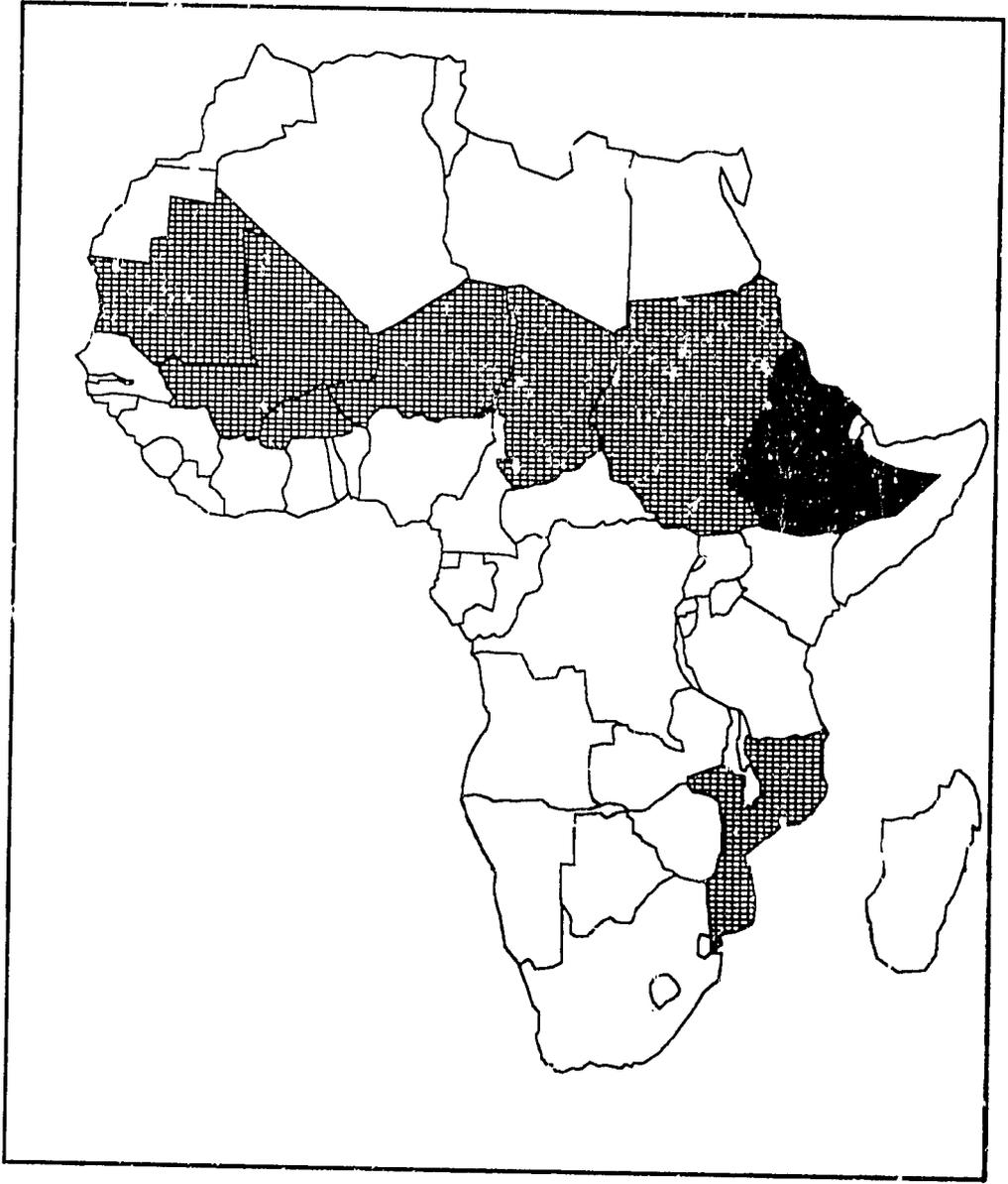


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Report Number 16/17
November 1987

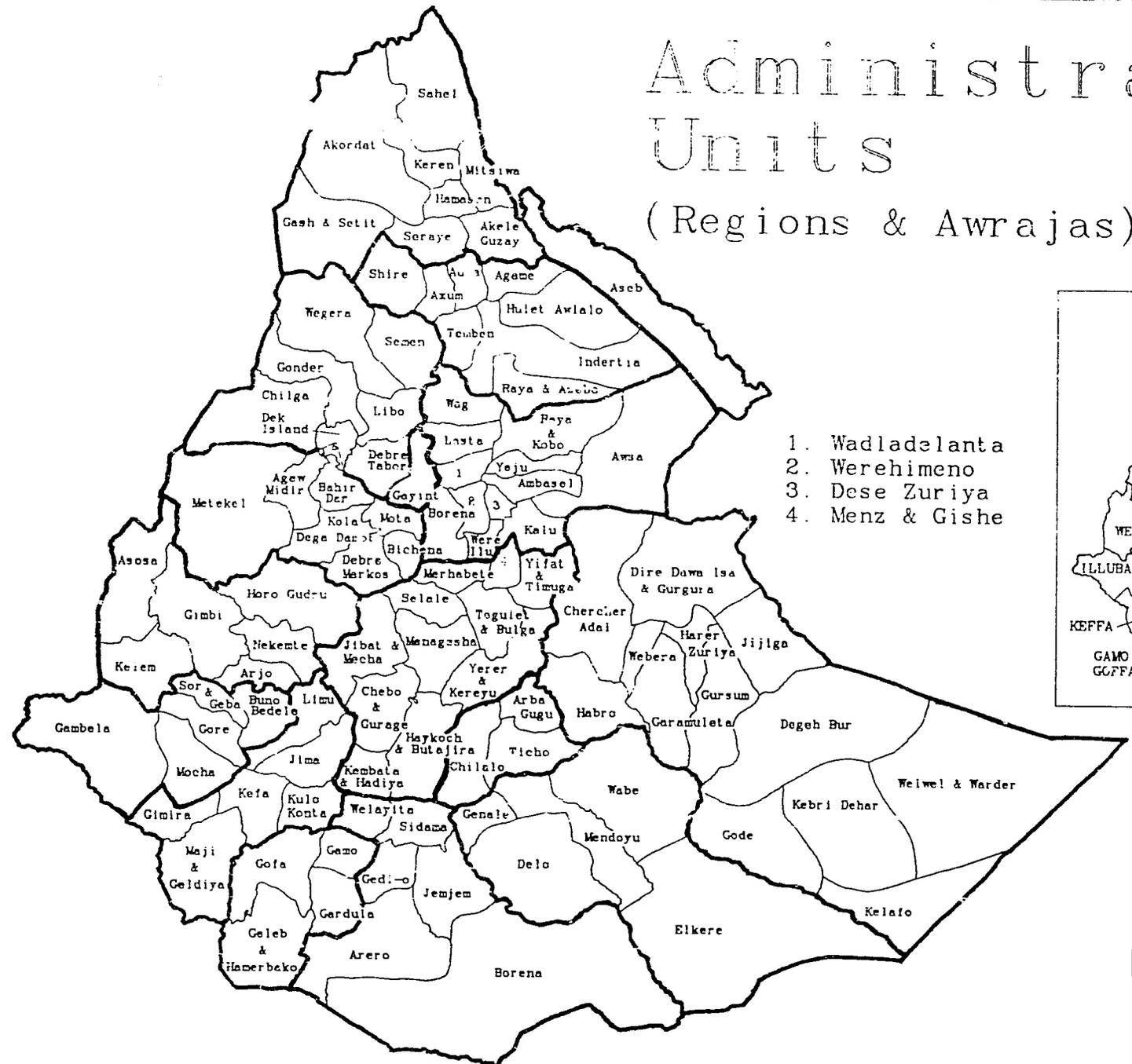
FEWS Country Report ETHIOPIA



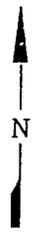
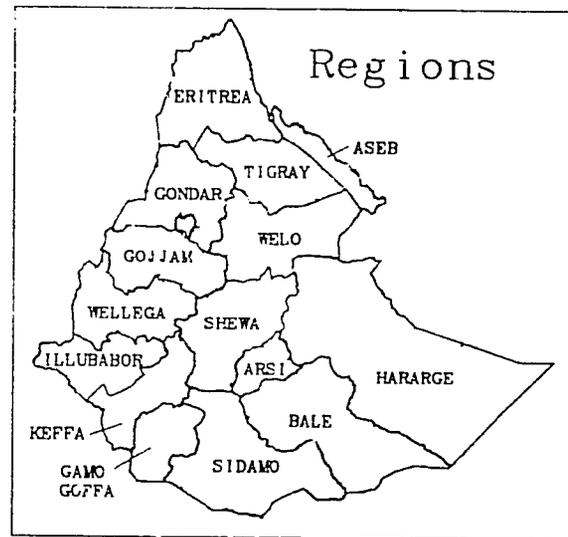
Africa Bureau
U.S. Agency
for International
Development

