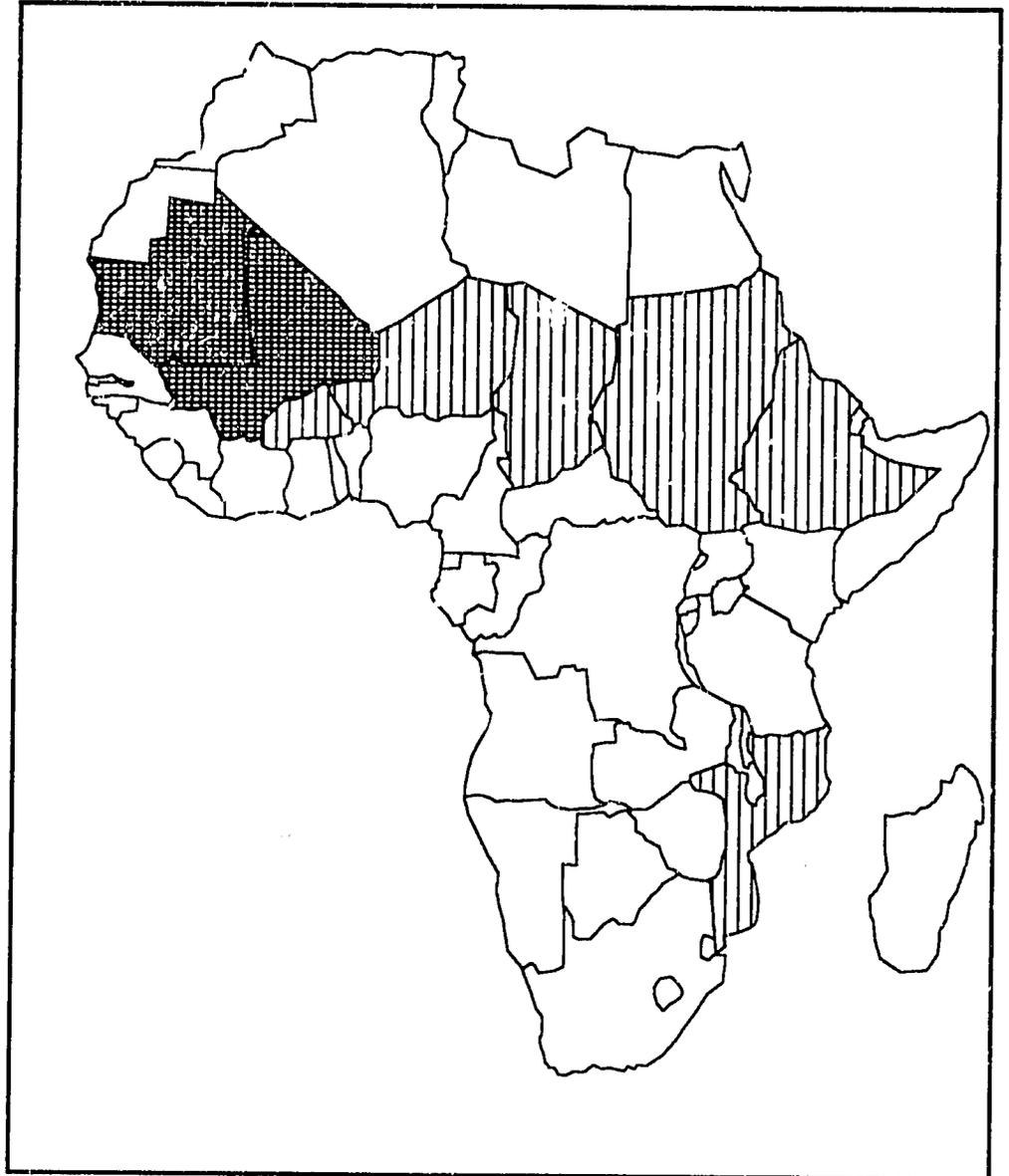


Report Number 9
February 1987

FEWS Country Report

MALI and MAURITANIA



Africa Bureau
U.S. Agency
for International
Development

Summary Map

Grazing continues to be very good. Camel herds have been brought back after an absence of several years

Number of displaced persons in Gao rises. Out migrations from Bourem and Ansonge continue.

ATLANTIC
OCEAN

Nouakchott

MAURITANIA

ALGERIA

MALI

Cercle At Risk

Bourem

Gao

Cercle At Risk

Ansonge

SENEGAL

NIGER

■ CRS feeding distribution to continue at Nema, Akjoujt and Nouakchott centers, while all other CRS centers shift to Food-for-Work strategies or close down

- International boundary
- First level internal boundary
- - - Second level internal boundary

Zone of Earliest Threat from Grasshoppers

GUINEA

BURKINA

IVORY
COAST



Famine Early Warning System Country Report

MALI

MAURITANIA

Monitoring Risk

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

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

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INTRODUCTION

This is the ninth in a series of monthly country reports issued by the Famine Early Warning System (FEWS). Starting this month, Mali and Mauritania will be combined in one report until the crop cycle begins again in the spring. These reports are designed to provide decision-makers with current information and analysis on existing and potential nutritional emergency situations. Each situation identified is described in terms of geographical extent, the number of people involved, or at-risk, and the proximate causes insofar as they have been discerned. Information sources are cited in the text. Information has, whenever possible, been presented in the form of quantified data. When quantified data do not exist, qualitative data are used.

