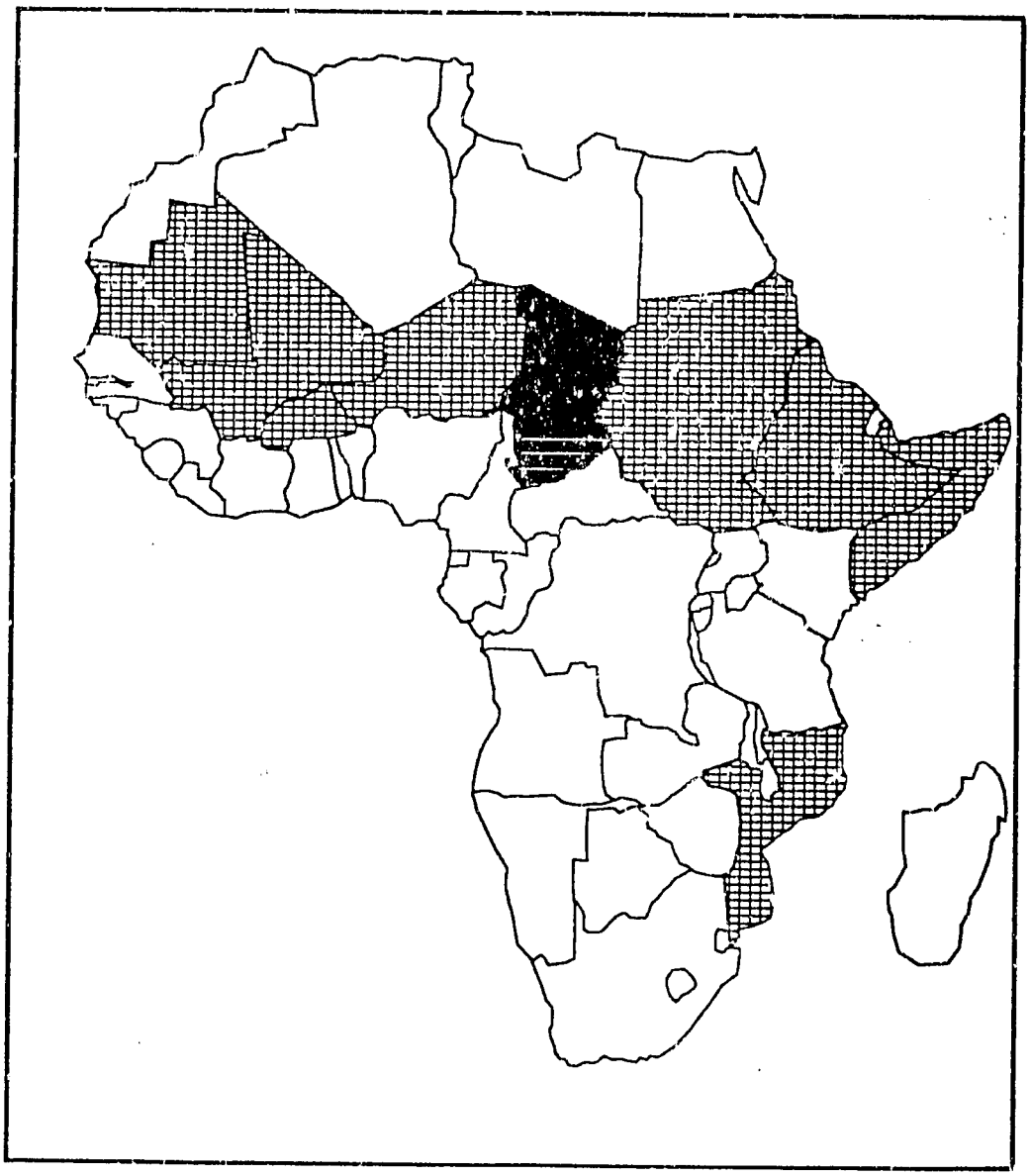
Report Number 3
August 1986

FEWS Country Report

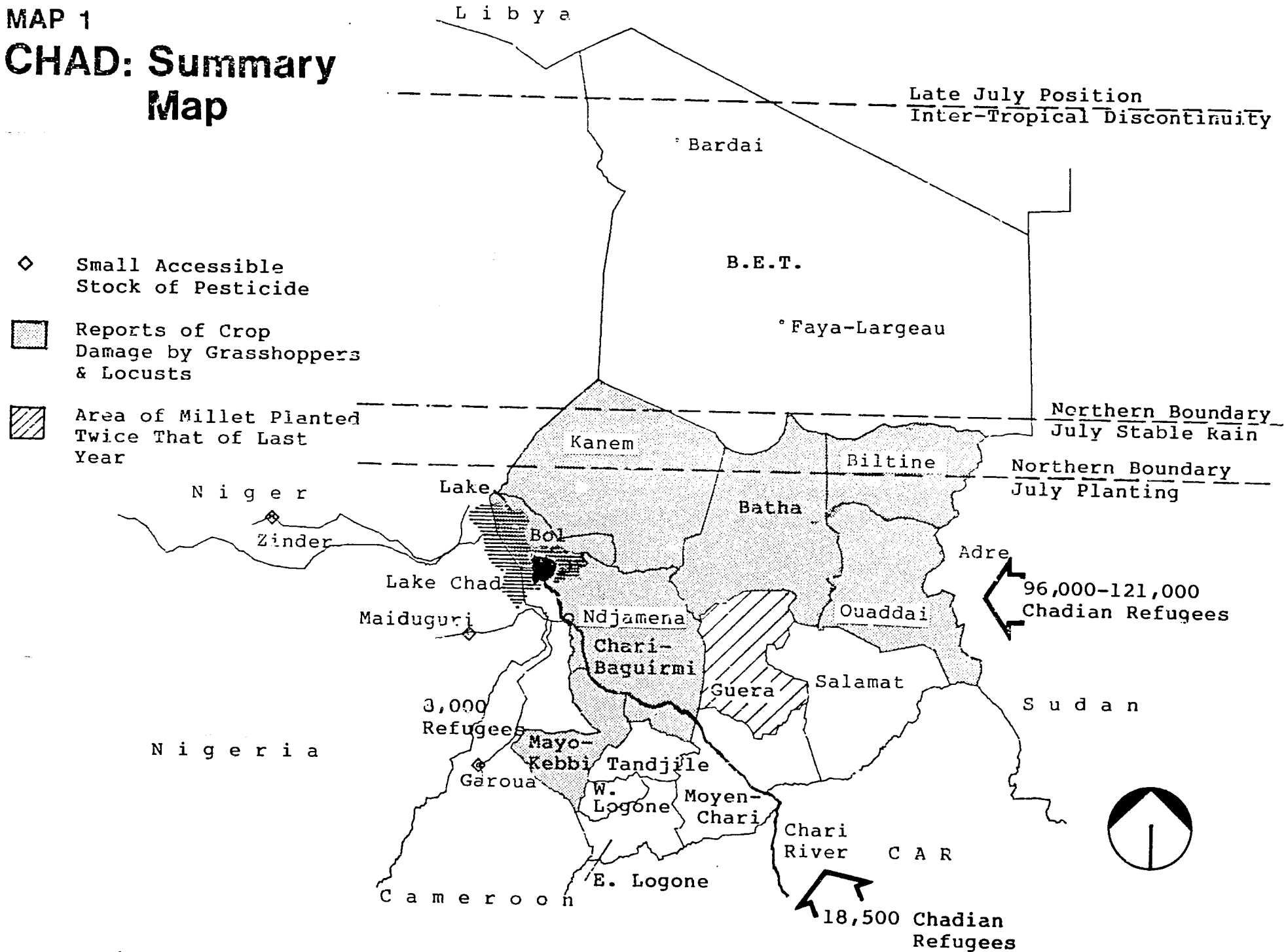
CHAD



Africa Bureau
U.S. Agency
for International
Development

MAP 1

CHAD: Summary Map



Map: FEWS/PWA, August, 1986

Famine Early Warning System Country Report

CHAD

Strong Growth, Threat of Locusts

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

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August 1986

Contents

INTRODUCTION

This is the third of a series of monthly reports issued by the Famine Early Warning System (FEWS) on Chad. It is designed to provide decisionmakers with current information and analysis on existing and potential nutrition emergency situations. Each situation identi-fied 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.

SUMMARY

Last year Chad had a record crop. With July's rain, this year's prospects look even better, but grasshoppers, locusts and rats threaten the outcome of the harvest. Both migratory and desert locusts have been verified in the Bol Sub-prefecture of Lake Prefecture (Map 2). It is unlikely that control spraying will get underway before the current nymphal locusts mature. Outbreaks of measles, meningitis and trypanosomiasis in the south have been stabilized. Anthrax and blackleg have also been identified among livestock. Control of these has yet to get underway due to a lack of vaccines, but they should pose no significant threat (Map 3). The ongoing repatriation of Chadian refugees as conditions improve is slow enough that it should cause little stress on food reserves. As the time for harvesting approaches, the flow may speed up. The use of famine foods has been noted in the southwest, although the full implications of this are not known.

Issues

- The grasshopper/locust control campaign has been blocked by a shortage of materiel. The rains have made many roads impassable, slowing progess further and necessitating airlifts. If the locusts are not brought under control this year, the implications for the region are not good.
- Locations and counts of pest species and nymphal/adult stages are needed to develop the control program for this year and to aid in planning for next year.
- Food reserves are present but low in most of the country. The areas closest to the identified locust infestation have no reserves, but are receiving some food aid.