Administrative Units

(Regions & Awrajas)



1. Wadladelanta
2. Werehimeno
3. Dese Zuriya
4. Menz & Giske



ETHIOPIA

Worst Fears May Be Realized

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

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

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SUMMARY

Recent events and an increasing volume of information about conditions in certain parts of the country suggest that Ethiopia is poised on the brink of a large-scale human disaster. It now appears that 1987's poorest rains and worst harvests occurred in the country's most vulnerable sectors, those that have not yet fully recovered from the 1984 drought (particularly large areas in Eritrea, Tigray, and Wello; see Map 2 for an early 1987 assessment of agricultural areas with the greatest vulnerability to food supply problems). The provision of timely emergency assistance to those areas has been frustrated by a change in rebel policies toward food shipments, an inability or unwillingness on the part of the Government of the Popular Democratic Republic of Ethiopia (GPDRE) to mobilize critically needed in-country resources, and the long-standing deficiencies of the transport system. All indicators suggest that, outside of an extraordinary and immediate change of heart by both the GPDRE and rebels, and emergency assistance in greater quantities than already pledged, considerable suffering will occur in Ethiopia during the coming months.

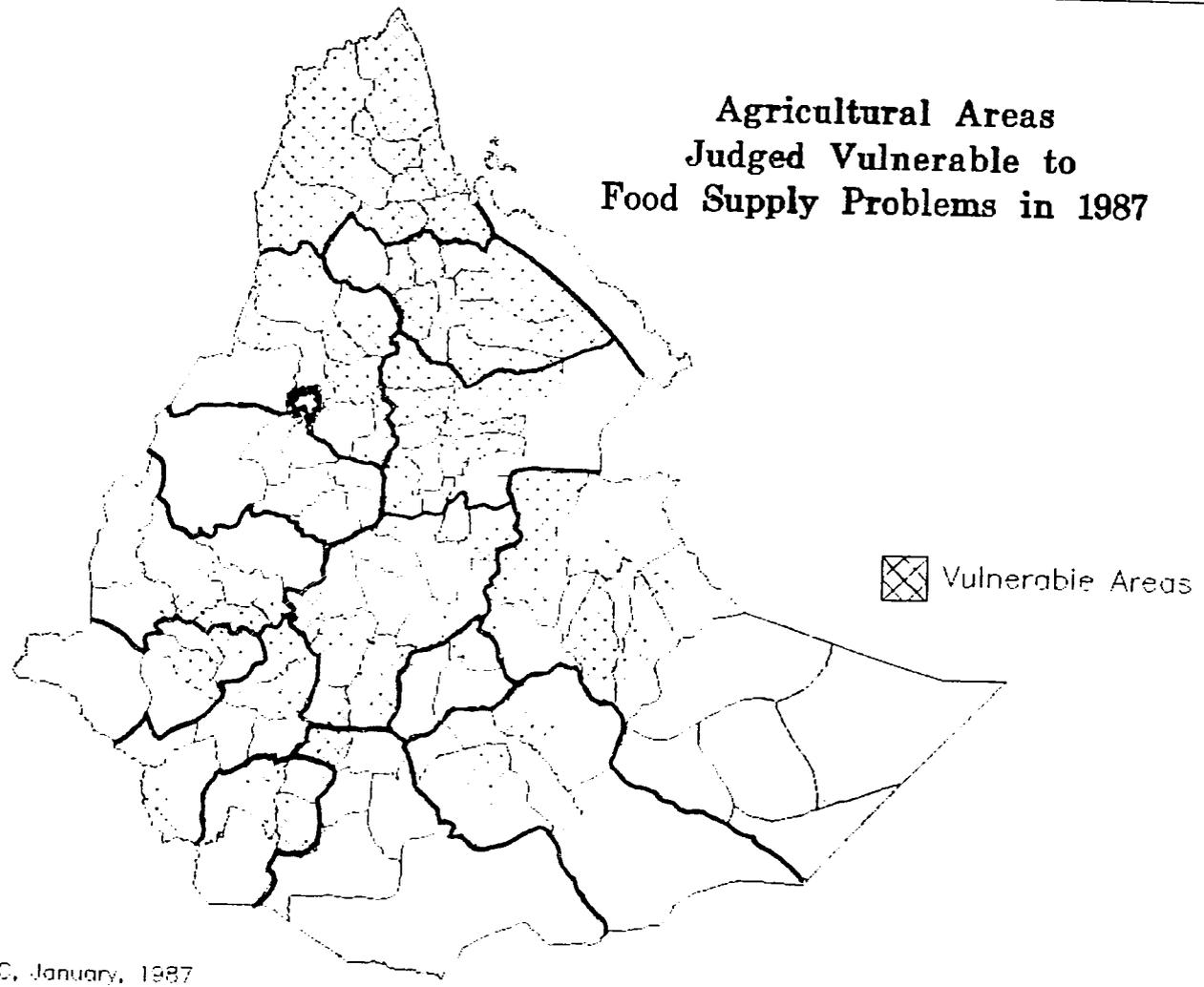
FOOD ASSISTANCE UPDATE

Rebel Attacks on Food Shipments - No further rebel attacks on food convoys have occurred since the incident of October 23rd, in which 450 metric tons (MT) of grain and 23 long-haul trucks were burned near Adigrat in Tigray. The Eritrean People's Liberation Front (EPLF), which claimed responsibility for the attack, maintains that the convoy was transporting arms, and that future convoys will not be harmed if only carrying food. The EPLF accusations about arms transport have been denied by the donor agencies involved in organizing the convoy. On November 11-12, there was a rebel attack on a military convoy in the same area, and upon private trucks that were apparently found near the military convoy. Nevertheless, a relief convoy passed that same point earlier on the same morning without problem.

The mid-November rebel attacks on the military convoy and upon private commercial trucking have had an immediate and serious impact on shipment of food assistance to Tigray. The Government of the People's Democratic Republic of Ethiopia (GPDRE) closed the road from Asmera to the south as a direct result of it. This means that for the time being, no convoys will be able to deliver food to Tigray, and the Catholic Relief Service, ICRC, and World Food Program (WFP) trucks currently in Tigray may not be able to return to Asmera. Additionally, fuel is in short supply in the depots along that road, and private commercial trucking may be understandably hesitant to move into the area in the future at the risk of losing trucks. Efforts are underway at various levels to define the conditions under which food assistance might again move over the roads. Nevertheless, the literal roadblock erected by competing (GPDRE and rebel) political imperatives has the potential to become the single most significant obstacle to the delivery of food to needy populations.

Populations Affected and Emergency Food Needs - The Ethiopian Relief and Rehabilitation Commission (RRC) announced on November 13 that the population requiring full-ration emergency feeding now totals over 5,200,000 people (1,049,500 in Eritrea; 1,035,900 in Tigray; 1,017,100 in Wello; 292,400 in Gonder; 511,000 in

Agricultural Areas Judged Vulnerable to Food Supply Problems in 1987



 Vulnerable Areas

Source: RRC, January, 1987

Shewa: 925,400 in Harerghe; 320,400 in Sidamo; 32,500 in Gamo Gofa; and 32,200 in Bale). Some donors feel the figures for Eritrea and Tigray may well underestimate, by more than a million people, the number of people requiring such assistance. The emergency food requirement for the more than 5,200,000 people has been estimated at approximately 1,046,719 MT, up from the earlier estimate of 950,000 MT. Emergency food aid pledges, as of the middle of November, total approximately 396,967 MT, of which the United States has pledged 124,277 MT. The gap between the estimated total need and what has been pledged is, so far, uncovered.

Transport Problems - Transport of food assistance to all needy populations will be a serious, and perhaps intractable, problem. Until the security situation is clearer in the north, little can be done to purchase or relocate trucks for food transport in those affected areas. In addition to the road transport problems, there is a continuing problem in mobilizing enough trucks to move food to those who will need it. If and when the road security problems are resolved, an intense effort will be needed to immediately acquire the use of a large number of trucks already available within Ethiopia. Even under the best of conditions, it will be an enormously complex undertaking to move the quantities of food needed in coming months. (Present transport capacity for Tigray equals approximately 2,600 MT per month if the road is open 6-8 days a month, and monthly food needs may rise as high as 20,000 to 22,000 MT per month after the new year.)