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, 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. Other types of intervention, however, 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 *a priori* relationship exists between numbers of persons at-risk and the quantity of food assistance that may be needed. This is because famines are the culmination of slow-onset disaster processes which can be extremely complex.

The food needs of individual populations at-risk depend upon when in the disaster process they are identified, and the extent of the cumulative impact on the individuals concerned. Furthermore, the amount of food assistance required, whether from internal or external sources, depends upon a great number 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 does not collect primary data. Rather, it receives information from various domestic U.S. and international agencies and private voluntary organizations, and from government agencies in the countries under study via in-country FEWS Public Health Advisors. The information is then examined, compiled and analyzed for its predictive potential. Without the ongoing cooperation of all these organizations, FEWS could not function.

In particular, this report owes a debt to various offices of the US Agency for International Development (AID), USAID/Bamako, and USAID/Nouakchott; various ministries of the Government of the Republic of Mali (GRM) and the Government of the Islamic Republic of Mauritania (GIRM); the GRM Committee for Aid to the Victims of the Drought (CNAVS) Systeme d'Alerte Precoce (SAP, Early Warning System); the UN Food and Agricultural Organization (FAO) and World Food Program (WFP); the Permanent Interstate Committee for Drought Control in the Sahel (CILSS); the French Interdisciplinary Research Program on Grasshoppers and Locusts in the Sahel (PRIFAS); World Vision International (WVI) and the Catholic Relief Services (CRS).

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

SUMMARY

The two areas currently identified as at-risk in Mali have a combined population of 106,000. An estimated 350,000 to 685,000 Malians are living in other areas that are close to being at-risk. The at-risk population in Mauritania has not been recently enumerated, but the planned reduction in food distribution in 1987 (over that of 1986) implies a 17% reduction in the number of people requiring food-aid. A grasshopper egg pod survey, completed in December by the Malian Ministry of Agriculture, found large numbers of viable eggs in the Niger River Basin and along the Mauritanian border (Appendix II). The Mauritanian Crop Protection Service and USAID are currently carrying out a parallel egg pod survey in southeastern Mauritania.

Key Events

- Malnutrition surveys will be carried out in Mali's two identified at-risk areas -- Bourem Cercle, Gao Region* (in February), and Ansongo Cercle, Gao Region, (in March) -- to better determine levels of malnutrition and the amount of food assistance needed.
- The results of Catholic Relief Services' (CRS) October nutrition survey in Nema Town, Hodh ech Chargui Region, Mauritania, should be available by the end of February. The survey was done to determine whether the alarmingly high malnutrition rate seen at the local CRS feeding center reflects similarly high malnutrition in the surrounding region.
- World Vision International (WVI) completed in November its third nutrition survey since February, 1985, in the villages it serves in Assaba Region, Mauritania. The results of this survey should be available soon. World Vision will repeat its survey again in February 1987.
- To aid in early planning for the 1987 grasshopper/locust campaign, the Mauritanian Crop Protection Service (CPS) and USAID are surveying, through mid-February, territory near Mali for grasshopper and locust egg pods.