Key August Events

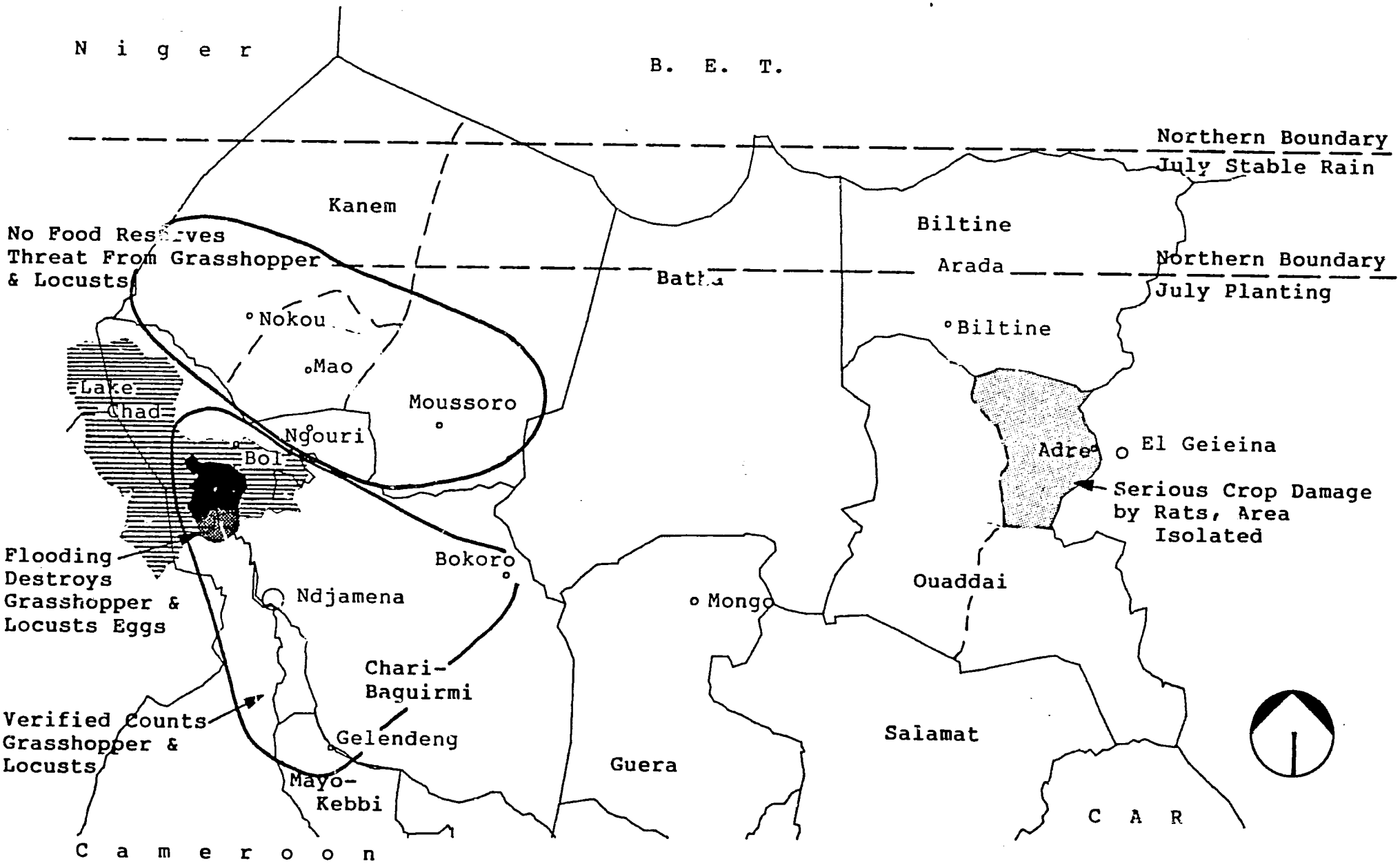
- The locust control campaign must start. Pledged chemicals and equipment should arrive and be positioned where needed. The assessment teams will contribute their findings to the planning process.
- With continued rains, grain crops should reach the hardening stage, barring destruction by pests.

RAINFALL AND AGRICULTURE

The Inter-Tropical Discontinuity (ITD) has stabilized at 22 degrees N or higher of latitude, some 50 miles north of Bardai in B.E.T. It should be possible for Faya-Largeau to see rain, and indeed the rains had moved well up into Desert by July 29 and have been very regular south of B.E.T. Prefecture (Map 1).