Although donors are now preparing for a program of airlifts to some of the most-affected areas, the operation will be costly and limited in its ability to move massive quantities of food. Here too, the GPDRE's political objections to the use of aircraft, including both those already in-country and those offered by donors, will have to be resolved.

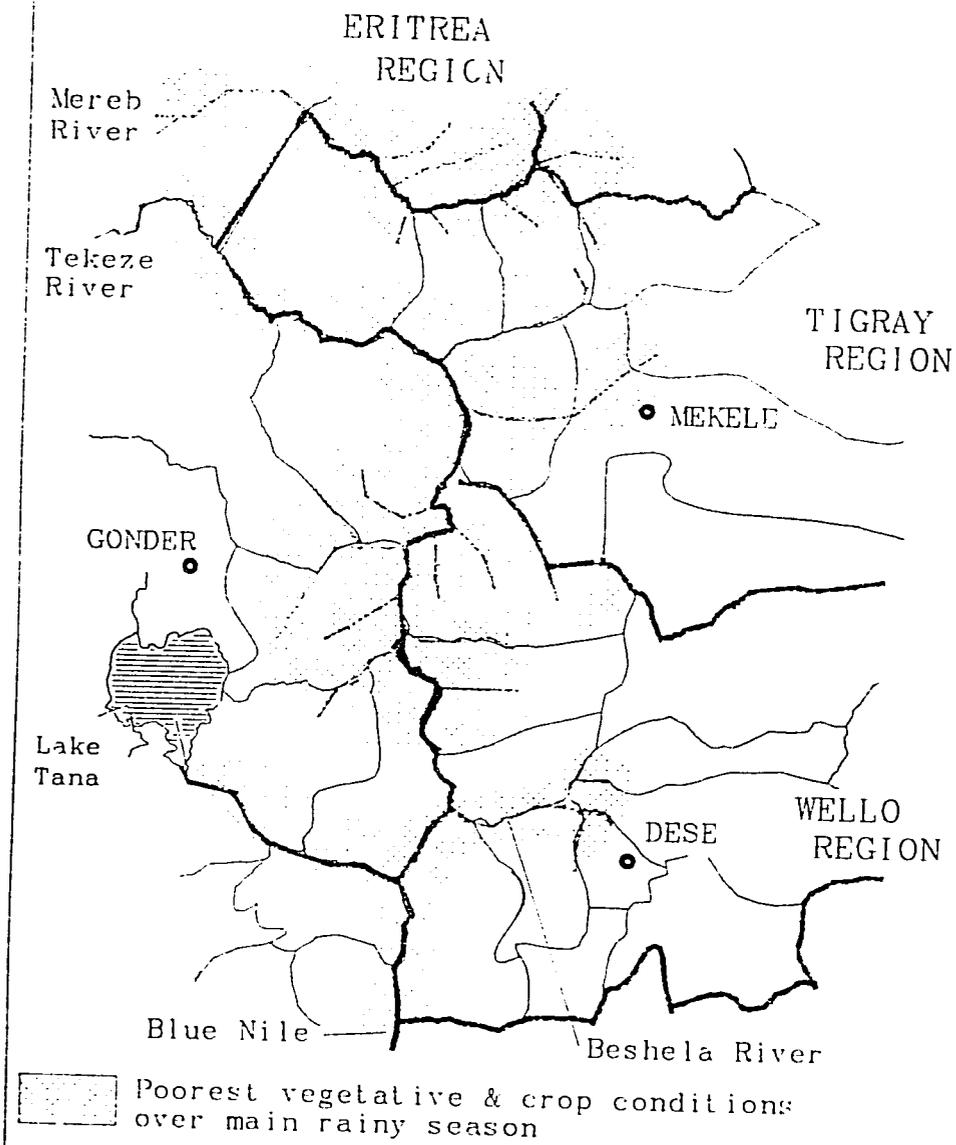
The WFP additionally notes that late deliveries of 1987 food stocks to Asseb and Mitsiwa (Massawa) may not have cleared those ports by the time 1988 emergency deliveries are scheduled to arrive in early Spring. Port storage capacities might then be exceeded, risking damage to stored grain, and ships may be required to wait at anchor before making deliveries. In the worst case, the delays in arrival of emergency food, scheduled for either 1987 or 1988, could have a disastrous impact on feeding programs able to surmount the transport problems.

Population Movements - The best efforts of donors and the Ethiopian government to overcome some of these problems may yet prove to be too late to avoid massive movements of displaced people seeking food. As field reports are beginning to indicate, it is already too late in some areas to stop the movement of people away from their homes in search of food. There are indications that already sizeable populations are starting to congregate at sites of some of the 1985 camps in Wello and Tigray (see Map 3, where areas of poorest crop conditions, as reported in the September FEWS Report, are shown next to Map 4 showing location and numbers of reportedly displaced persons), and large numbers of people have already been seen at the Sudan border, and in other urban centers in Eritrea, Tigray, Wello, and Gonder.

While the GPDRE, the rebels, and donors alike, all desire to avoid reaching the point where the establishment of camps becomes inevitable, the situation seems presently to be evolving in that direction. As if to deny that this may happen,

MAP 3: ETHIOPIA

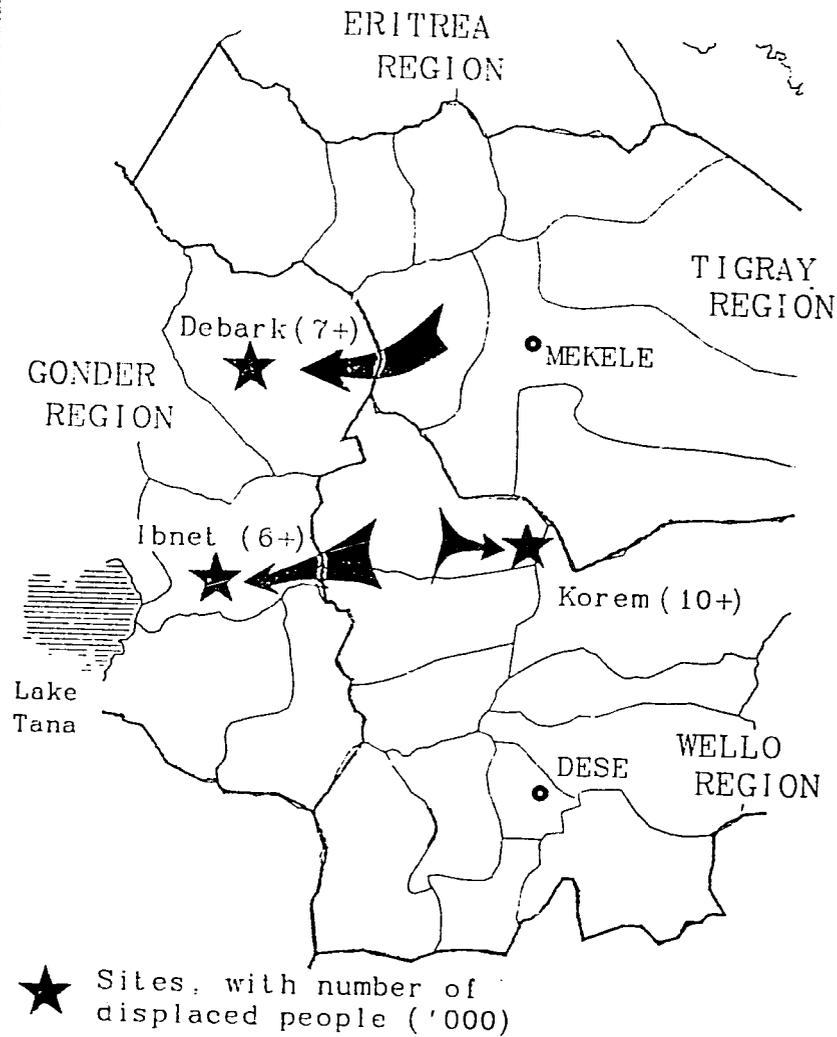
Poor Crop Conditions



FEWS/PWA, September 1987

MAP 4: ETHIOPIA

Sites and Flows of Displaced Persons



FEWS/PWA, November 1987

the GPDRE has instituted new travel requirements for foreign nationals, and has refused visits by donor representatives to areas in which large concentrations of displaced people are rumored. In a similar vein, the government has placed a ban on foreign medical teams coming into the country. While the reason has not been officially stated, it appears that this move is intended to avoid making certain areas attractive to people at risk.