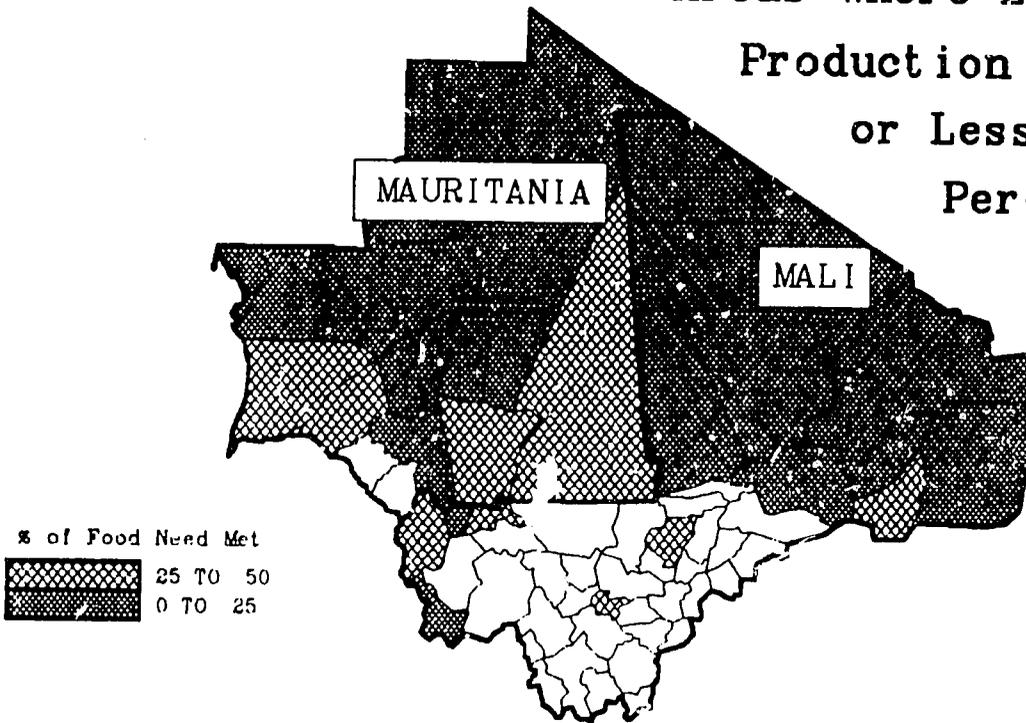
POPULATIONS AT-RISK

Three measurable indicators of potential nutritional stress for which there is current data are shown in Map 2. These indicators -- high rates of childhood malnutri-

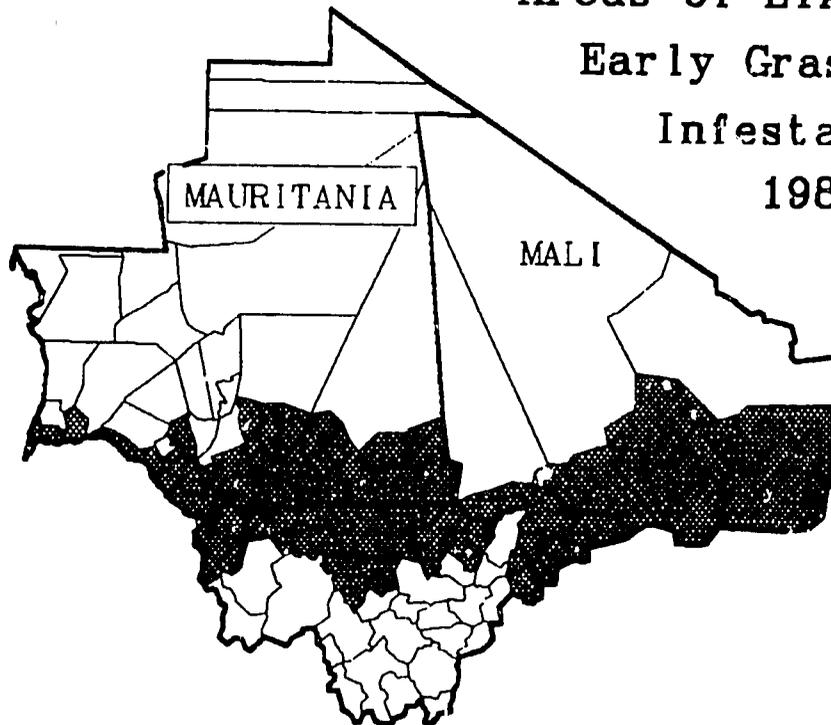
* The administrative units in Mali are Regions, Cercles, and Arrondissements; and in Mauritania are Regions, Departments, and Arrondissements. See Appendix III for reference maps which name the first and second level administrative units for each country.

Environmental Stress

Areas Where Local 1986
Production Meets 50%
or Less of 1987
Per-Capita
Food Needs