MAP 2

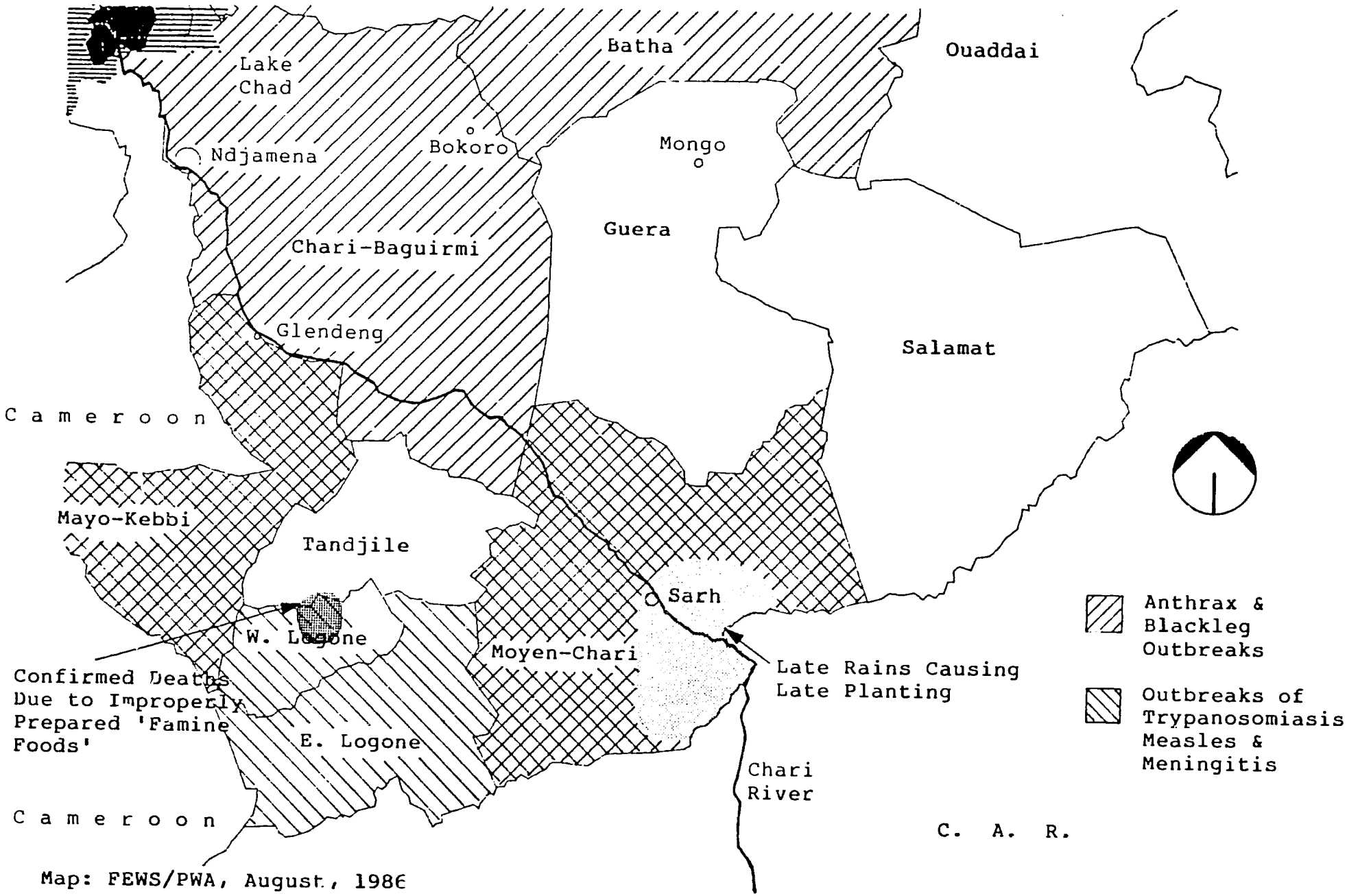
CHAD: Sahelian Zone



Map: FEWS/PWA, August, 1986

MAP 3

CHAD: Sudanian Zone



Map: FEWS/PWA, August, 1986

Assessments of satellite imagery show intense greening around Lake Chad, where last year there was little. This reflects the fact that some Lake areas have received rainfall amounting to over 100% of the 30 year average. Planting has moved to 15 degrees N (just below Arada in Biltine Prefecture and north of Mao in Kanem Prefecture), close to the usual northern boundary of crop production (Map 2).

Crops are at the tillering stage in the Sudanian zone (south of Ndjamena and Mongo, Map 3) and pasture grasses have been growing rapidly. If the rainfall trend continues to early September, this crop season should be outstanding. In fact, the people of Guera Prefecture are optimistic enough to have planted twice the area of millet planted last year.

In Chari-Baguirmi, Lake, Ouaddai and Kanem Prefectures there have been multiple plantings especially of millet due to seedling damage by grasshoppers, locusts, rats and mole crickets. Dry season maize now reaching maturity in Lake Prefecture has been severely damaged by grasshoppers and locusts.

None of these four prefectures is a major grain producer for Chad. Rather, the grain is consumed locally with little outside imports. Last year, millet supplied over 80% of the grain grown in both Kanem and Ouaddai Prefectures, and about 34% of the grain grown in Lake Prefecture. Last year's maize supplied over 25% of Lake Prefecture's grain production. Maize is important for carrying the Lake population over until the fall harvest. The current damage will negatively effect Lake's food reserves.

Because the necessary chemicals and equipment for locust and grasshopper control are not yet in country, there is potential for further serious crop damage in Lake Prefecture and the south of Kanem Prefecture. The extent of the damage will depend in part on whether the locusts move out of the area around Bol before the control program is begun.

The one area of concern has been southern Moyen-Chari Prefecture near Sarh (Map 3). The late start of rains and the low level of the Chari River delayed planting into June. Adequate rains in late June and early July have caused some recovery in vegetation cover. The rise of the Chari River at Njdamena to 84cm on July 12 and 144cm on July 20 is indicative of the amount of rain that has fallen over its watershed.

It is usual in Moyen-Chari for vegetables to be harvested through August and cereals to be harvested through September. With continued adequate rainfall there is just enough time for crops to yield a normal harvest.

PESTS

The onset of rains and the consequent vegetation growth have brought with them a disturbing increase in grasshoppers and locusts. Rats and mole crickets have also been reported as current crop pests.

Grasshopper/Locust Situation

The Chadian Crop Protection Service reports grasshopper problems in all Sahelian prefectures (Maps 1 and 2). Points of verified counts as of July 31 are given below. Two UN Food and Agriculture Organization (FAO)/Government of Chad (GOC) assessment teams are obtaining counts in the Sahelian prefectures not cited. Their reports were due in Ndjamena on August 5, but their progress has been impeded by the onset of the rains.

Table 1: Counts of Grasshoppers and Locusts

Location	Count per Square Meter
Chari-Baguirmi Prefecture	
Bokoro (about 130 miles east of Ndjamena)	3-4 grasshoppers
Gassi Seed Farm (near Ndjamena, in Ndjamena Rural Sub-pref.)	50 grasshoppers
Lake Prefecture	
Bol (on north shore of Lake Chad)	42 grasshoppers 8 locusts-Desert (v. unusual) & Migratory
Mayo-Kebbi Prefecture	
Gelendeng (about 100 miles south of Ndjamena)	3+ grasshoppers

Source: Mission Cables

The significance of a density of three grasshoppers per square meter, or 30,000 grasshoppers per hectare, varies with the density of the vegetation. (One hectare is on the order of two football fields side by side). In an area of sparse new growth, this number of grasshoppers can do quite a bit of damage.

Bol, the area of most concern, is one of two possible sources of major migratory locust plague in Africa. (The other is the Central Delta of the Niger River, in Mali.) The ambient ground moisture from Lake Chad, the warm temperatures and this year's good rains are perfect for

vegetation growth and speedy egg maturation. The same conditions are favorable for speedy locust maturation.

