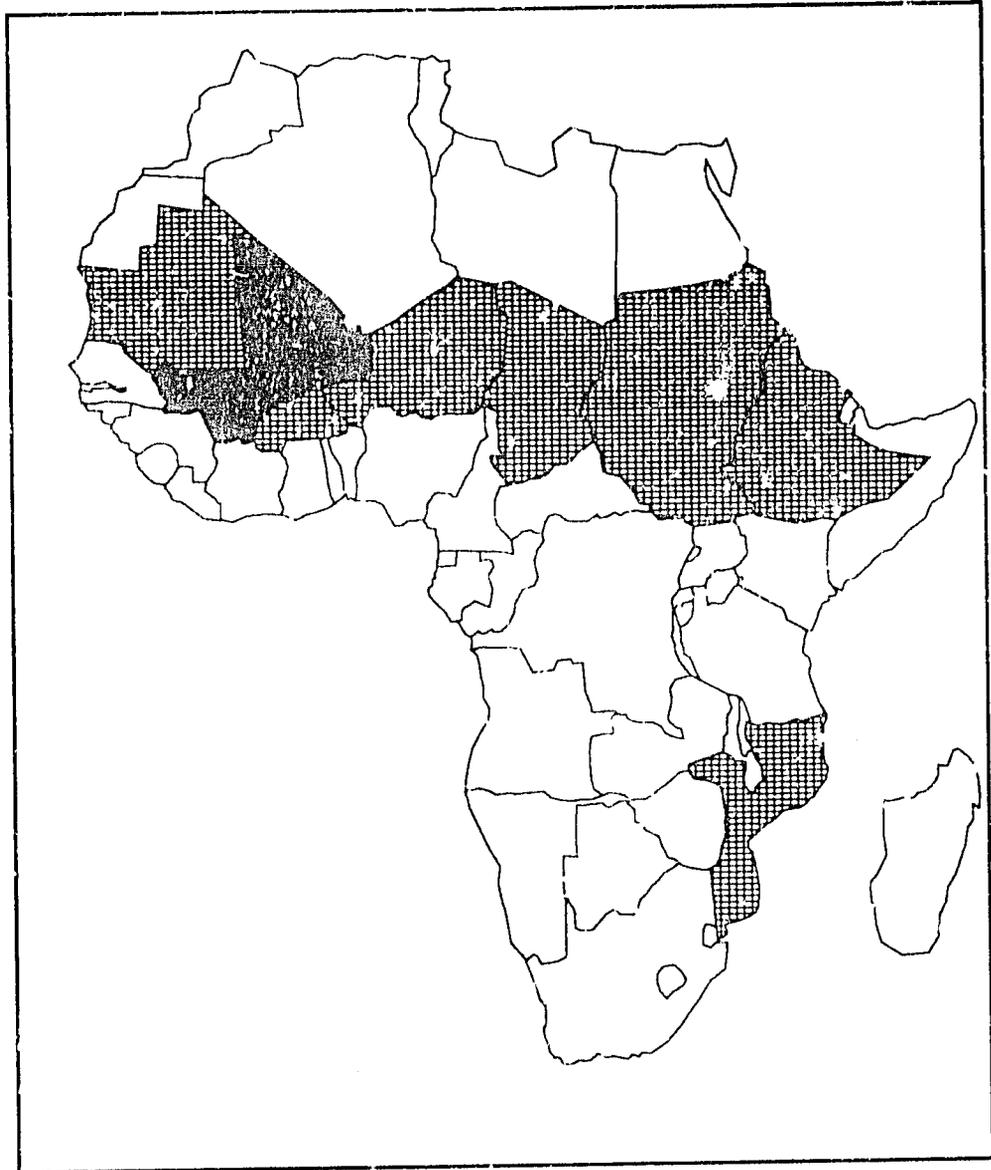


Report Number 7

December 1986

## FEWS Country Report

# MALI



Africa Bureau  
U.S. Agency  
for International  
Development

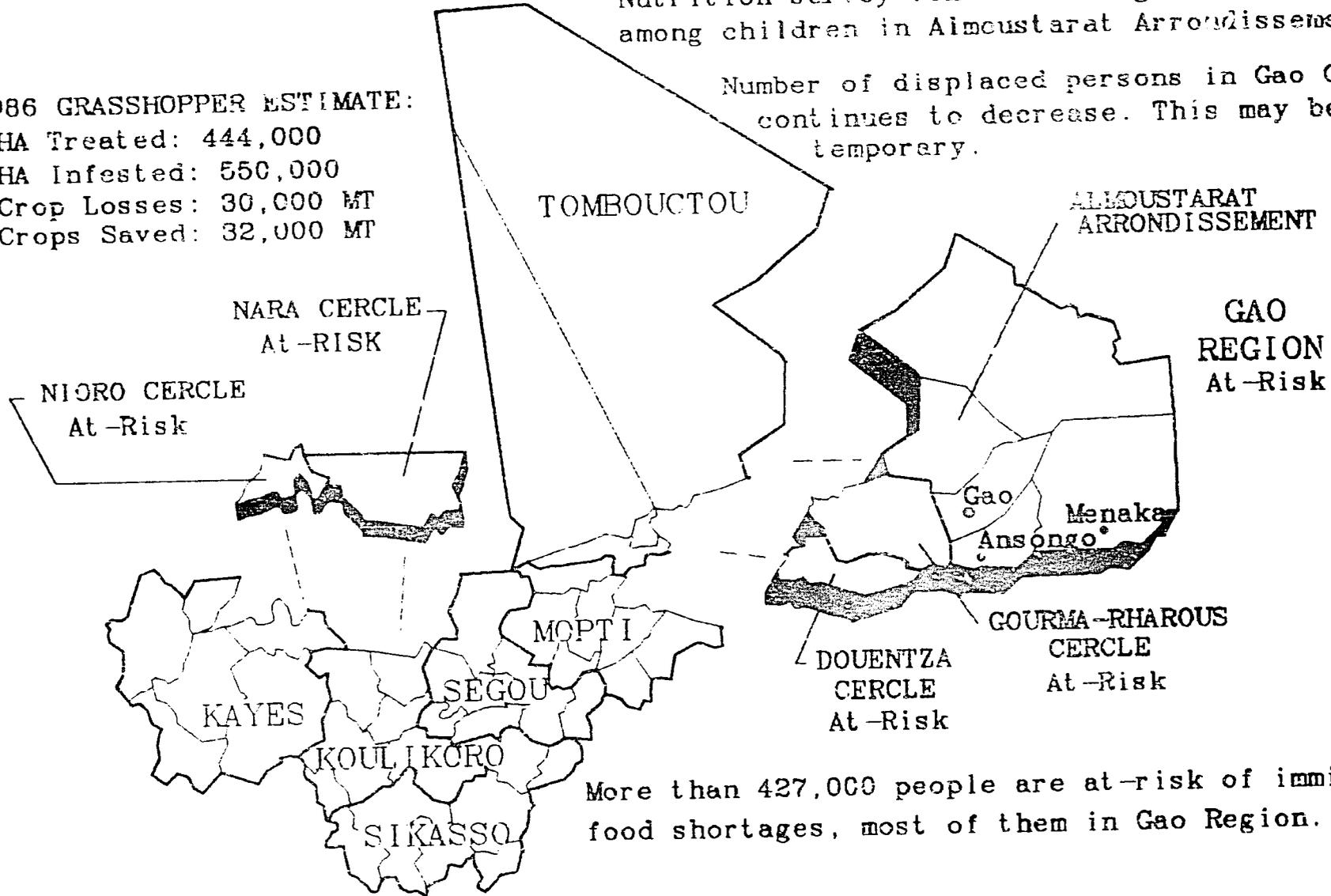
# SUMMARY MAP

## 1986 GRASSHOPPER ESTIMATE:

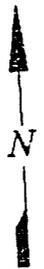
HA Treated: 444,000  
 HA Infested: 550,000  
 Crop Losses: 30,000 MT  
 Crops Saved: 32,000 MT

Nutrition survey finds alarming 40% malnutrition among children in Aimoustarat Arrondissement

Number of displaced persons in Gao City continues to decrease. This may be temporary.



More than 427,000 people are at-risk of imminent food shortages, most of them in Gao Region.



# MALI

## Areas At-Risk and to be Monitored

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

Prepared by  
Price, Williams & Associates, Inc.  
December 1986

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## INTRODUCTION

This is the seventh of a series of monthly reports issued by the Famine Early Warning System (FEWS) on Mali, current as of December 5, 1986. 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 is operated by AID's Office of Technical Resources in the Bureau for Africa in cooperation with numerous USG and other organizations.