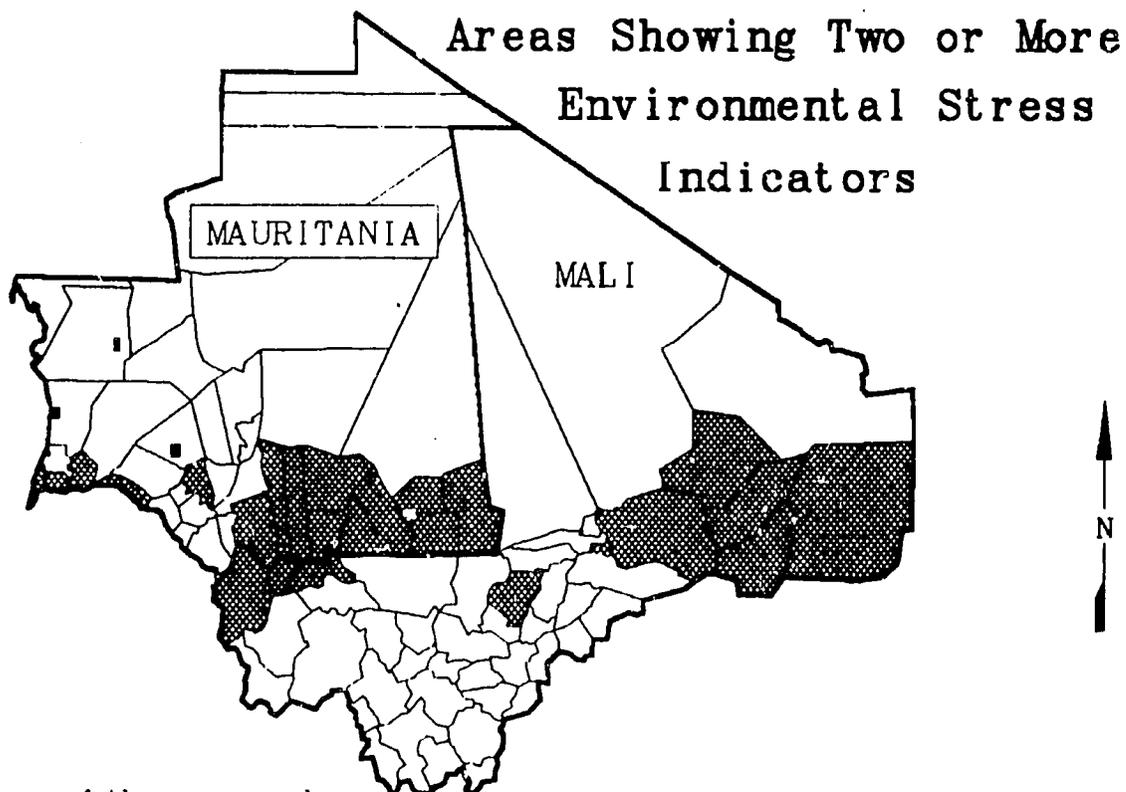
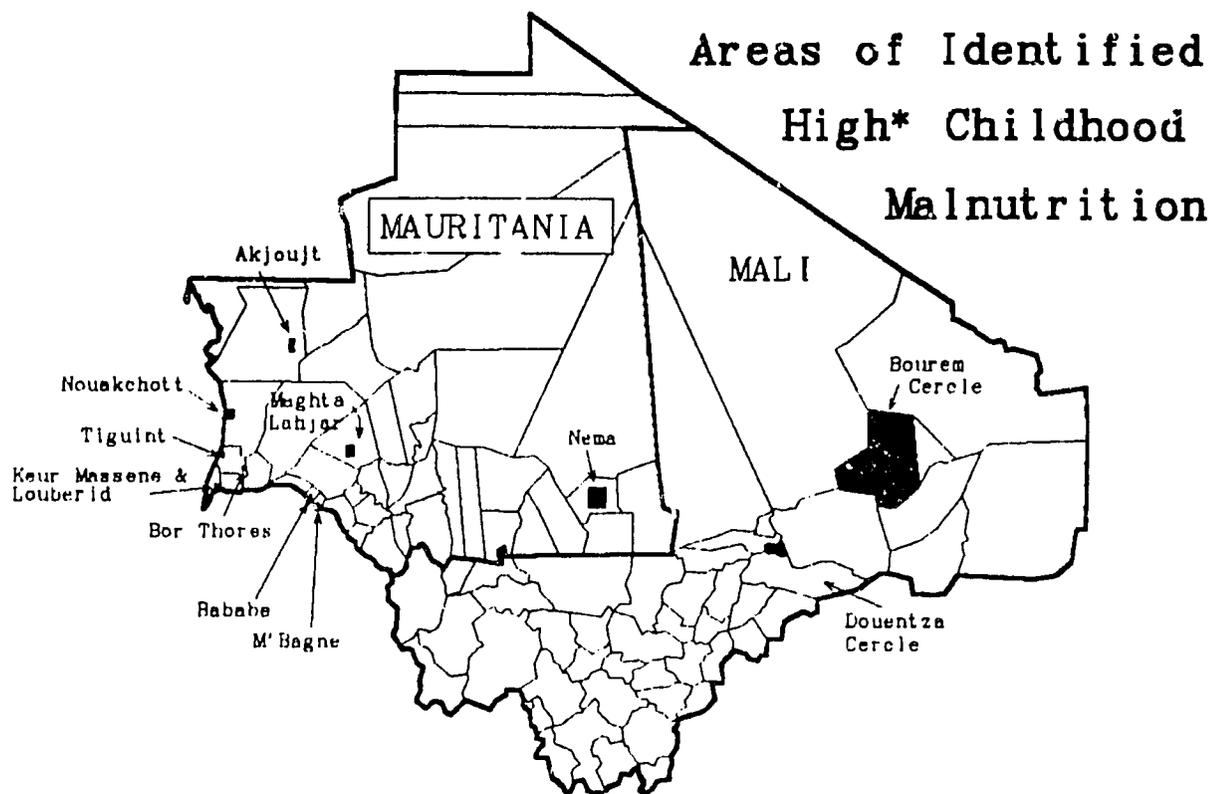
Areas of Likely
Early Grasshopper
Infestations in
1987



Admin units, upper map:
Cercles (MALI); Regions (Mauritania)
Admin units, lower map:
Cercles (Mali); Departments (Mauritania)

Source: FAO & FEWS/Mauritania;
Mali Ministry of Agriculture;
Mission Cables: PRIFAS
FEWS/PWA, February 1987

Environmental Stress



*Mali: 10% or more of those surveyed,
<80% of standard weight for height
Mauritania: 35% or more at CRS feeding centers,
<80% of standard weight for age

Source: CRS/Mauritania; FEWS/Mali
FEWS/PWA, February 1987

tion, anticipated food grain needs in excess of estimated local cereal production, and expected intense grasshopper infestations -- have been mapped as geographic overlays, so that the areas for which at least two of these indicators are present, or anticipated, are pinpointed. Areas meeting this criterion contain the most vulnerable populations, and merit the closest monitoring in the upcoming year.