Especially troubling is that four of eight locusts seen per square meter in Bol are immature migratory locusts in all stages of development. This means that seperate cohorts will be maturing every eight to ten days. Also, locusts in the swarming mode have a much shorter reproduction cycle than those in the solitary mode. These two factors combined with continued favorable weather could initiate a continuous reproductive cycle.

The recent rainfall and the rise of the Chari River noted above have contributed to flooding at the south of Lake Chad. The flooding will drown any locust or grasshopper eggs, and help to ameliorate the situation in Chari-Baguirmi between the lake and Ndjamena (Map 1).

Grasshopper/Locust Control

As of July 31, the estimated area under cultivation is 1,100,000 hectares (ha) of cereals (600,000 ha in the most affected areas) and 200,000 ha of cotton and vegetables. FAO plans to cover 200,000 ha of cereals via aerial control and 100,000 ha via ground control in its grasshopper and locust campaign.

There are no insecticides for grasshoppers or locusts in Chad, although small amounts of pledged equipment have begun to arrive. FAO has received pledges from itself, EEC, Italy and the US for 88,000 liters of Fenitrothion ULV and 400 tons of Propoxur, as well as an airplane equipped for spraying, technical assistance and other necessary equipment and training.

Additional Fenitrothion prepositioned by the now defunct Inter-African Organization for the Control of Insects (OICMA) Maiduguri, Nigeria (6,000L), and Zinder, Niger(5,000L), was made available for use in Chad (Map 1). Oxfam has paid for the procurement and delivery of the Maiduguri stocks, which have arrived in Ndjamena. A sponsor for the Zinder stock is still being sought.

Kanem and Lake Prefectures are priority control areas. Aerial spraying of 4,500 ha around Bol and areas in Kanem is to begin immediately on arrival of Fenitrothion shipments. When aerial spraying is completed in these two areas, additional spraying will take place in other priority regions, which continue to be identified. Ground dusting with Propoxur will be carried out by individual farmers.

A campaign of ground dusting in July would have killed the grasshopper and locust nymphs, which stay on the ground. This did not occur due to a lack of insecticide and equipment. Instead, the campaign will combat much more difficult to control adult insects via aerial spraying. If the campaign were to start now the insects could be contained before the start of the next reproduction cycle. The longer action is postponed, the more likely it will be that the situation will get out of hand. The control campaign will be necessary at least through October.

A more optimistic assessment of the extent of locust and grasshopper infestation has recently been received from the AID Office of Foreign Disaster Assistence (OFDA) team due to return from Chad on or about August 30. Based on its assessment, the team is recommending that only 2,000 ha be sprayed in the Bol area (compared to the 4,500 ha above), with any other coverage needed being done via ground dusting. The extent of the other coverage, and whether 'other' refers only to Lake Prefecture or to the rest of Chad, will be known when the team's official report is received.

Rats

Desert rats have caused crop damage in Chari-Baguirmi, Lake, Batha and Ouaddai Prefectures. Adre, in Ouaddai Prefecture, has been hardest hit with an average of 60% crop damage and some fields showing 100% damage.

LIVESTOCK

There have been anthrax and blackleg outbreaks in Chari-Baguirmi, Mayo-Kebi, Batha, and Moyen-Chari Prefectures (Map 3). Anthrax, highly fatal to animals and man, is an annual problem of varying magnitude. It usually manifests itself at the beginning of the rainy season with new growth of pasture grasses.

Chad lacks the estimated $100,000 worth of vaccines necessary for an anthrax control campaign to cover 20% of livestock. It is expected that Chad will request donor support for anthrax control from the French aid organization (FAC) and the European Development Fund (EDF). Chad will request another $52,500 worth of vaccines for 20% coverage for blackleg and pasteurelloses from the same sources.

By themselves, the animal diseases should not cause greater than usual stress on Chadians' nutritional status. If such outbreaks get out of hand in areas of lower than normal rainfall (Moyen-Chari) or areas of heavy grasshopper, locust or rat infestation (especially

Lake and Kanem Prefectures), they may compound an already bad situation.

HEALTH AND NUTRITION

Overall, the population seems to be in better physical condition than at this time last year. Rates of malnutrition are down below 10% in most areas. In June there were outbreaks of measles, trypanosomiasis and meningitis in Moyen-Chari, Mayo-Kebbi, East Logone and West Logone Prefectures (Map 3). However, epidemic situations have been averted through the intervention of the Ministry of Public Health's regional mobile medical teams.

Nutritional surveillance in Chad is very limited since the end of the 1985 emergency situation. However, UNICEF has three mobile teams in the Mao area, including one that specializes in nutritional monitoring. (The other two work with the GOC on a large scale immunization campaign.) Two surveys in June at four sites in Mao Sub-prefecture revealed that 14%-18% of the children weighed and measured were malnourished. There are 13 feeding centers operating in Mao, three of which will also provide monthly rations for pregnant and lactating women. There was an independent report of vitamin A deficiency in one village in Ngouri Sub-prefecture (Lake Prefecture) based on complaints of impaired night vision. While there was no clinical confirmation, there was a single distribution of vitamin A to the town.

REFUGEES

As of July 6, UNHCR is assisting 60,000 of the 96,000-120,000 Chadian refugees in western Sudan. FEWS Report #2 noted that UNHCR was assisting 8,000 Chadian refugees in the Central African Republic (CAR) and 8,000 in Cameroon. There was a July report that 1,500 refugees had returned from Cameroon. It is not known whether any of these had been among those assisted by UNHCR. The total of Chadian refugees in CAR is 18,500, which implies that there are 10,500 Chadians not being supported by UNHCR.