## SUMMARY

Despite Mali's record harvest this year, large numbers of people in several areas are at-risk, either malnourished or without sufficient food or other resources to meet their minimal food needs for the year. The total population of the at-risk areas is approximately 823,000. Some of these areas, like Tombouctou and Gao Regions, are chronically short of locally produced food supplies, although Gao also seems to be experiencing a particularly severe shortage this year. Others are seeing the result of poor rains, grasshoppers, and other pests. Reports indicate that almost the entire population of the Gao Region will need major assistance in meeting food needs. Severe malnutrition has been found in a surprising 43 per cent of the children in the Almoustarat Cercle in Gao Region. Population movements which are described as abnormal are also reported in Gao. Other areas which are at-risk include specific arrondissements and cercles in the Kayes, Koulikoro, and Mopti Regions. Some early recommendations are being made by local agencies about the quantity of food aid needed in these areas.

## Issues

- There are divergent opinions in the donor community concerning the extent of the food shortages in certain parts of Gao Region. This is to be expected at this early stage in the season.
- If confirmed, the extremely high levels of childhood malnutrition found as a result of a survey in Almoustarat Arrondissement would suggest a severe problem among other age levels there as well. It would also suggest that the problem has developed undetected for some time.
- The grasshopper/locust threat at the beginning of the 1987 rainy season is forecast to be almost as great as in 1986 at a similar time.

## Key December Events

UNICEF, other international agencies, and private voluntary organizations (PVO) are now preparing their estimates on the numbers and locations of people requiring food aid and the quantity of aid required.

## POPULATION AT-RISK

The good harvest in the south of Mali was not duplicated in the northern belt. Given the problems associated with rainfall, grasshoppers and other pests this year, and, in some cases, the poor harvests of previous years, it is becoming clear that several areas will almost inevitably experience food shortages in the very near future (see Maps 2-4b).

## AREAS AT-RISK

(as of 12/86)

### NIORO:

45% of average rainfall, poor harvest; limited food reserves; 67,000 ha treated for grasshoppers  
Total population: 127,000

### NARA:

74% of avg. rainfall, poor harvest; limited food reserves; 157,000 ha treated for grasshoppers  
Total population: 140,000

### DOUENTZA:

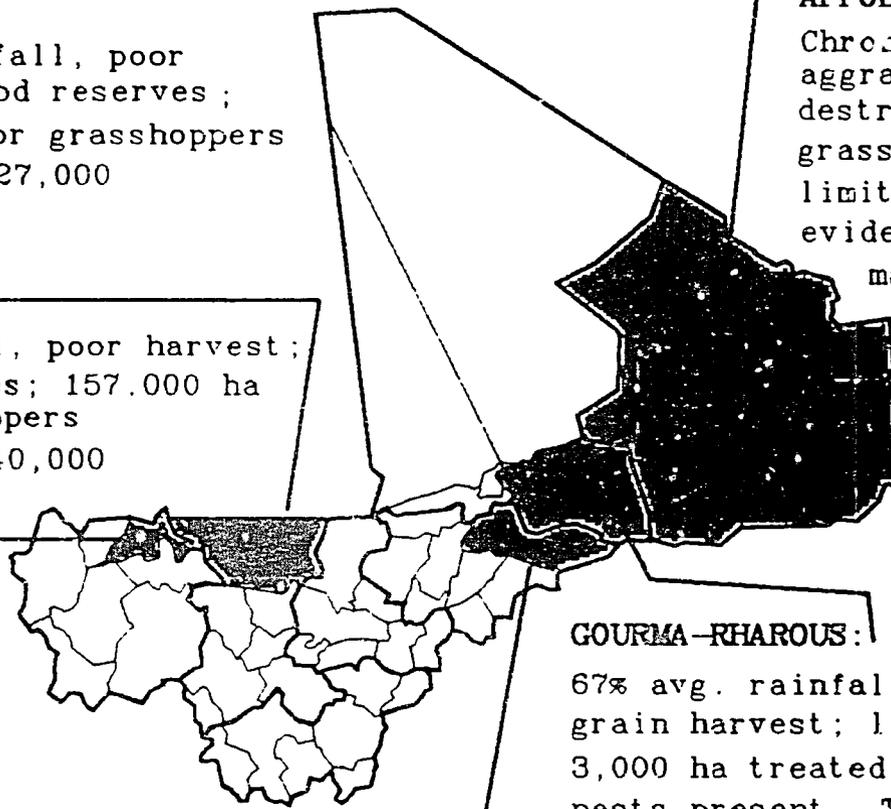
Poor rainfall and spacing, poor harvest; limited food reserves; migrants from Tombouctou with few resources. Total population: 162,000