Severity of the Problem - The perceptions of most donors shifted during the past month toward a belief that food assistance will probably not be provided in the amounts, and within the timeframe needed, to prevent people from moving toward points they believe will be used for food distribution. This change is linked very closely to the recent problems with rebel attacks and the closure of the road. Additionally, it is now clearer that the GPDRE has not yet come fully to grips with the potential consequences of their present low-key approach to the deteriorating situation in the north. A greater mobilization of in-country resources (private trucking, government-controlled aircraft, food stocks already in ports) has not occurred, and, as a consequence, a greater number of resources from abroad will be required in the near future. As the severity of the harvest problems becomes better known, the donor response to unmet emergency food needs will also have to accelerate. An unfortunate and all-too-similar to 1984 convergence of unyielding domestic political forces, environmental impediments, social and economic fragilities, and a lack of timely, reliable information about peoples' needs, has led Ethiopia to the brink of a large-scale human disaster. Quick action may help to alleviate, yet not eliminate, terrible suffering.

A GEOGRAPHY OF MAIN-SEASON CROP STRESS

Predicting a food shortage in Ethiopia is a relatively riskless proposition. Historical data show that every year there are areas in which crop failures will leave people short of food, if not in a famine situation. It is, however, much more difficult to specify just where a shortage will occur, or has occurred, in any one year. Very poor communications, an inadequate road network, continuing rebel warfare, and unreliable historical data on food production and population numbers force observers to rely principally upon spatially vague, anecdotal reports and upon a general knowledge of which areas have been most affected in the past.

Food assistance decisionmakers, both in Ethiopia and internationally, are faced with the task of defining how many people have been affected by this year's crop failures, and where they are located. In the face of the data limitations cited above, the use of satellite imagery for determining local crop conditions holds promise of adding a new dimension to the decisionmaker's base of knowledge. Of course, interpretation of satellite imagery is also limited by the lack of a reliable historical context for population numbers, production levels, and land use patterns. Nevertheless, use of the historical imagery database (1981 to 1987) allows one to compare current vegetative conditions with those of previous years and to infer relative crop conditions, thereby fixing more precise geographic boundaries around affected areas.

Most of the rest of this monthly report is dedicated to showing the results of such an historically relative, geographic assessment of crop prospects. Because

the contextual data on population and crop production do not exist at a fine enough scale, no attempt will be made here to extend the analysis to estimate either the number of people affected or the amount of the food production shortfall (and hence the level of food assistance required). The report will, instead, limit itself to defining, on a sub-awraja level, those areas that appear to have been most severely affected by adverse cropping conditions, in hope that the results will assist others in estimating the numbers, locations, and food assistance requirements of the most affected populations.

The basic unit of analysis for this assessment was a series of .25° grid squares (17 miles by 17 miles), laid over those areas considered to be most vulnerable to crop failure (most of Eritrea, Tigray, Wello, and Shewa Regions, the agricultural highlands of Harerghe Region, and the Rift Valley). The imagery associated with each grid square was analyzed to compare vegetative growth trends during the main (meher) rainy season in 1987 with those of prior years. The results were then plotted on an awraja-level map to show the geographic extent of inferred relative crop conditions.

Areas of Poorest Relative Crop Conditions - Maps 5 and 6 show areas of apparent crop stress scattered across the study area. Several of the areas showing below-average cropping conditions are associated with highland river valleys, especially those of the Tekeze, the Beshela, and the Mereb Rivers (see Map 3 in this report, and FEWS Report 14-15). Other major areas of apparently poor crop conditions include the eastern edge of the highlands running north of Mekele to Asmera, and some of the Rift Valley. Even average conditions in these traditionally vulnerable areas may not be good enough to produce a significant crop. Thus, the average and below-average crop conditions in the marginal agricultural areas of Eritrea and Tigray are a cause for great concern (see Maps 5-8).

Relatively unfavorable cropping conditions are also found in western Wello (especially Wag and Lasta awrajas), eastern Gonder (especially Libo and Gayint awrajas), northeastern Shewa (especially Merhabete, Menz and Gische, Yifat and Timuga, Yerer and Kereyu, and Tegulet and Bulga), many areas along the Rift Valley, and the southern highland agricultural areas west of Dire Dawa and east of Awash, as well as those around Jijiga. Again, a great many of those areas which reflect average conditions may also be in serious trouble, as average conditions may not allow a significant harvest. Ground surveys of agricultural conditions (which generally describe large areas on the basis of a visual inspection of small subareas) are important checks on the use and interpretation of satellite imagery. An October survey of northern Ethiopia by the International Committee of the Red Cross (ICRC) estimates that 30% to 80% of the crops failed in much of Eritrea, Tigray, Wello, and Gonder. Map 9 gives approximate locations and crop loss rates identified by the ICRC survey.

Rainfall Patterns, As Seen in Satellite Imagery of Vegetation - Maps 10, 11, and 12 show the results of an interpretation of vegetative development used to describe the major characteristics of the main season rains in each grid square. The interpretation suggests that there were two different harmful patterns of rainfall seen in the most seriously affected areas. Rains were late along the eastern edge of the highlands in Tigray, Eritrea, northeastern Shewa and Harerghe, and stopped soon after a normal start in south-central Tigray, western

Wello, and eastern Gonder (an area that southwestern rain-bearing winds frequently miss due to a "rain-shadow" effect). A late start shortens the growing period and reduces yields if the season does not then continue later than normal. A cessation of rains after a normal beginning can inflict fatal stress on young seedlings, and often forces farmers to re-seed. After re-seeding, farmers then face the same problem of a shorter growing period. Dry spells in the middle or late part of the rainy season, if long enough in duration, may further stress vegetative development.

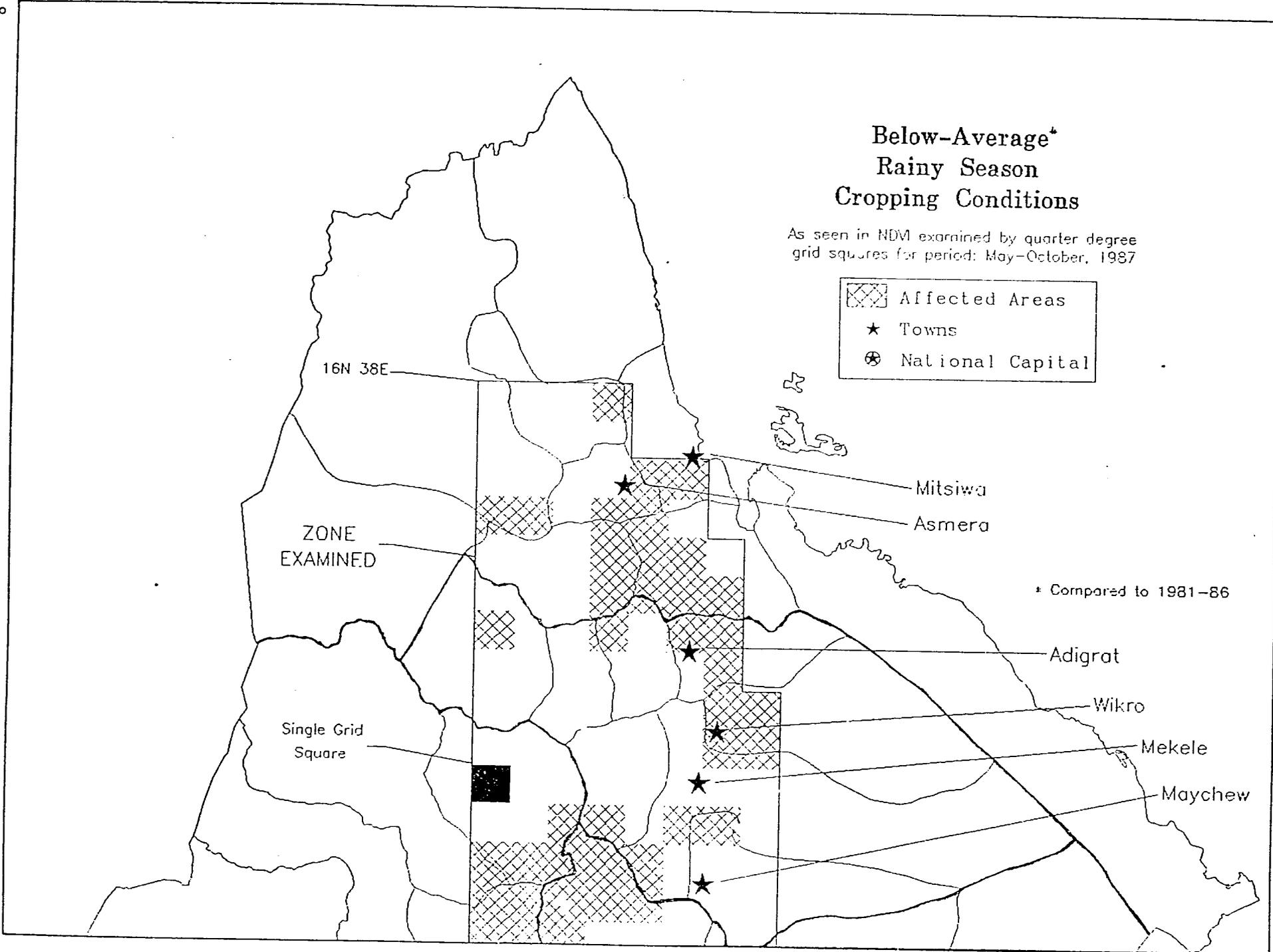
Areas With Relatively Better Crop Conditions - Much of the country outside of the zones examined in this assessment has experienced above-average cropping conditions at the awraja level during the 1987 meher season. Whatever food production problems there have been in Ethiopia this year, they appear to be largely limited to areas known to be historically vulnerable.