One area to watch is Adre, as it is only 24 miles from El Geneina, an area of Sudan where Chadian refugees have been concentrated. It is also an area suffering from a current rat infestation, which could make absorption of new populations difficult (see PESTS, Rats).German-Agro-Action is operating a small rehabilitation project in the area. SECADEV, World Food Project and Sissaid also have been providing assistance to returnees in this area.

FOOD FLOWS

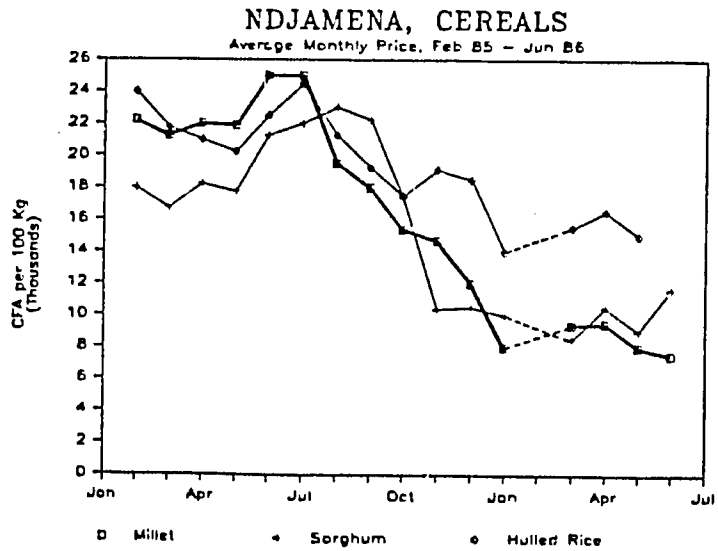
Except for a few sub-prefectures, there are food reserves in-place throughout the Sahelian prefectures. The sub-prefectures lacking food reserves are Ngouri (Lake Prefecture), Nokou, Mao and Moussoro (the last three in Kanem Prefecture). Ngouri is the major town closest to Bol. Nokou, Mao and Moussoro are the next closest travelling in a northeasterly direction, a possible direction for locust swarms. At least 500MT of grain food aid have been recently received at Mao. There is also food distribution taking place at Ngouri and Noukou, but not at Moussoro. Food aid is being distributed in West Logone Prefecture, although it is not known whether the prefecture lacks food reserves (see POPULATIONS-AT-RISK).

Because the general level of food reserves in Chad would not be sufficient in the event of a crisis, the US will be supplying an additional 10,000MT of food aid for Fiscal Year 1986. Italy has recently pledged 10,000MT of rice which is to arrive soon. A cost associated with large shipments of food aid is transport cost. A current estimate of transport cost of bagged grain from Douala, Cameroon, to Ndjamena, is $200/MT by rail and $260/MT by truck.

MARKET PRICES

Information from Ndjamena shows that prices of cereals have fallen over the past 16 months (Graph 1). While the planting season ranges from May in the south to July in the north, final cereal crops are harvested in September all over the country. The harvest is reflected in the sharp drop off in prices after September, 1985. An indication of the size of last year's harvest is the fact that prices have yet to reach the heights of the first half of 1985.

Graph 1:



In Ndjamena, a bowl of millet (approximately 2.5 kg) sold for 200 CFA in June. June prices of a bowl of millet varied from 100 to 175 CFA in Ouaddai, Guera, and Chari-Baguirmi Prefectures. In Lake and Kanem Prefectures, prices were in the 250 to 375 range. These prices are not unusual for these areas. A notable exception to the prevailing prices in the Sahelian zone was in Adre, Ouaddai Prefecture, where millet prices were as low as 50 and 75 CFA per bowl. Comparative figures for the Sudanian zone are not available.

POPULATION-AT-RISK

In Lake and Kanem Prefectures, the towns of Ngouri, Mao, Moussoro and Nokou should be monitored (Map 3). All lack the food reserves to feed the population during the growing season and are close to Bol, where locusts and grasshoppers are reported to have damaged the dry season maize. Further destruction of the millet crop would eliminate a major food source. Food reserves are being distributed in Ngouri, Mao and Nokou, but amounts are unknown.