In Mauritania, such areas include Nouakchott, Akjoujt Town in Inchiri Region, Maghta Lahjar Town in Brakna Region, Tiguint and Bor Thores Towns in Trarza Region, the departments of Trarza and Brakna Regions which border on the Senegal River, Hodh el Gharbi and southern Hodh ech Chargui Regions, and Barkewol and Kankossa Departments of Assaba Region. In Mali, most of Gao Region, Gourma-Rharous Cercle of Tombouctou Region, N'Gouma Arrondissement and Tenenkou Cercle of Mopti Region, and Kayes, Nioro, and Yelimane Cercles of Kayes Region fall into this category.

Mali

There has been no change over the past month in the number of people identified as being at-risk in Mali. Bourem and Ansongo Cercles, in Gao Region, continue to be at-risk areas, and have a combined population of approximately 106,000 people. They continue to suffer from the compound problems of a poor harvest, due to insufficient rains, rodent, bird and grasshopper damage, and from low food reserves from previous year food production deficits. In Bourem, nutrition surveys also show a higher than normal rate of severely malnourished children. Both areas are currently reported to be losing thousands of residents in abnormally heavy out-migrations to Gao town and to areas further south, including Niger, Ghana, and other coastal countries.

Areas that show similar signs that their populations may become at-risk of food shortages later in the year include:

- northern arrondissements in Nioro Cercle (Kayes Region),
- northern arrondissements in Nara Cercle (Koulikoro Region),
- northern arrondissements in Mopti, Bandingara, and Youvarou Cercles (Mopti Region),
- much of Douentza Cercle (Mopti Region),
- many of the arrondissements in Tombouctou Region, and
- the other cercles in Gao Region (Gao, Kidal, and Menaka).

Approximately 350,000 to 685,000 people reside in these areas. (These are necessarily rough estimates due to the lack of census data at the arrondissement level.) Factors that play a major role in preventing these areas from currently being labeled at-risk include: as yet incomplete data, the existence of farm-level food stocks, and other income from various sources.

Mauritania

The donor community is planning to distribute 35,000 MT of cereals as food-aid in 1987, as compared to the 42,000 MT distributed in 1986. Implicit in this 17% reduction is a parallel reduction in either the population requiring food-aid, the amount of food-aid to be given to each beneficiary during 1987, or some combination of the two.

Grasslands have provided good pasturage well into February. Herds should be prospering, thus decreasing the number of people at-risk in pastoralist areas (anywhere north of the grasshopper zone marked on the Summary Map).