Even within these usually vulnerable areas, there are awrajas, or parts of awrajas, that have probably not experienced worse than average conditions (see Map 13). In Eritrea, the southeastern corner of Akordat, the western half of Keren, and parts of Seraye appear to have had better than average conditions. As conditions are never optimal for agriculture in these generally dry areas, the above-average conditions may not mean that a significant crop was brought in this year. In Tigray, as is frequently the case, Shire awraja appears to have experienced good cropping conditions during the main rainy season. Other areas in Tigray, like a small zone in southern Axum and on the eastern slopes of the highlands south of Mekele, may have had better than average conditions that, again, may not signify favorable agricultural conditions. In Wello, east of a line running from Alamata to Dese, better than average conditions may have existed. Other smaller areas of above-average conditions can be found around Butajira in Shewa, and south and east of Dire Dawa in Harerghe Region.

Below-Average* Rainy Season Cropping Conditions

As seen in NDM examined by quarter degree
grid squares for period: May-October, 1987

	Affected Areas
	Towns
	National Capital



* Compared to 1981-86

ZONE
EXAMINED

Single Grid
Square

16N 38E

Mitsiwa

Asmera

Adigrat

Wikro

Mekele

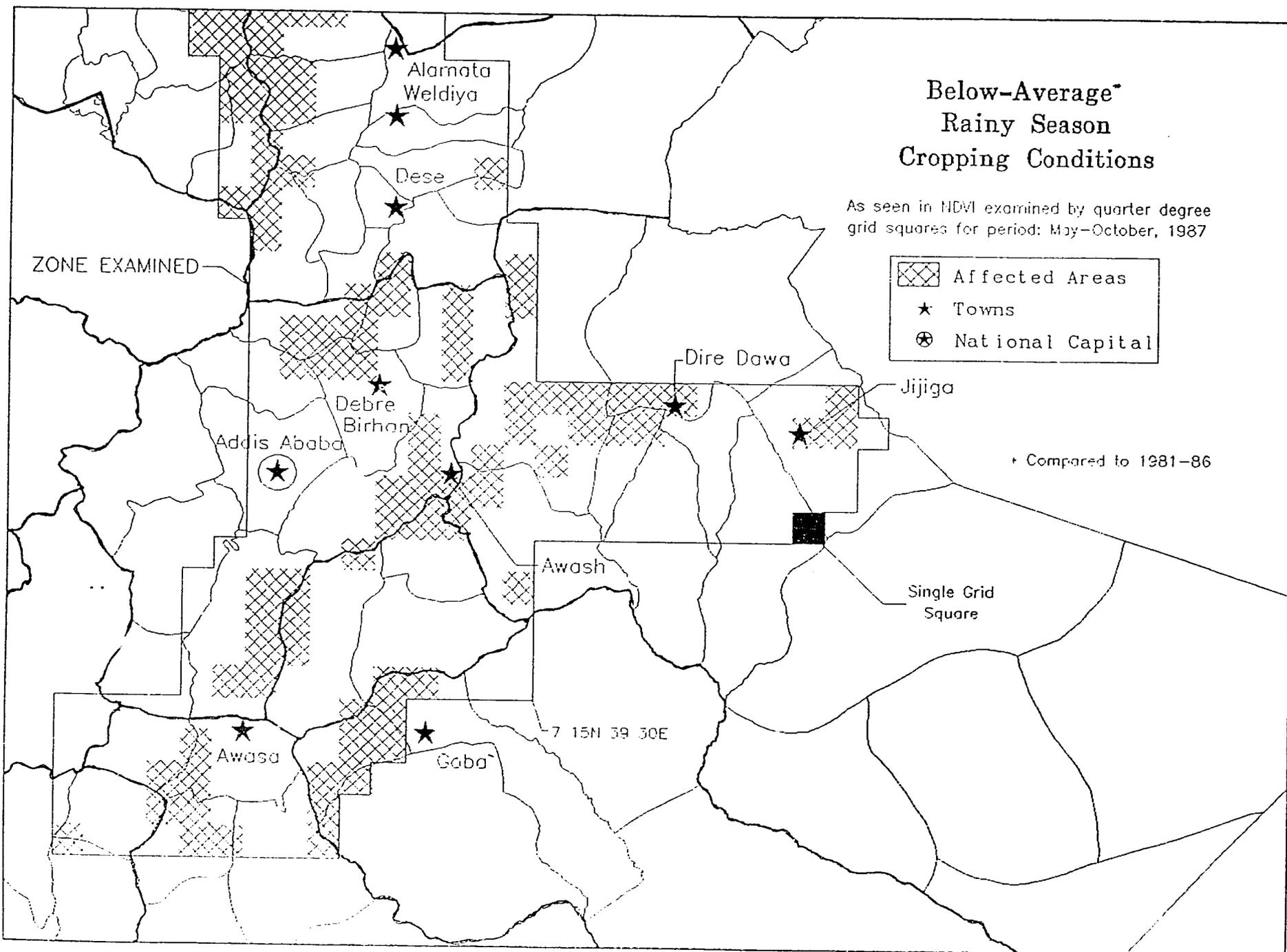
Maychew

Below-Average Rainy Season Cropping Conditions

As seen in NDVI examined by quarter degree
grid squares for period: May-October, 1987