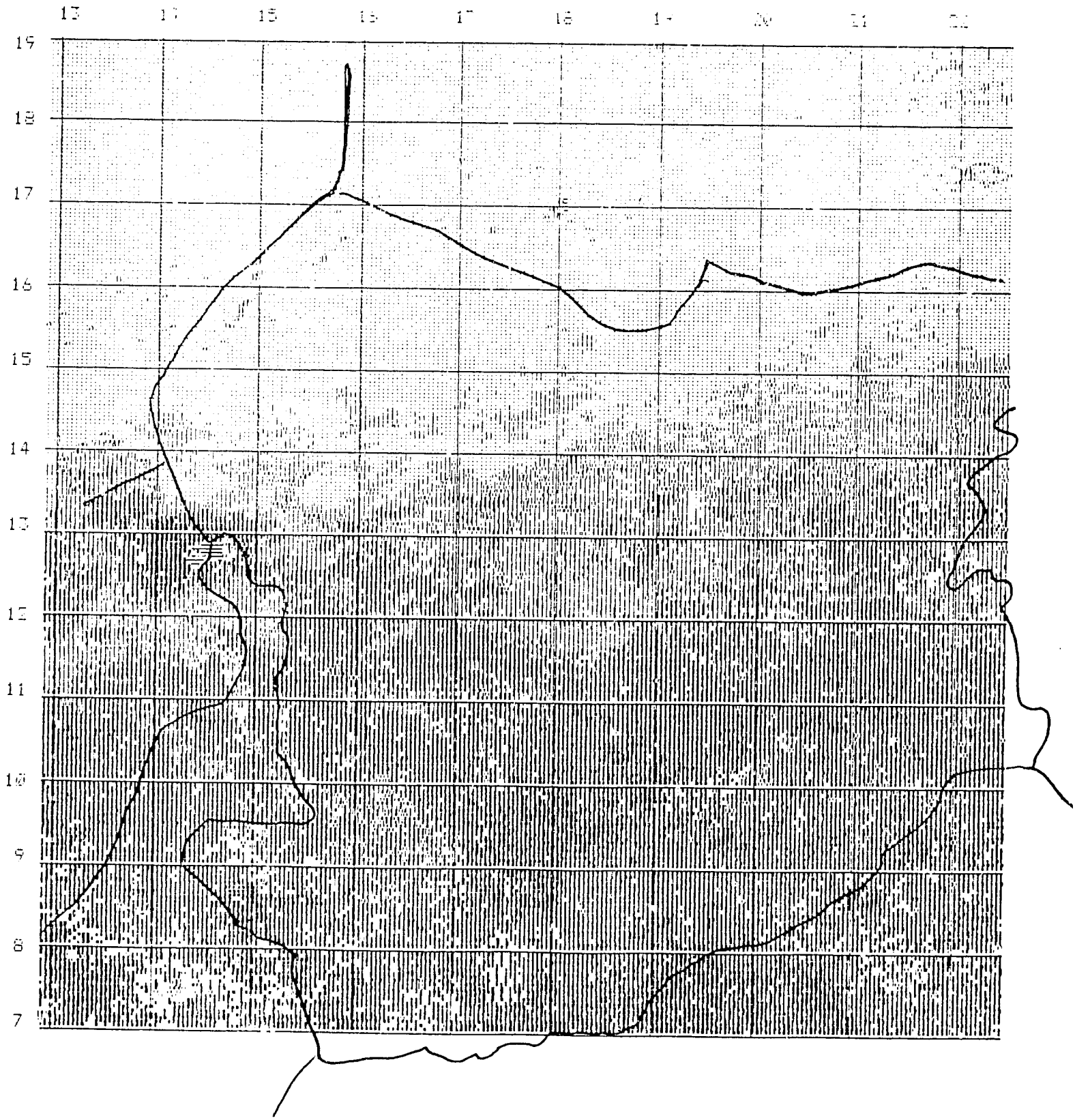
The estimated population of Lake Prefecture for 1986 is 147,000. Ngouri is one of two sub-prefectures, so a very rough estimate of its population is 73,500 people. Nokou, Mao and Moussoro are the three sub-prefectures of Kanem Prefecture, which is estimated to have 223,000 people.

The situation in the area of Adre, in east Ouaddai Prefecture, should be watched (Map 2). While there is still a good supply of millet from last year's harvest, as indicated by the low market price, the initial plantings in this sub-prefecture were destroyed by desert rats and grasshoppers. Adre is about 24 miles from a large UNHCR refugee camp in El Geneina, Sudan, and so is a logical point through which Chadian refugees would return home. Because transportation to and from the area is difficult, especially during the rainy season, people here must depend on local production.

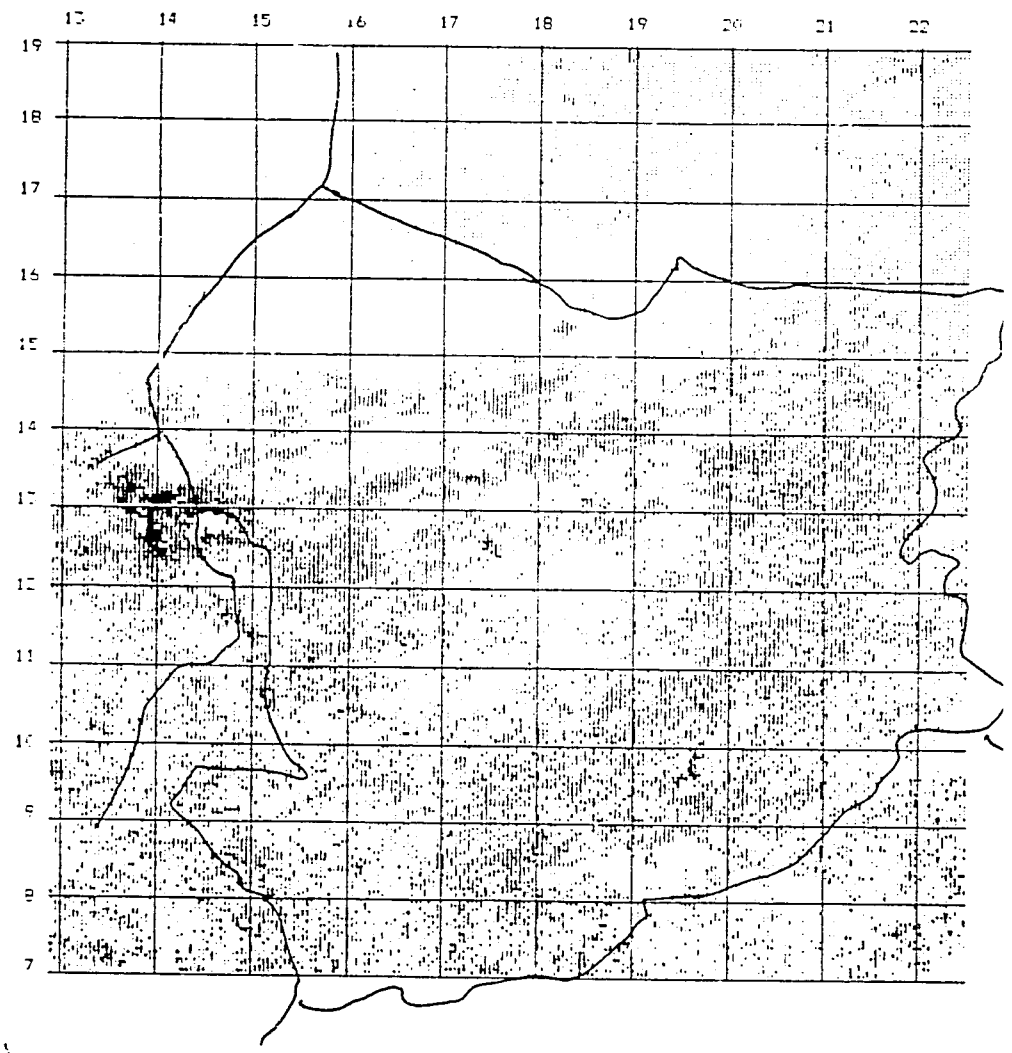
If the crops fail, or are unusually poor due to late replantings, and if repatriation from Sudan were to speed up (not expected at this time), there could be a nutritional crisis in this area. The 1986 estimated population of Ouaddai Prefecture is 392,000. Adre is one of four sub-prefectures, so a very rough estimate of its population is 98,000 people.