### GAO REGION (Gao, Ansongo, Bourem, Kidal, Menaka Arrondissements)

Chronic food deficits aggravated by poor rains, destruction of crops by grasshoppers and other pests; limited food reserves; evidence of severe malnutrition. Total population: 300,000

### GOURMA-RHAROUS:

67% avg. rainfall, poor crops and wild grain harvest; limited food reserves; 3,000 ha treated for grasshoppers, other pests present. Total population: 94,000



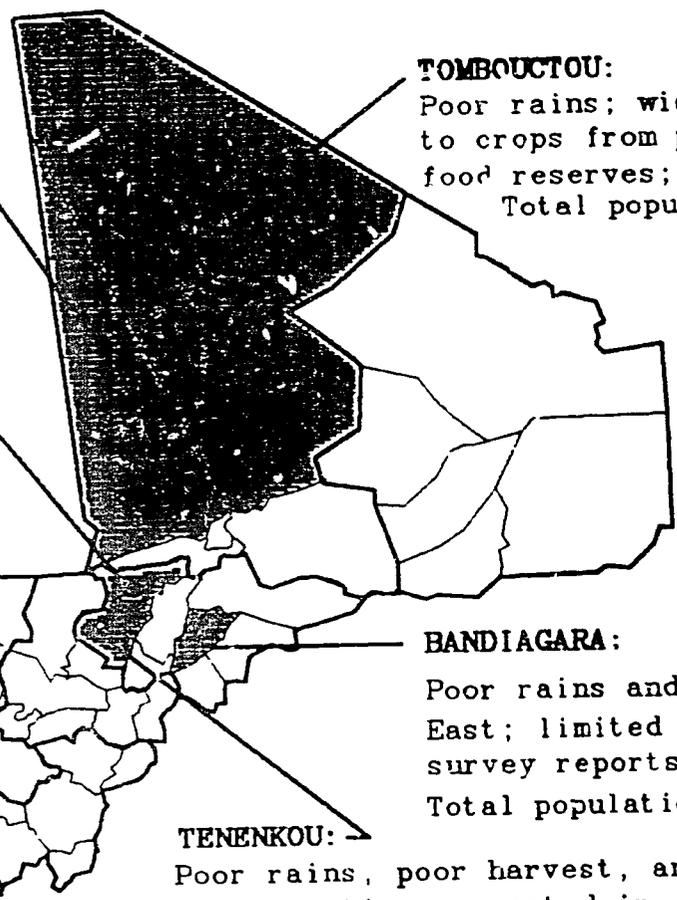
# AREAS TO MONITOR

(as of 12/86)

**GOUNDAM:**  
 Rainfed and recessional crops poor away from Delta; rapid degradation of pastures, limited food reserves. Total population: 117,000

**YOUVAROU:**  
 Very poor rainfall and harvests in East; food reserves very limited. Total population: 90,000

**YELIMANE:**  
 Poor rains in North, 40,000 ha treated for grasshoppers; reduced recessional cropping. Total population: 81,000



**TOMBOUCTOU:**  
 Poor rains; widespread damage to crops from pests; limited food reserves; pastures poor. Total population: 99,000

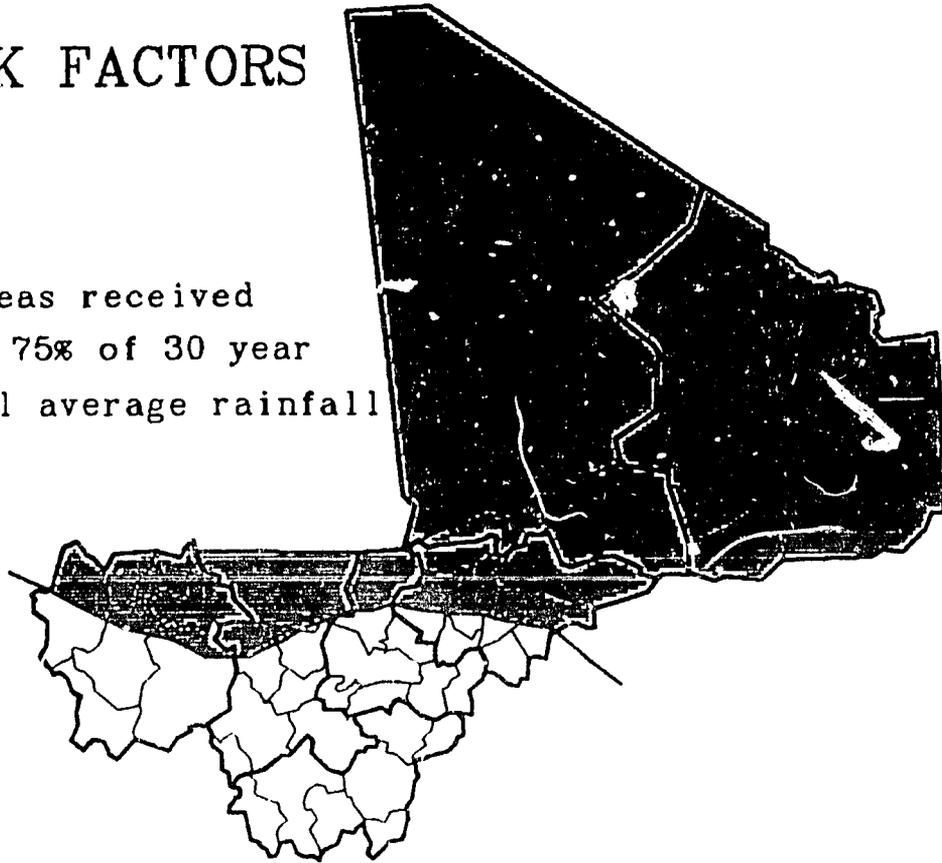
**BANDIAGARA:**  
 Poor rains and harvests in North-East; limited food reserves; survey reports malnutrition. Total population: 180,000