	Affected Areas
	Towns
	National Capital

+ Compared to 1981-86

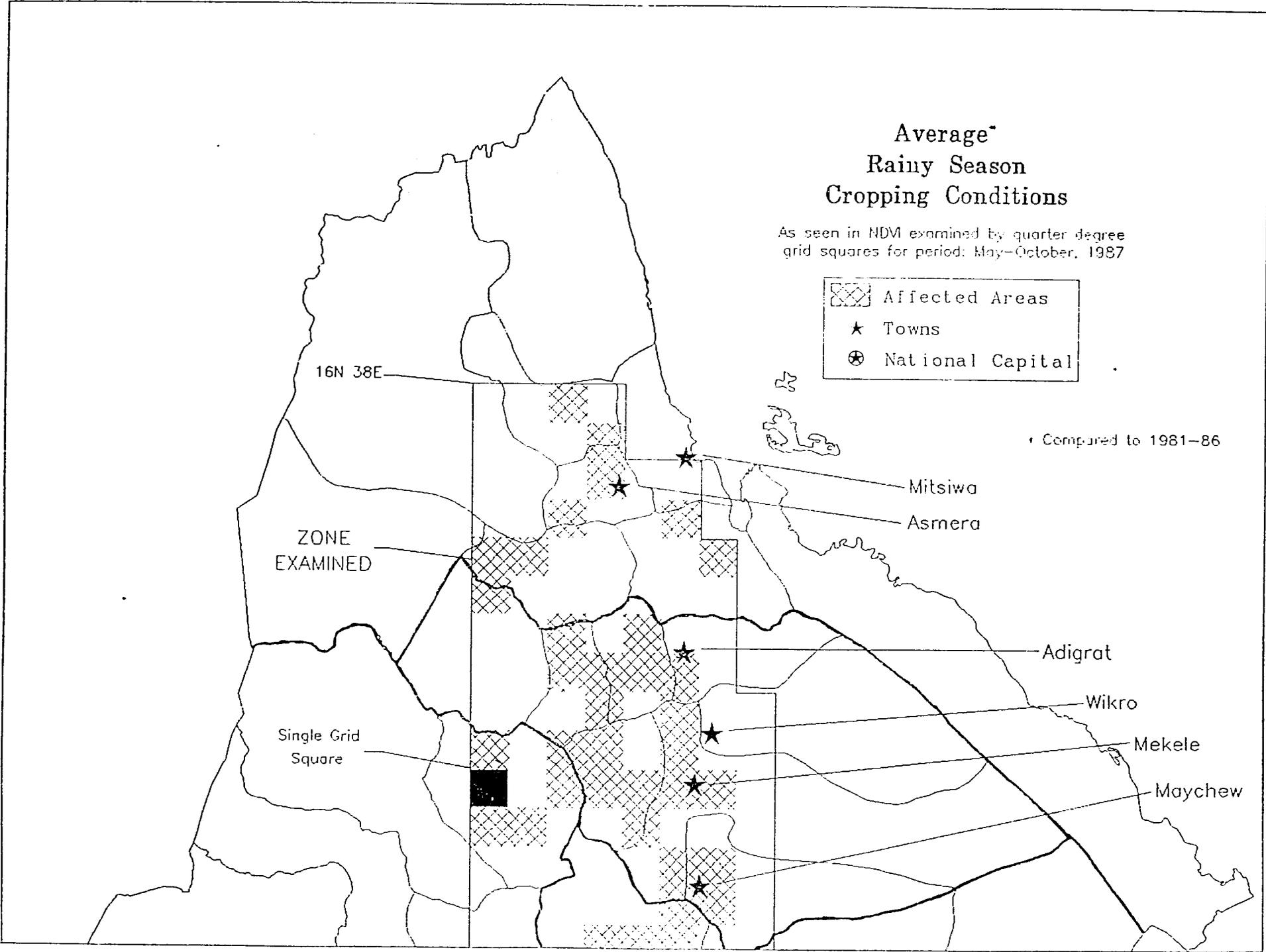


Average* Rainy Season Cropping Conditions

As seen in NDM examined by quarter degree
grid squares for period: May-October, 1987

	Affected Areas
	Towns
	National Capital

* Compared to 1981-86

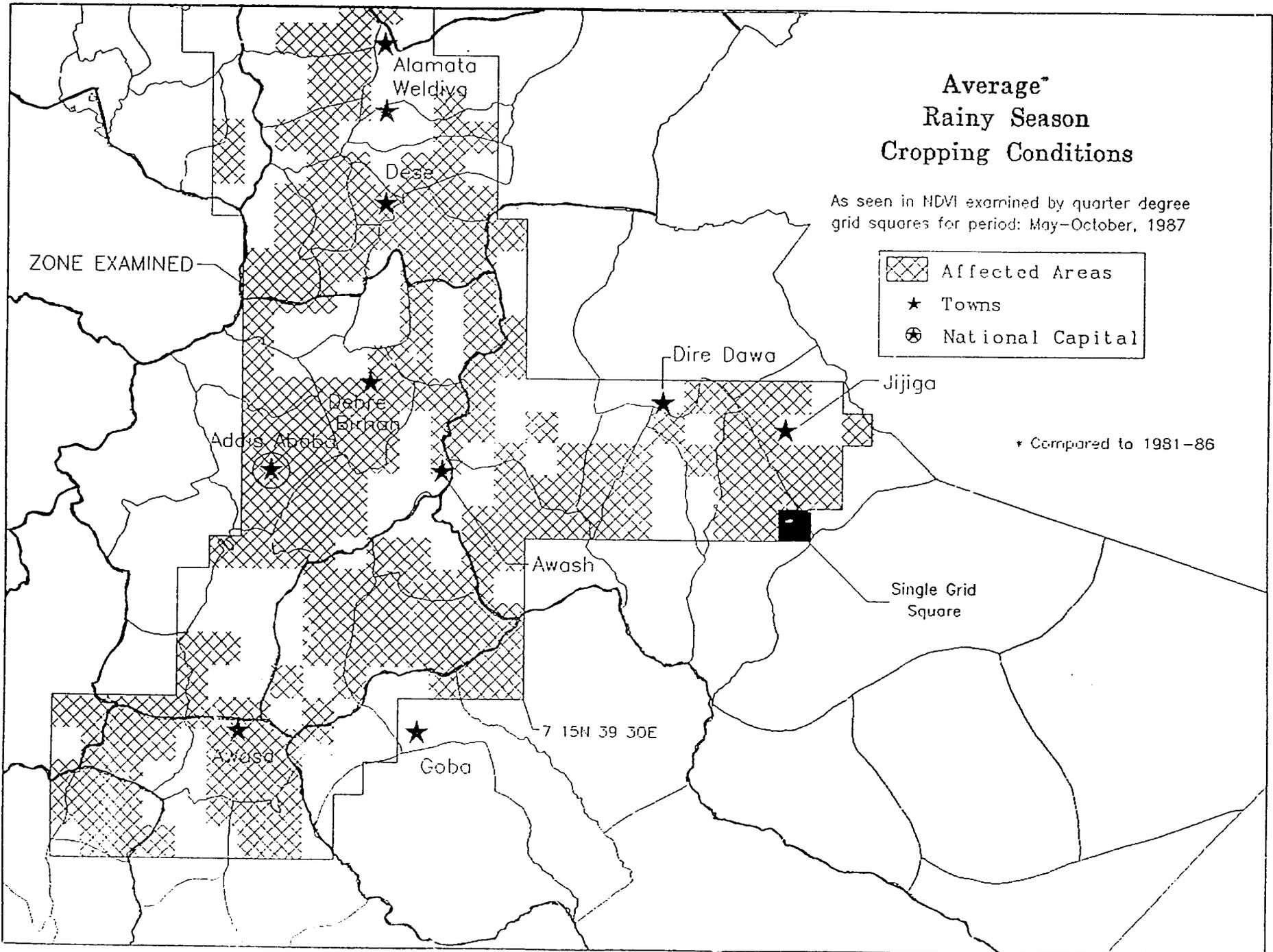


Average* Rainy Season Cropping Conditions

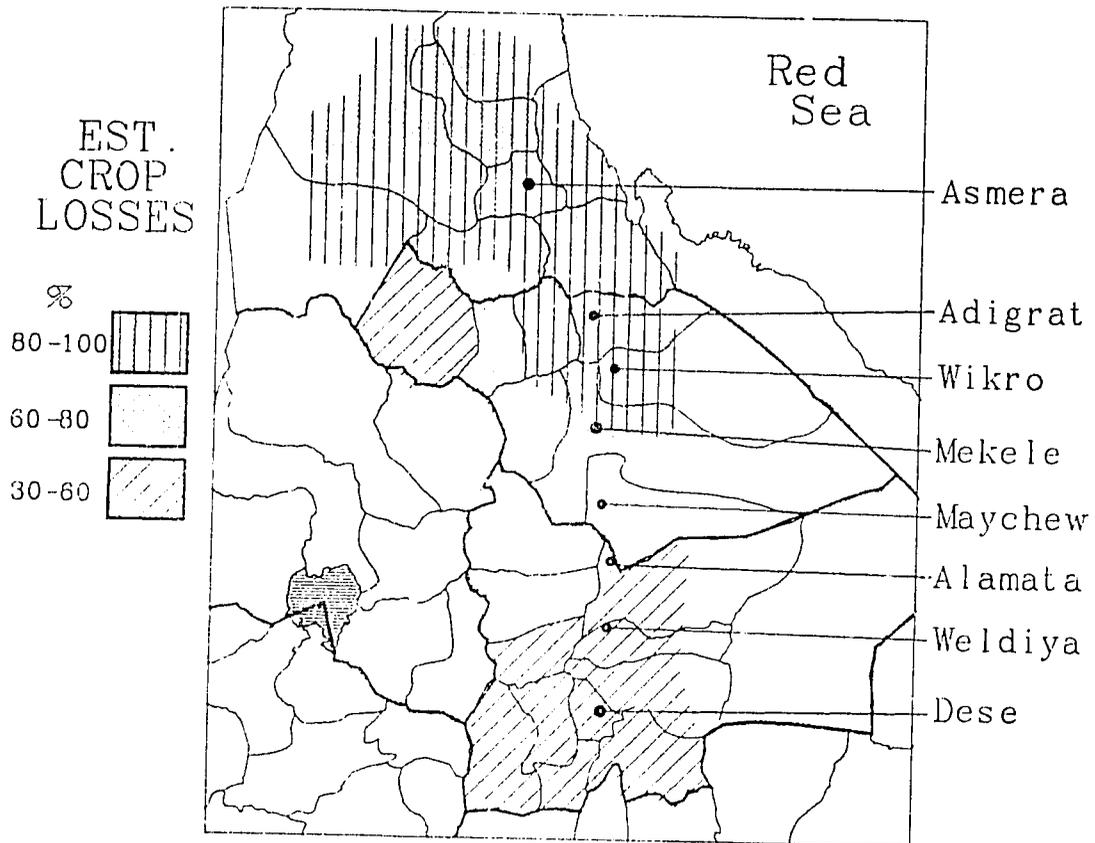
As seen in NDVI examined by quarter degree
grid squares for period: May–October, 1987