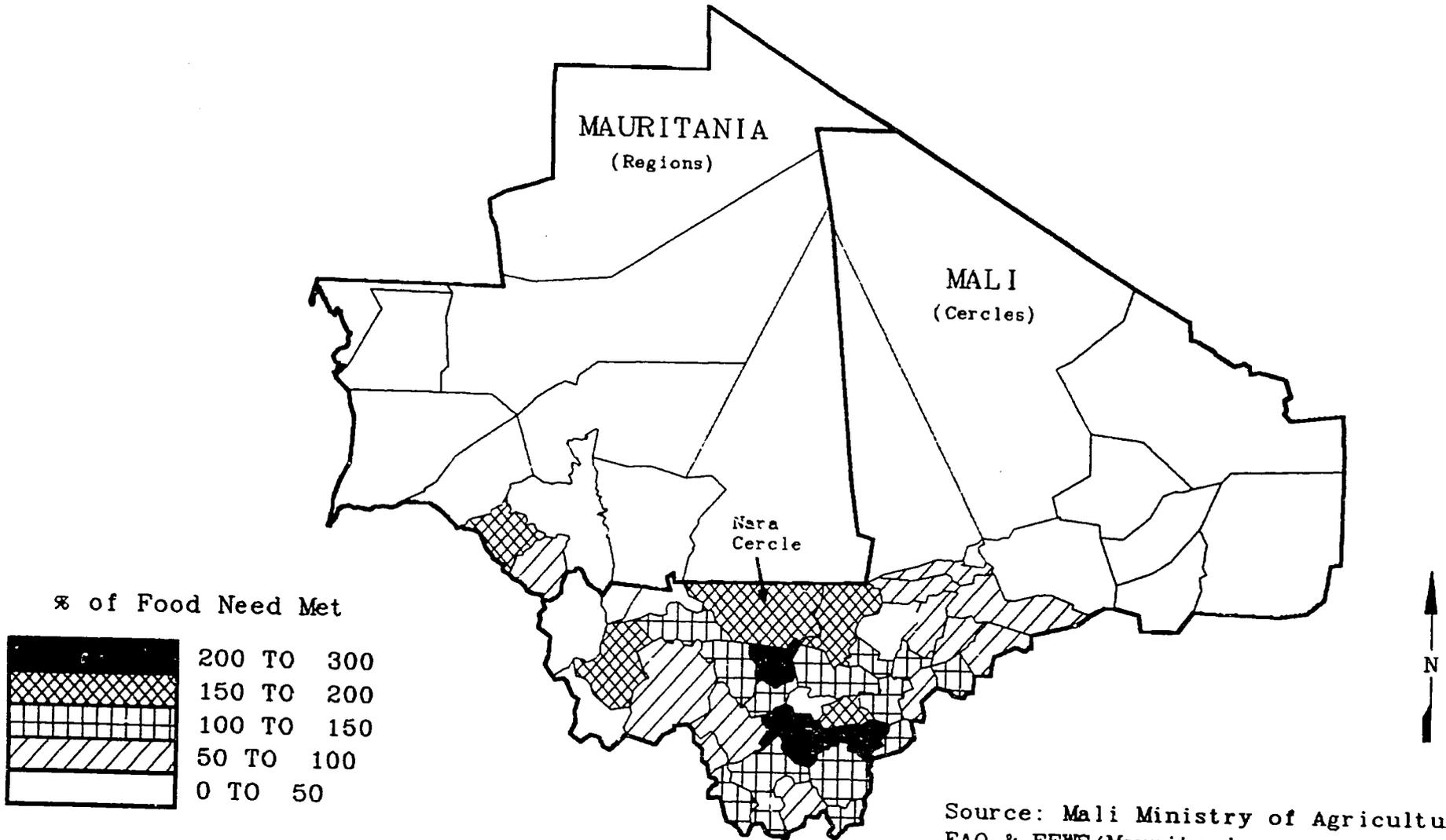
Malnutrition continues to be a problem in Akjoujt Town (population unknown), even though camel herds have been brought back to Inchiri Region for the first time in several years. The high rate of malnutrition seen at the CRS feeding center in Nema Town, Hodh ech Chargui Region (population estimated at 25,809), would indicate a high risk situation in that area. High numbers of indigent people remaining in Nouakchott (population estimated at 344,224) mark the city as a third high risk area.

AGRICULTURE

Insufficient local grain harvests, despite the national-level surplus (Appendix I), are the main cause of the at-risk status of the above specified areas within Mali. Map 3, Percent of Food Needs* Met by Local Production, shows surplus and deficit areas for both Mali and Mauritania. Of course, what is hidden in this map are the sub-Cercle level deficits which produce hardship in generally surplus areas, or vice-versa. A good example of this is found in Nara Cercle (Koulikoro Region, Mali), in which severe local food production deficits and low farm-level food stocks are masked by the Cercle's overall surplus status.

* The consumption level used by USAID in Mali, based on the five-year period from 1981/82 to 1985/86, is 175.7 kilograms per person per year. In Mauritania, a standard annual per capita figure of 165 kilograms is used.

Percent of 1987 Per-Capita Food Needs Met by Local Production



Source: Mali Ministry of Agriculture;
FAO & FEWS/Mauritania
FEWS/PWA, February 1987

A number of areas meet less than 50% of the resident populations' needs. Many of these are either chronic food deficit areas, or areas in which pastoralism is predominant, or both. This is true for much of Tombouctou and Gao Regions in Mali, and Tiris Zemmour, Inchiri, Dakhlet Nouadhibou, and Tagant Regions in Mauritania. In these areas, agricultural production never completely meets the yearly food needs of the population. However, when normal coping mechanisms cannot deal effectively with a particularly bad harvest, as is currently the case in Mali's Bourem and Ansongo Cercles, the chronic food scarcity is compounded and becomes an emergency food shortage.

On the other hand, there are a number of areas in Mali not currently known to be at-risk of impending food or nutrition crises which are identified in Map 2 as having large production deficits. This can be explained largely by sufficient farm-level food stocks, the presence of other non-enumerated food sources (particularly roots, tubers, and animals), and income coming into the area from relatives working in other areas or in other countries (large numbers of young men have emigrated from some areas to France for work).

NUTRITION

Mali

A poor nutritional state is the result of a chronic lack of food. Map 4 shows areas in Mali in which nutritional surveys of children below the age of five have recently been conducted, and notes where higher than normal numbers of severely malnourished children are found.

The highest levels of malnutrition found among children in Mali correspond with, and are a chief determinant of, the areas which have been determined to be "at-risk". The surveys tend to confirm what might only have been suspected, due to a shortage of other data, about the negative impact of chronic or emergency food shortages on the population's nutritional status. Both Bourem and Ansongo Cercles will be re-surveyed in the next month to determine the level of food assistance needed, and further assess existing levels of malnutrition, against which the success of the emergency food-aid can later be measured.