**TENENKOU:**  
 Poor rains, poor harvest, and out-migrations reported in West (Dioura Arron.) Total population: 134,000

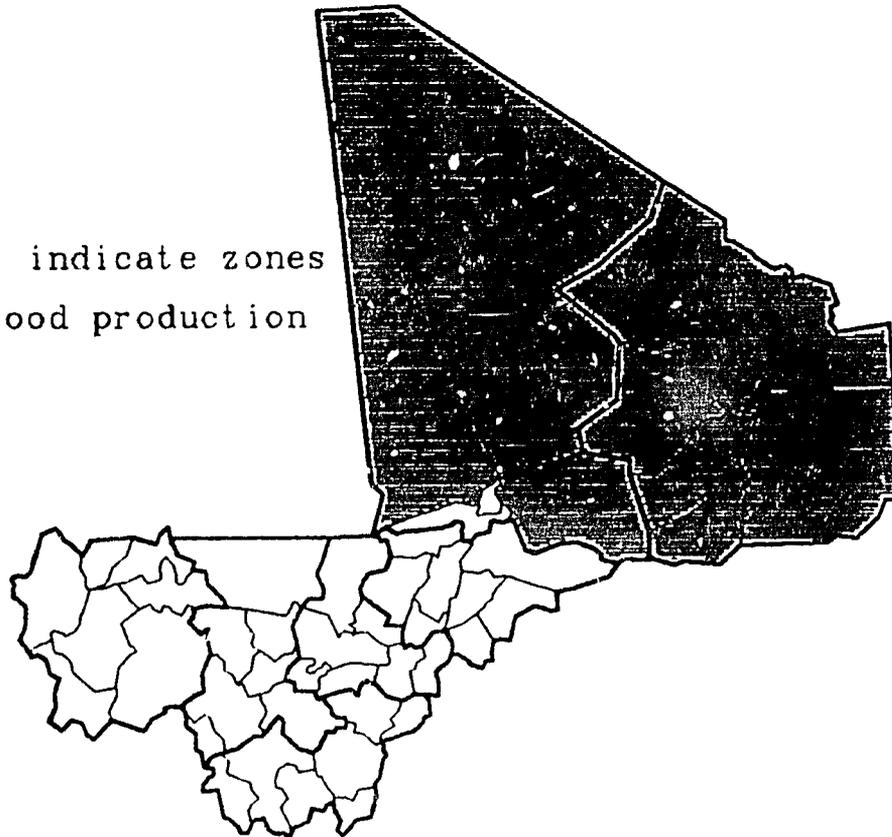
FEWS/PWA 12/86

# AT-RISK FACTORS

Shaded areas received less than 75% of 30 year historical average rainfall