	Affected Areas
	Towns
	National Capital

* Compared to 1981–86



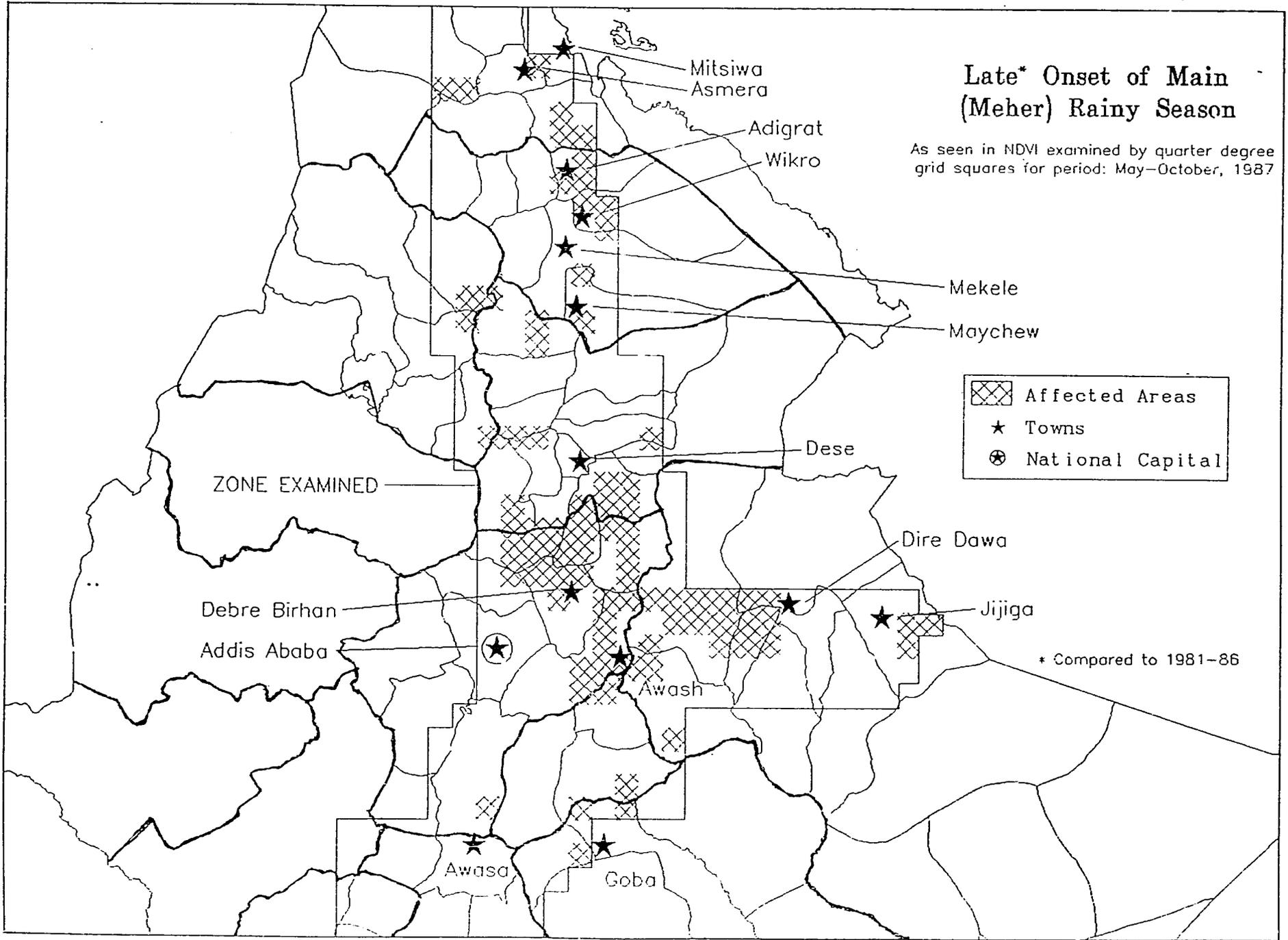
ICRC CROP SURVEY: Eritrea, Tigray, Wello, Gonder



All locations approximate

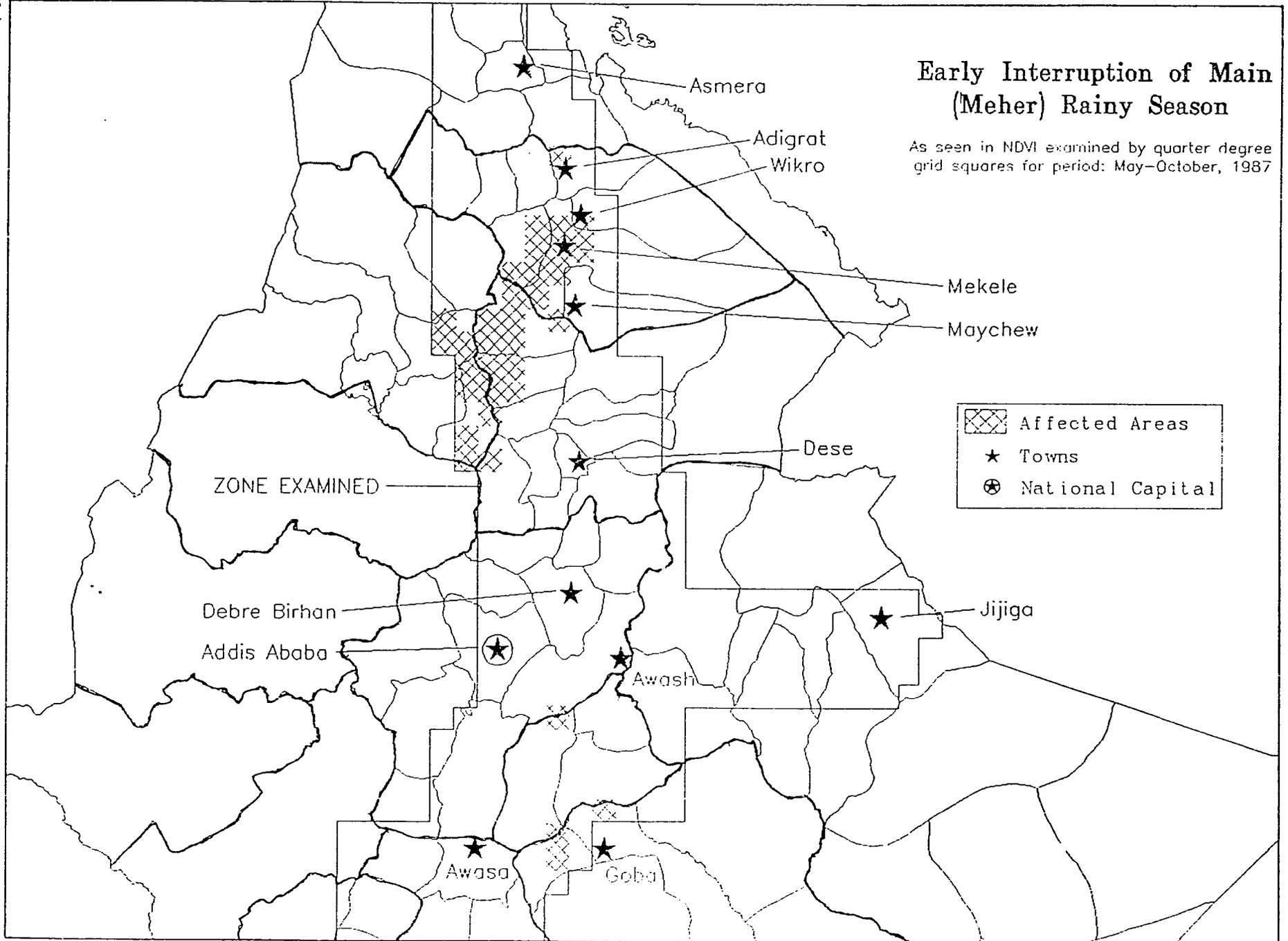
Late* Onset of Main (Meher) Rainy Season

As seen in NDVI examined by quarter degree grid squares for period: May–October, 1987