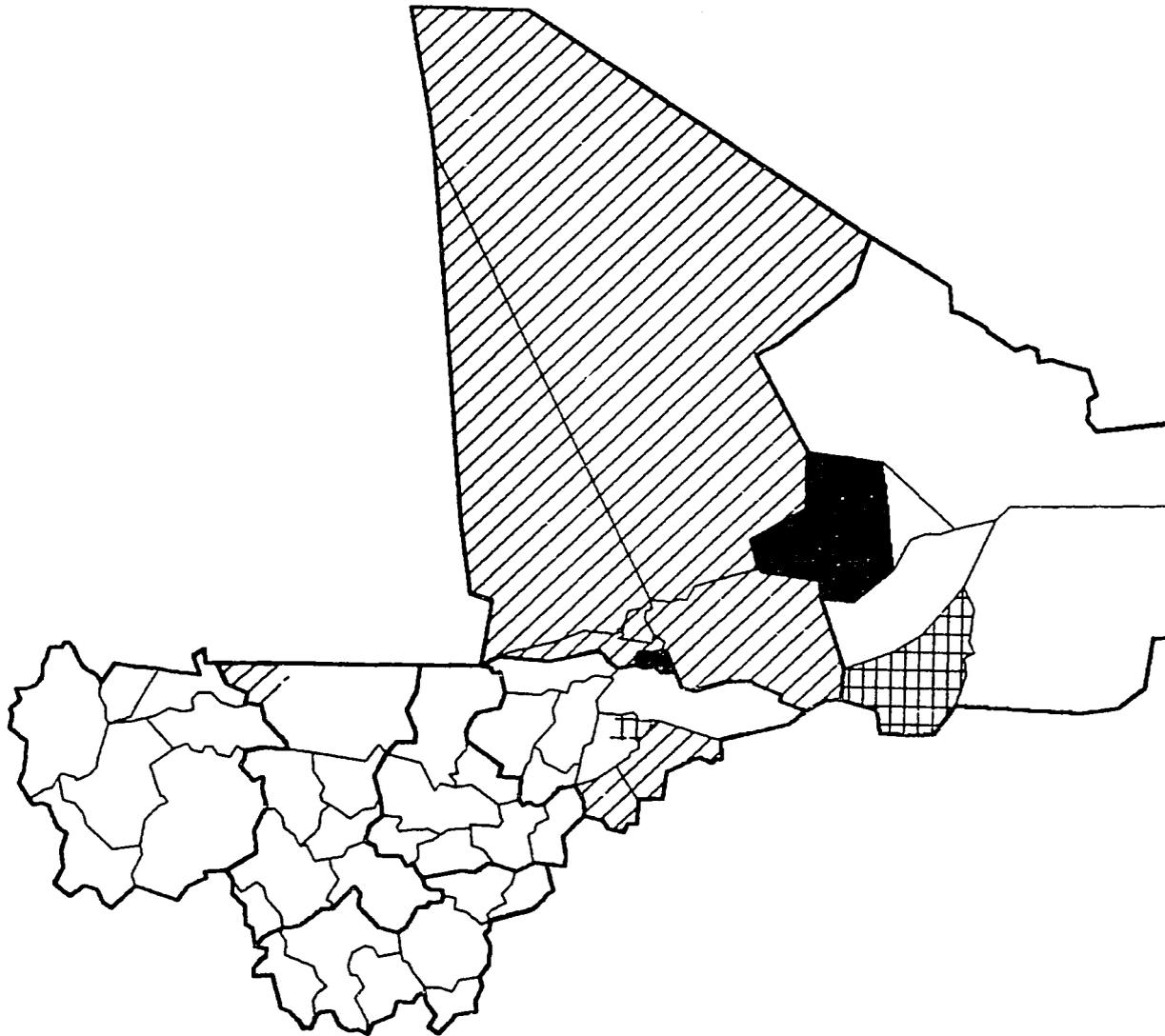
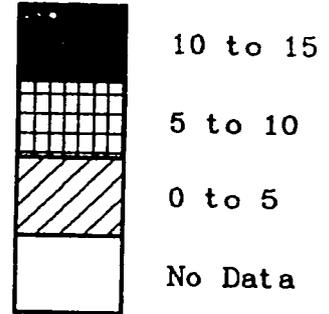
Mauritania

The two current sources of nutrition data in Mauritania are World Vision International (WVI) and Catholic Relief Services (CRS). Nutrition surveys carried out by WVI in February 1985 and February 1986, in the villages it serves in Assaba Region, showed the nutritional status of children in the Region under the age of five to have improved somewhat. WVI feeding center records from

Malnutrition Rate

% of Children Below 80% of Standard Weight for Height

% Below 80% of Standard



Source: FEWS/Mali
 FEWS/PWA, February 1987

October 1986 suggests that this trend has continued. The repeat survey that WVI completed in November 1986, and the survey to be completed in February 1987, will either confirm or disprove the apparent trend.

