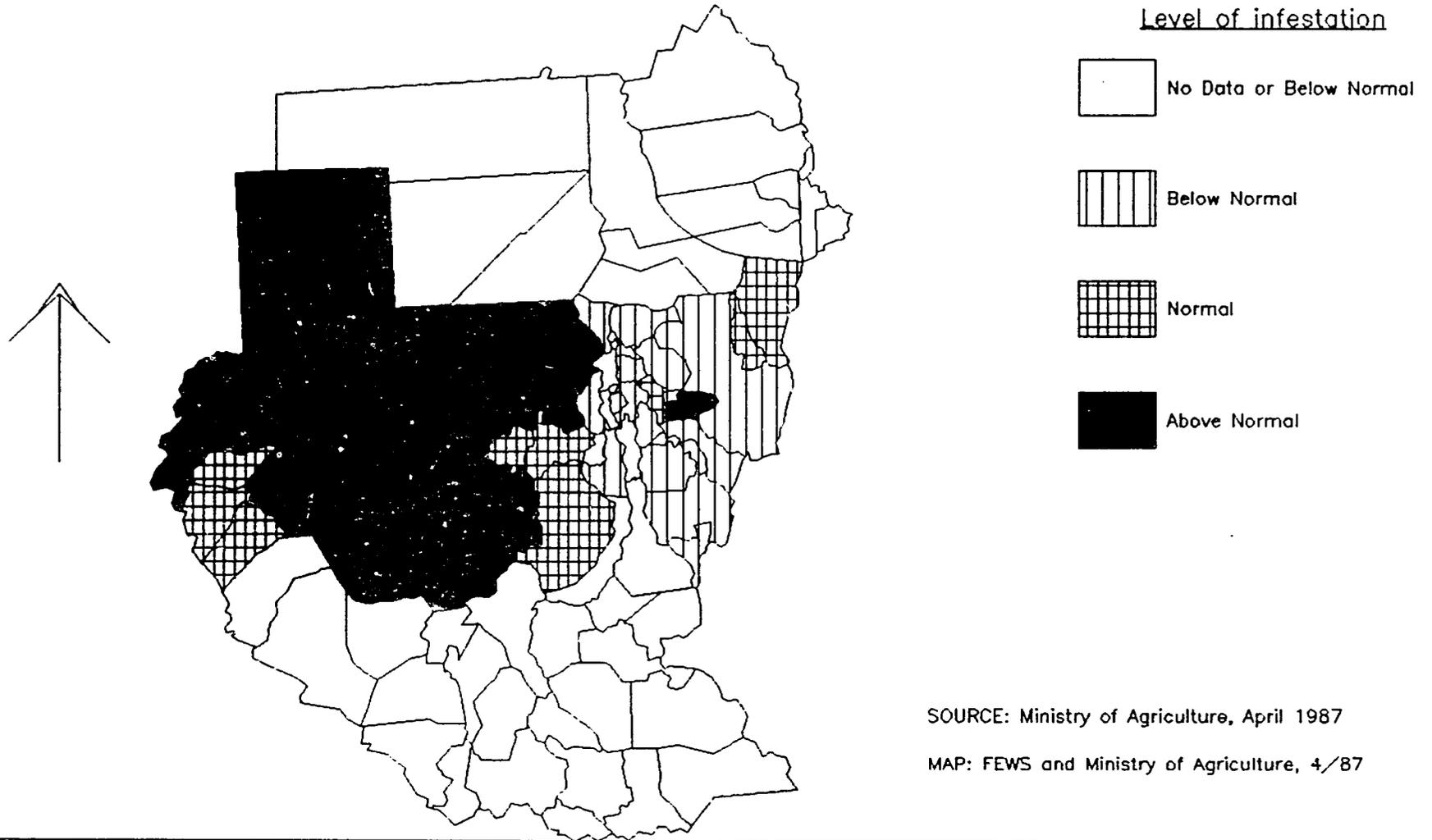
Crop production in the important eastern grain-producing areas of Kassala, Blue Nile, Gezira and White Nile Province, was minimally affected by pest damage last year. Map 7 shows that pest infestations were below normal in those areas. (The exception was also the only area where the sorghum crop was in excellent condition, see Map 8.) In the western provinces of North and South Darfur, and in North and South Kordufan, pest infestation was above normal. These areas are characterized by traditional rainfed agriculture and provide but a relatively small part of total national production. These are the same areas, however, where large numbers of people were at-risk last year and remain at-risk this year--partly as a result of pest damage.

Rats are the most important pests in the western provinces, especially North and South Darfur. Rats are also an important problem in the east, where early surveys have shown high populations in the important grain-producing area of Gedaref in Kassala Province. Efforts are currently underway to survey rat populations and institute control campaigns prior to the beginning of the rainy season at the end of May.