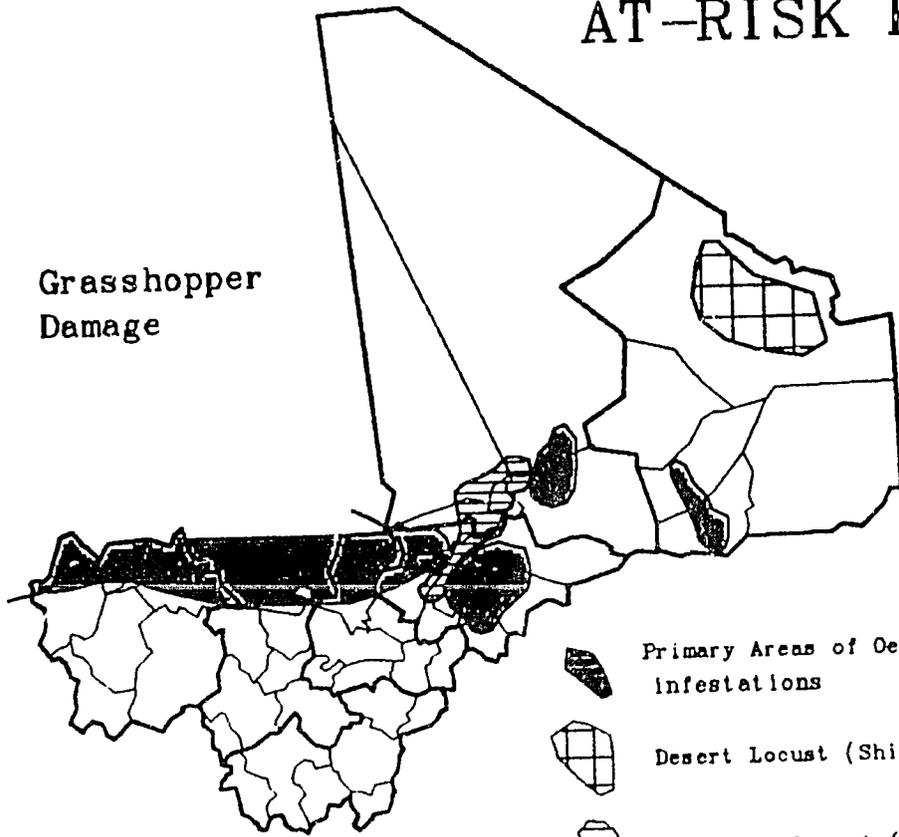


Shaded areas indicate zones of chronic food production deficits.



# AT-RISK FACTORS

Grasshopper  
Damage

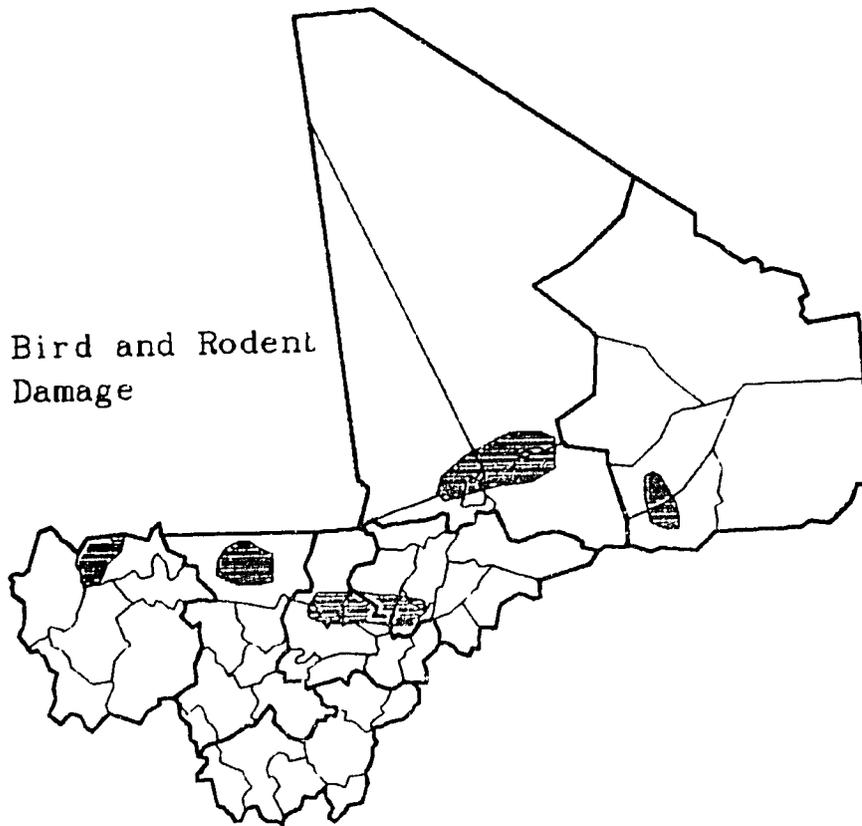


Primary Areas of *Oedaleus senegalensis*  
infestations

Desert Locust (*Shistocerca gregaria*)