A final area to watch is West Logone Prefecture (Map 3). There have been confirmed reports of deaths from eating certain improperly prepared roots, which roots are among

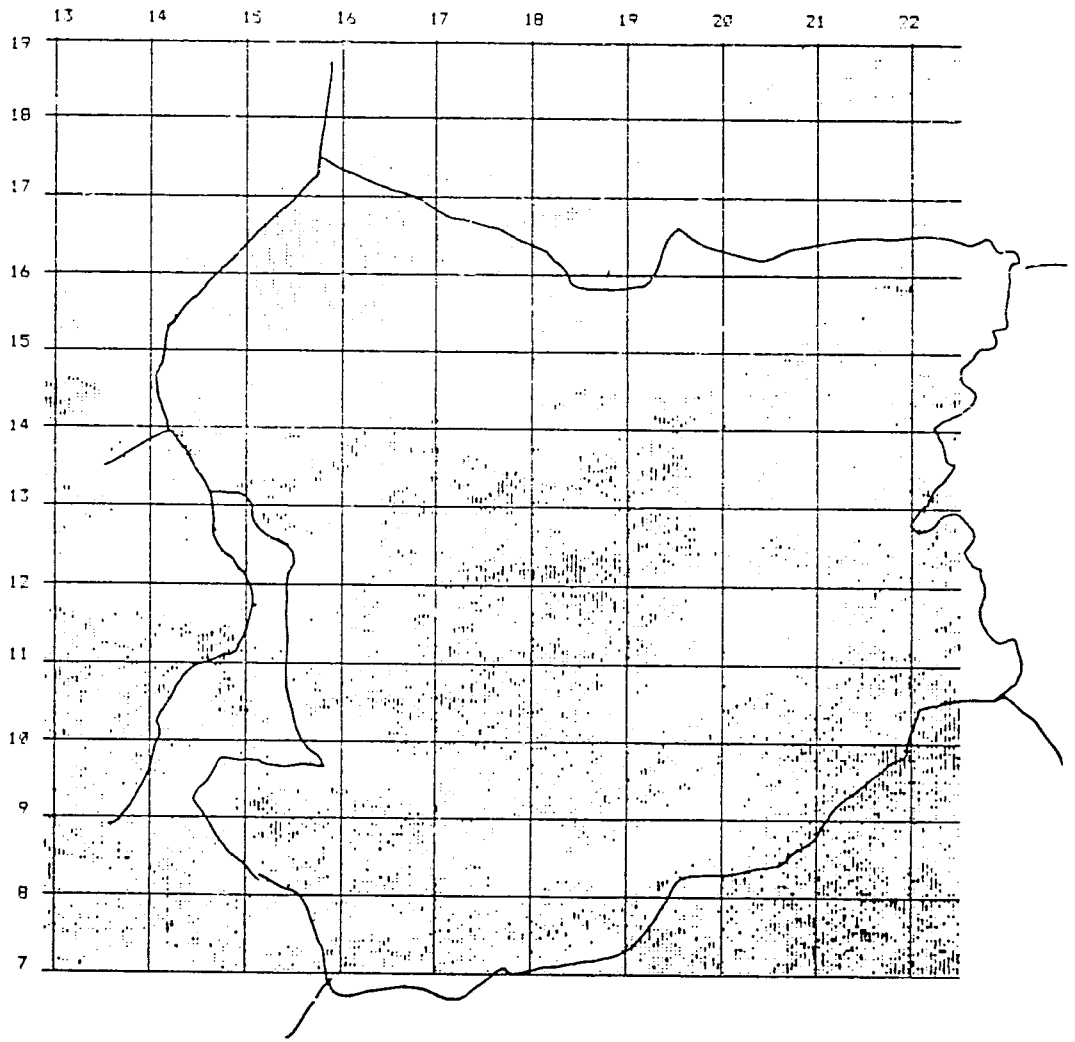
CHAD, Vegetation Image, August 1-[illegible], 1985



CHAD, Areas Showing More Vegetation Than a Year Previous (Aug 1-10, 1986)



CHAD, Areas Showing Less Vegetation Than a Year Previous (Aug 1-10,1986)



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