Desert locust breeding continues along the Red Sea Coast from southern Red Sea Province down into Eritrea Region of Ethiopia. A small swarm has been reported to have broken out from the coastal area of Eritrea, headed southwest toward Sudan. The Desert Locust Control

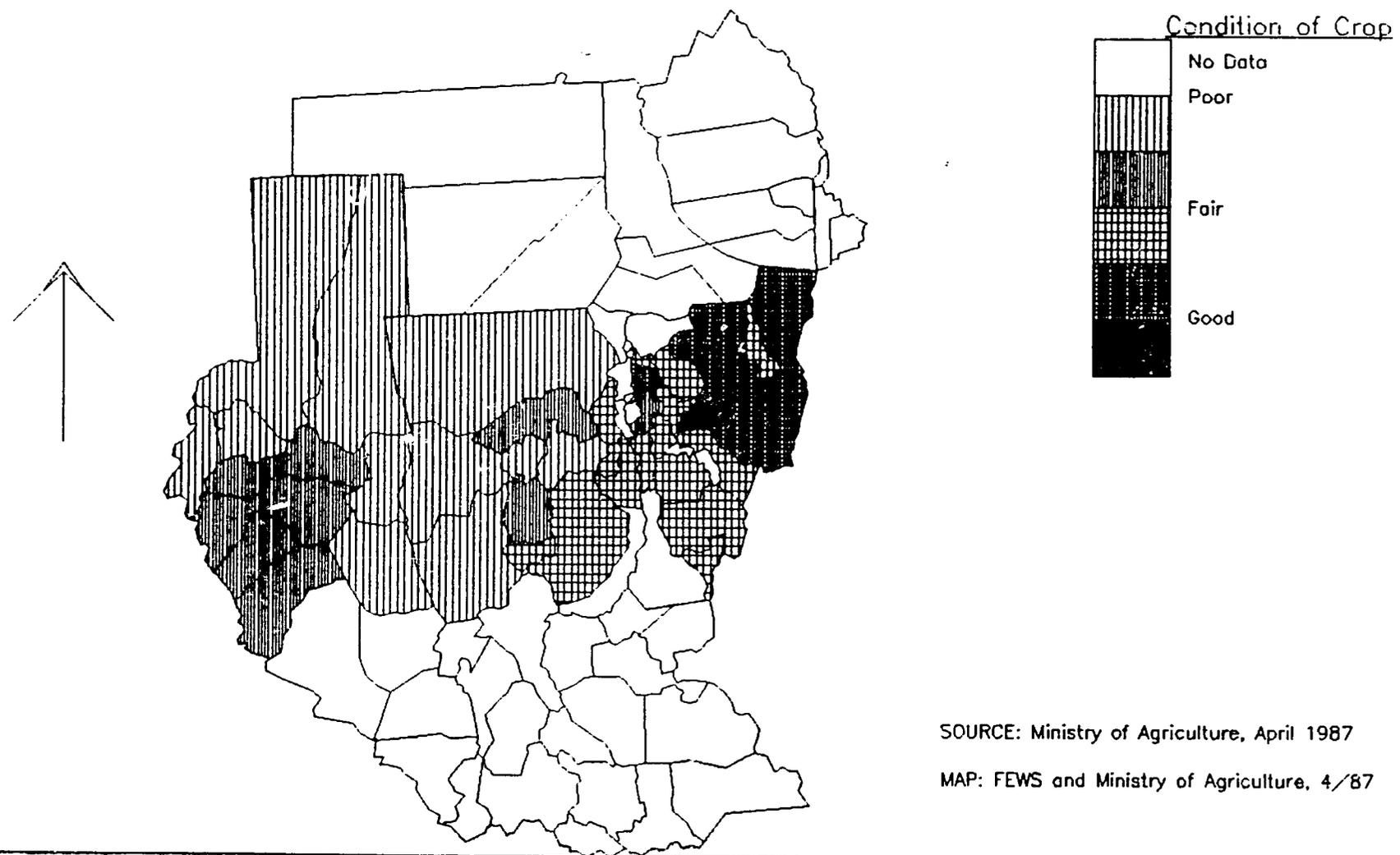
SUDAN: Pest Infestation During the 1986/87 Agricultural Season

Indications from operations in support of the Area Sample Frame Survey.



SUDAN: Sorghum Condition During the 86/87 Agricultural Season

Indications from operations in support of the Area Sample Frame Survey.



Organization (DLCO) is acting across the borders of the two countries, and their survey and control efforts appear to be succeeding. The news that control efforts have been highly successful in Saudi Arabia suggests that the threat of large scale migrations from Saudi Arabia to the central grasslands of Sudan, no longer exists. While locust infestations in Yemen are of some concern, they too probably pose little threat to Sudan this summer. USAID's Office of Foreign Disaster Assistance (OFDA) and FAO assistance to Yemen should mitigate the threat to Sudanese agriculture. Summer breeding populations should be about normal, and the danger to important grain-producing areas in eastern Sudan should be limited to localized outbreaks.

People At-Risk

The Relief and Rehabilitation Commission (RRC) released food needs assessments for four regions in northern Sudan at the end of March (Table 3). The RRC states that "Most of the needy people within these regions represent displaced people and/or pockets where 1986/87 harvest has been inadequate due to insecurity, to pest infestation or to locally poor rains. Due to lack of funds international assistance is needed to overcome these food shortages."

Table 3: 1987 Food Needs Assessment Data for Some Regions (RRC Estimates).

Region	Est. 1987 Population	Affected Population	%	Food Need(MT)
Khartoum	1,948,614	269,000	13.8	20,000
Northern	1,094,379	24,000	2.2	3,534
Central	4,065,440	210,000	5.2	15,163
Darfur	3,287,396	724,219	22.0	23,000

The level of production and the nutritional status of children in Darfur Region (as detailed in previous FEWS reports), combined with the RRC's estimate of the affected population, point to all of Darfur Region (with the exception of the El Geneina area in western North Darfur and the Jabel Merra area in northwestern South Darfur) as highly vulnerable. The population at-risk this year cannot be expected to decline without an exceptional harvest. Given the long term decline in rainfall evident in Darfur since 1965, an exceptional harvest seems unlikely. Last year, low childhood nutritional levels remained low despite donor and PVO efforts to distribute emergency food aid. These nutrition levels will probably remain poor throughout 1987.

Administrative Units