Migratory Locust (*Locusta migratoria*)

Bird and Rodent  
Damage



FEWS/PWA 12/86

## **Gao Region**

Signs of hardship are already visible in the Gao Region where the food situation is reported to be critical in most of the cercles. A recent meeting held between the regional authorities, the PVOs and other organizations working in the area estimated that 300,000 people are at-risk of not having enough food resources to sustain themselves in the coming months. This number corresponds to the latest population figure developed by the PADEM survey in 1985 for the whole region of Gao. This means that the entire population of the region can be considered at-risk. It is important to note, however, that the degree of risk varies between cercles.

One of the most severely affected areas is the cercle of Bourem, with a total estimated population of 60,000 people (A. Hill, 1986). It is currently suffering from acute food shortages. Indeed, the very low nutritional level recently found among children in some of its arrondissements, and the absence of food stocks at the village level tend to indicate the presence of a serious food problem among the general population. This precarious situation has developed from the combined effects of poor harvests in the past, crop pests, herd losses, and poor rainfall this year.

Another cercle identified as highly at-risk is Ansongo (estimated total population of 56,000), where food problems are anticipated shortly due to the failure of the rice crops. The departure of many families from the cercle at the time of harvest clearly indicates that the harvest is expected to be nil in the area. It also shows that food stocks are very low. The difficulties experienced by retailers in selling their cereals, despite the relatively low price, also shows a lack of purchasing power.

## **Tombouctou and Mopti Regions**

The cercle of Gourma-Rharous (population estimated at 94,000) in the Tombouctou Region is still considered at-risk due to lack of food stocks and purchasing power. Many displaced nomads who live in the cercle rely upon the harvest of wild grain to feed themselves. However, the outcome of this type of harvest is always unpredictable, and was probably insufficient this year.

The population of Douentza Cercle (population estimated at 162,000) in Mopti Region is still at-risk due to poor harvests and uncertain food reserves. A nutritional survey indicates potentially severe malnutrition in the area.

Close monitoring for food shortages and nutritional stress is needed in other areas of Tombouctou (Goundam, see Map 3) and in the Mopti Region, where Youvarou, Tenenkou, and Bandiagara all contain areas of poor harvests, limited food reserves, and some reports of out-migrations. On the other hand, good harvests and sufficient family food reserves in other parts of these cercles make the situation more complex to forecast.

### **Kayes and Koulikoro Regions**

Finally, food shortages are expected to occur within the year in the cercles of Nioro (population estimated at 127,000) in the Kayes Region, and in Nara (population estimated at 140,000) in the Koulikoro Region. These problems were brought about by poor rains and grasshopper infestations during the agricultural campaign.

Problems may occur later in the year in Yelimane Cercle. Arrondissements in the northern half of this cercle fought grasshopper infestations throughout the rainy season, and poor rains hurt crop yields.

### **DISPLACED PERSONS**

While the number of displaced persons in the town of Gao has decreased from 19,000 in April, 1986, to 2,777 in October, this reduction in number is mostly attributable to wild grain harvesting traditionally pursued by nomadic people. It is very likely that these people will return to Gao town in the near future, especially since this year's harvest is reported to be poor in the region.

Many families are reported to be leaving the cercle of Ansongo in the Gao Region in anticipation of the failure of the rice harvest. It is important to note that most of the people from this cercle are sedentary, and that their departure at this time of the year is an abnormal phenomenon. In the arrondissement of Ouatagouna alone (estimated population 18,000), official sources have reported that 3,100 people have left the area in the past few months. Their destination is not known, but they may have gone toward Niger and further south.

Unusual population movements have also been reported in the cercle of Bourem. Bourem generally experiences a seasonal migration as men go north in December to harvest the wild grain. This year, however, entire families were reported to be leaving the area as early as August. The change in pattern of this traditional migratory movement may indicate a deteriorating food situation.

## **HEALTH and NUTRITION**

Although the health and nutrition situation is relatively good in many parts of the country, a nutritional survey carried out by the Systeme d'Alerte Precoce (SAP) in October in the arrondissement of Almoustarat, (cercle of Bourem, Region of Gao) points out that major food problems exist in the area. The survey, based on a random sample of 200 children in five villages of the arrondissement (total estimated population of the arrondissement is 15,000), revealed that 43% of the children under 6 years are malnourished (less than 80% weight for height). This staggering rate of severe malnutrition among the very young children could indicate a chronic nutritional problem among the general population of the area.