Early Interruption of Main (Meher) Rainy Season

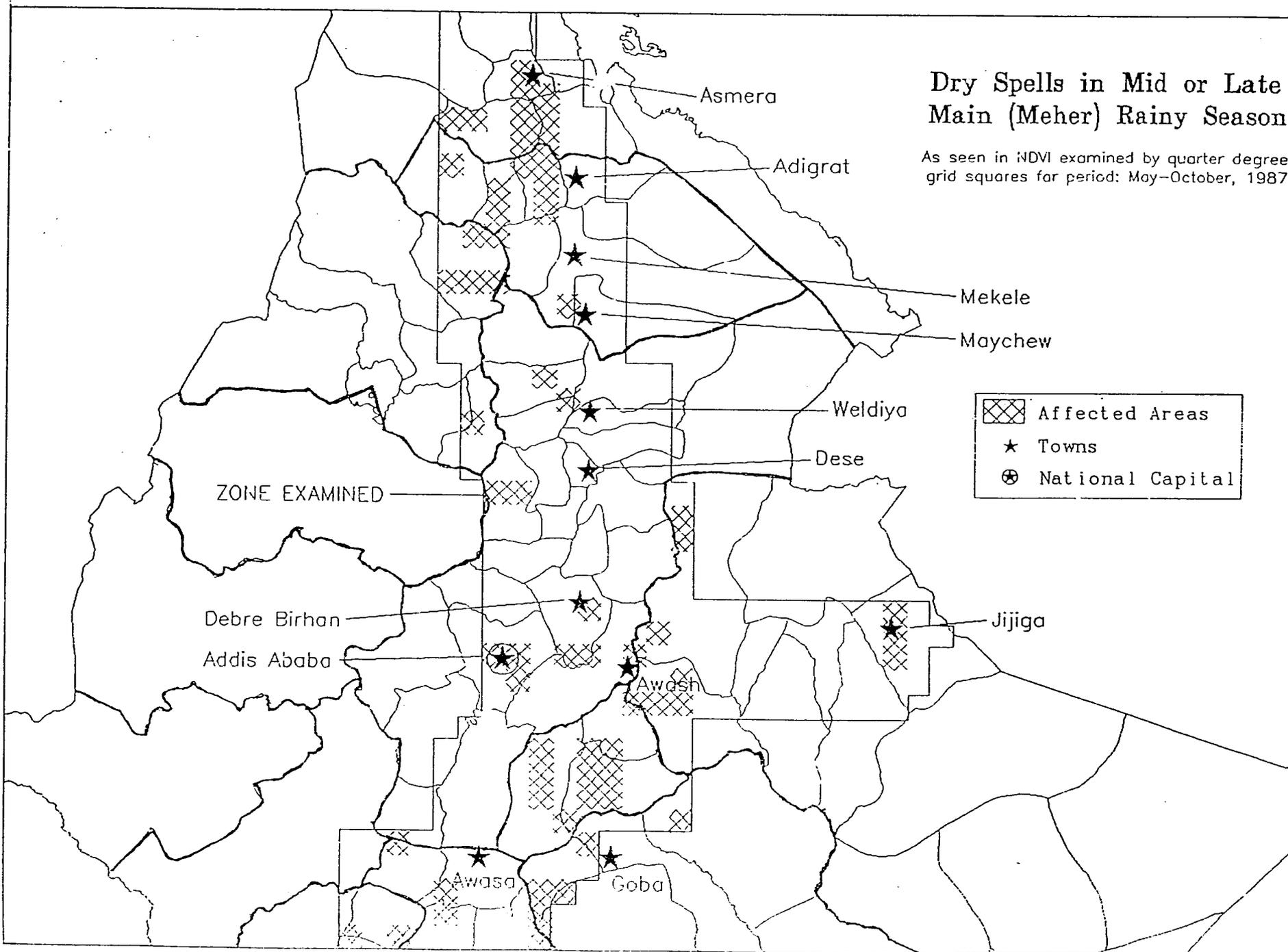
As seen in NDVI examined by quarter degree grid squares for period: May–October, 1987



	Affected Areas
	Towns
	National Capital

Dry Spells in Mid or Late Main (Meher) Rainy Season

As seen in NDVI examined by quarter degree grid squares for period: May-October, 1987

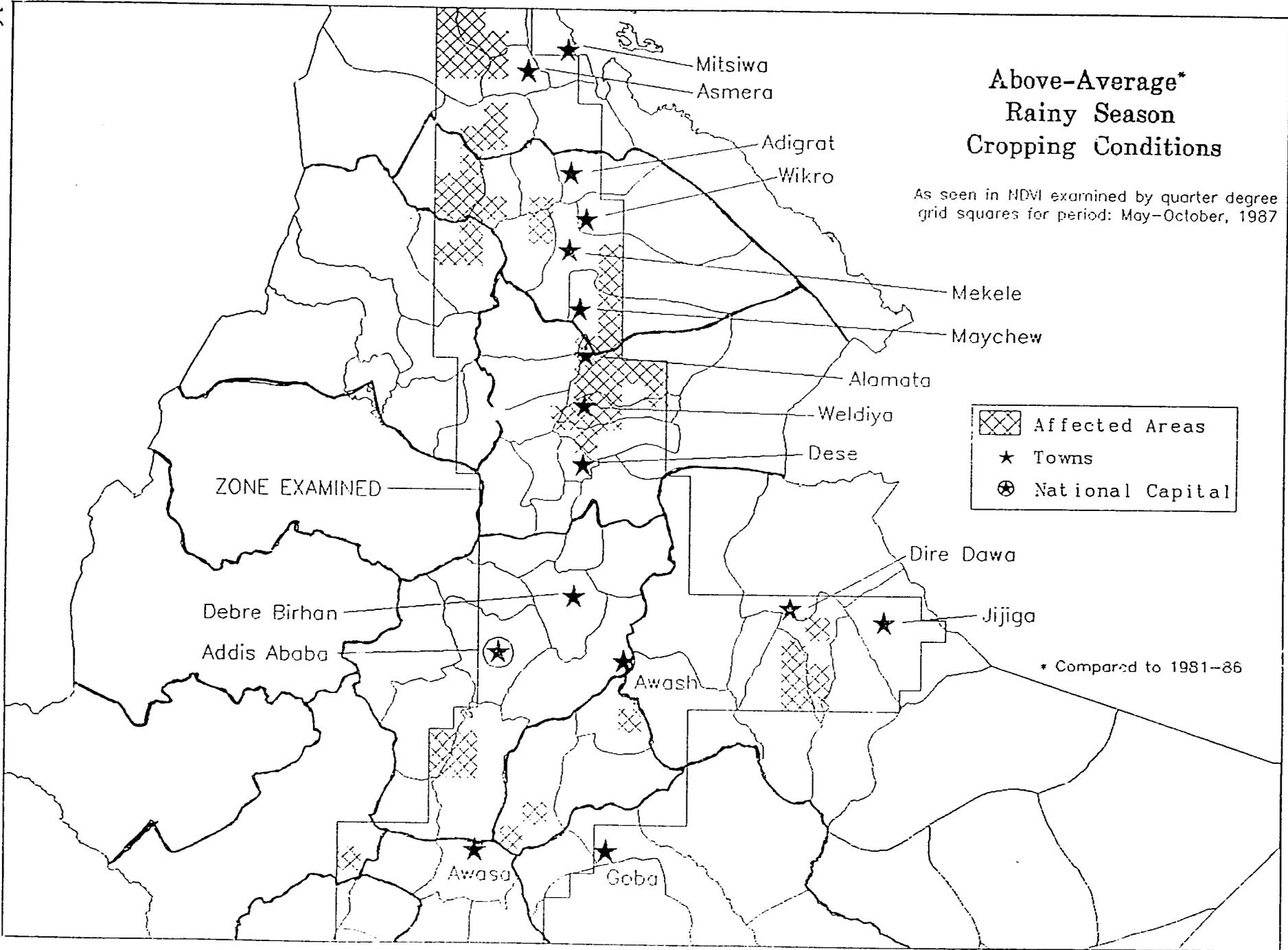


Above-Average* Rainy Season Cropping Conditions

As seen in NDVI examined by quarter degree
grid squares for period: May-October, 1987

	Affected Areas
	Towns
	National Capital

* Compared to 1981-86



FAMINE EARLY WARNING SYSTEM

This is the sixteenth/seventeenth in a series of monthly reports on Ethiopia 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 problematic 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 FEWS effort highlights the process underlying the deteriorating situation, 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, estimates of food needs 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 the 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 estimates of food needs 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: the offices of Food For Peace and Voluntary Assistance (FFP/FVA) and the Office of Foreign Disaster Assistance (OFDA). Additional useful information is also provided by the National Oceanic and Atmospheric Administration's National Environmental Satellite, Data, and Information Service (NOAA/NESDIS), the National Aeronautic and Space Administration (NASA), the UN Food and Agriculture Organization (FAO) Global Information and Early Warning System (GIEWS), the World Food Programme, and other U.N. agencies.

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