The social-economic survey carried out at the same time as the nutritional survey revealed that more than half of the 121 families surveyed feed themselves on wild grains or famine foods. UNICEF operates a feeding center in the town of Almoustarat for children, pregnant women and lactating mothers. Although the number of children in the feeding center has not increased, UNICEF is carrying out a nutritional evaluation to see whether the situation warrants a reinforcement of their activities in the most affected villages.

Another nutritional survey was carried out by the SAP medical team in the arrondissement of Tessit, Cercle of Ansongo. The rate of malnutrition found was only 1.5%. However, it is expected that this level will rise in the coming months in view of the precarious food situation prevailing in the cercle of Ansongo. Over 40% of the 144 families interviewed indicated that they fed exclusively from wild plants. Fonio (a wild grain widely consumed in the region) is very scarce, and family food stocks are extremely low. UNICEF operates two feeding centers in the cercle of Ansongo.

Twenty-five cases of cholera were reported at the end of October in the arrondissements of Balle and Nara, (Cercle of Nara, Koulikoro Region). This figure is going down and may indicate the problem is under control. Because of the closeness of the border and the great numbers of people who move back and forth over it, further monitoring is essential and is continuing.

## **FOOD AID ACTIONS**

In view of the food situation in the region of Gao, the SAP and regional authorities have recommended immediate food distributions. A free distribution of 225 metric tons of food has been recommended for almost the entire population (15,000 people) of Almoustarat Arrondissement

(Cercle of Bourem) within the next month. This distribution will affect mainly the nomadic people who seem particularly at-risk. An intensification of nutritional activities in the area has also been proposed. For the rest of the cercle, recommendations have been made to stock 2,000 mt of cereals in preparation for an eventual food distribution on a larger scale. On October 15th, the National Security Stock of cereals was estimated at 4,818 mt in the Region of Gao.

Despite the normal nutritional levels found in the arrondissement of Tessit in the Cercle of Ansongo, the situation could deteriorate rapidly. It has been recommended that 200 mt of cereals be made available for distribution in January when stocks of food are expected to be depleted.

A further recommendation for the Region of Gao concerns the establishment of a close nutritional monitoring system. This would be operated by the Regional health authorities and private and international agencies working in the area. Because of the poor harvest in some arrondissements of the Cercles of Nioro (Kayes Region), and Nara (Koulikoro Region), it has been recommended that 4,000 mt of cereals be stocked at cercle level for distribution to the population when their stocks of food become depleted in several months.

## **GRASSHOPPERS**

Over the course of the rainy season, approximately 444,000 hectares were treated for grasshoppers. Most of these were sprayed from the air, with only about 7,000 hectares receiving ground treatment by the Crop Protection Service or by farmer operations.

Early USAID/Mali estimates of grain producing areas affected by the grasshopper emergency delineate about 550,000 hectares, on which total production of grain was approximately 302,600 metric tons. Approximately 12,500,000 hectares of natural vegetation were affected by the grasshoppers, and of this, an estimated 3,750,000 hectares were consumed.

These preliminary estimates set the total damage done to crop production at 30,250 metric tons. Approximately 32,000 mt were saved by the various control programs undertaken in Mali. The value of the saved production is estimated to be about 4,900,000 U.S. dollars. If a similar amount of food aid had to be brought into the treated areas, it would cost between 6,218,000 and 10,472,000 dollars, depending upon point of origin.

A somewhat more difficult exercise is to attach a value to the natural vegetation consumed by the grasshoppers. However, a rough estimate of the cattle carrying capacity lost to grasshoppers is approximately that of 93,750 head for this season.

The total cost of the control operation is still being assessed. However, all donor pledges amounted to approximately 7,116,000 U.S. dollars, and it is expected that costs will not exceed pledges. Against this cost, there is the additional benefit, to be realized next year, of somewhat fewer grasshoppers having laid eggs which will hatch. If this reduces 1987 grasshopper-related damage by 20% from that of 1986, the value of the crops saved would increase by roughly another million dollars.

Operation S.A.S. (Grasshoppers in the Sahel), directed by the PRIFAS group of the CIRAD (Center for International Cooperation in Agronomic Research for Development), now estimates likely infestation rates in 1987 in Mali as a 4 on a scale of 0-5, or a "high" rate of infestation. All of Mali's Sahelian neighbors, from Senegal and Mauritania over to Chad are similarly rated. This rating is slightly less than the 5 given to likely infestations at the beginning of the rainy season in 1986.