CRS feeding center records, on the other hand, show the situation at their 22 centers throughout Mauritania to be remaining about the same. Malnutrition among children fed at the CRS center in Nema Town, Hod ech Chargui Region, remains exceedingly high -- 63% of the children fed in November 1986 were less than 80% of the standard weight for their age and almost half of those were even less than 70% of the standard weight. At Akjoujt Town (Inchiri Region) as well, consistently over half the children fed at the CRS center have been malnourished (below 80% of the standard weight for their age). In contrast, the percentage of children under 80% of the standard weight for their age, for all of the CRS feeding centers together, was only 36% in November. About one quarter of that percentage actually measured less than 70% of the standard weight.

The CRS center statistics cannot be generalized to the surrounding territories, but do indicate the presence of high malnutrition. The upper right quadrant of Map 2 shows all of the CRS centers that, in November 1986, had 35% or more of children fed measuring less than 80% of the standard weight for their age. At these same centers, 9% (in Keur Massene) to 28% (in Nema) of the children seen were under 70% of the standard weight for their age. In October of 1986, CRS completed a nutrition survey in Nema Town to better understand the high rates observed. The results of this survey should become available soon.

GRASSHOPPERS

The large grasshopper infestation of 1986 caused important local damage to crops in scattered areas of both Mali and Mauritania. Most estimates of the grasshopper threat in 1987 suggest that crop damage will be at least as severe as in 1986. Areas in which the threat of early infestation by grasshoppers is greatest (Map 2, lower left quadrant) are those in which grasshoppers were found in late 1986 and considerable numbers of eggs were laid.

After hatching with the first major rains of 1987, the Senegalese grasshopper (*Oedaleus senegalensis*) tends to follow the advancing weather front as it moves north. Therefore, most areas to the north of those shown in Map 2 are also at risk of eventual grasshopper infestation. Thus there is an additional threat to Mali from the northern areas of Burkina Faso and the western sectors of

Niger. Malian grasshopper hatchlings in the northwest will pose a similar threat to southeastern Mauritania.

The results of a grasshopper egg-pod survey in Mali, completed by the Ministry of Agriculture during the last part of November and early December 1986, are shown via maps in Appendix II. Similar surveys in Mauritania were scheduled for completion by mid-February.

DISPLACED PEOPLE
Mali

In January, FEWS/Mali reported that an estimated 4,200 displaced families are in the camps around Gao Town. This figure is much higher than the 2,777 displaced families that were counted in October. The total number of displaced persons which this number represents is hard to gauge. Many family groups are, in fact, composed of single people, often with no blood relationship, who gather together to form a common household. Assuming an average of 4 people per "family", however, the total number of displaced persons can be estimated at around 16,800.

The increase since October in the number of displaced families around Gao Town is attributable largely to two factors. First, as predicted in previous FEWS reports, many people who had left the camps in order to harvest wild grains have now returned. Second, there have been new arrivals in the past month, particularly from Bourem. The newly arrived people are mainly men in search of work, their families have remained in the villages. The town of Gao still presents opportunities for casual laborers, with jobs ranging from brick making and water-drawing to domestic work.

There is currently no food distribution for displaced people in the town of Gao, although World Vision operates two feeding centers for the treatment of malnourished children. UNICEF, Malian social services agencies and World Vision recently met in Gao to discuss other possible forms of intervention in the camps. The results of this meeting are not yet available.

Appendix I

Table 1: Mali, Cereals Available for Estimated 1987 Population of 8,671,000

Net Domestic Production		1,418,000 MT
Stocks		
Government (OPAM)	95,000 MT	
National Security (SNS)	41,000 MT	
Office du Niger (ON)	14,683 MT	
Operation Riz Segou (ORS)	2,311 MT	
Operation Riz Mopti (ORM)	750 MT	
CMDT	1,000 MT	
Commercial	27,690 MT	
Donor	7,450 MT	
Farmer		
Subtotal		189,884 MT
Imports		
Commercial	49,000 MT	
Food Aid (1985/86 balance)	13,900 MT	
Subtotal		62,900 MT
Total Estimated Supply		1,670,784 MT
Cereal Needs		
Consumption @ Avg 175.7 kg/person	1,518,000 MT	
Reconstitution of SNS Stocks	20,000 MT	
Subtotal		1,538,000 MT
Estimated Cereal Surplus		132,784 MT
Source: USAID/Bamako		

Table 2: Mauritania, Cereals Available for Estimated 1987 Population of 1,830,000

Net Production Estimate		95,000 MT
Stocks		111,067 MT
Imports		
Commercial	73,500 MT	
Food Aid Pledged (sale and free)	47,497 MT	
Unofficial	na	
Subtotal		62,900 MT
Total Estimated Supply		327,064 MT
Cereal Needs @ Avg 165 kg/person	301,950 MT	
Estimated Cereal Surplus		25,114 MT
Source: USAID/Nouakchott		

Appendix II: Malian Grasshopper Egg-Counts

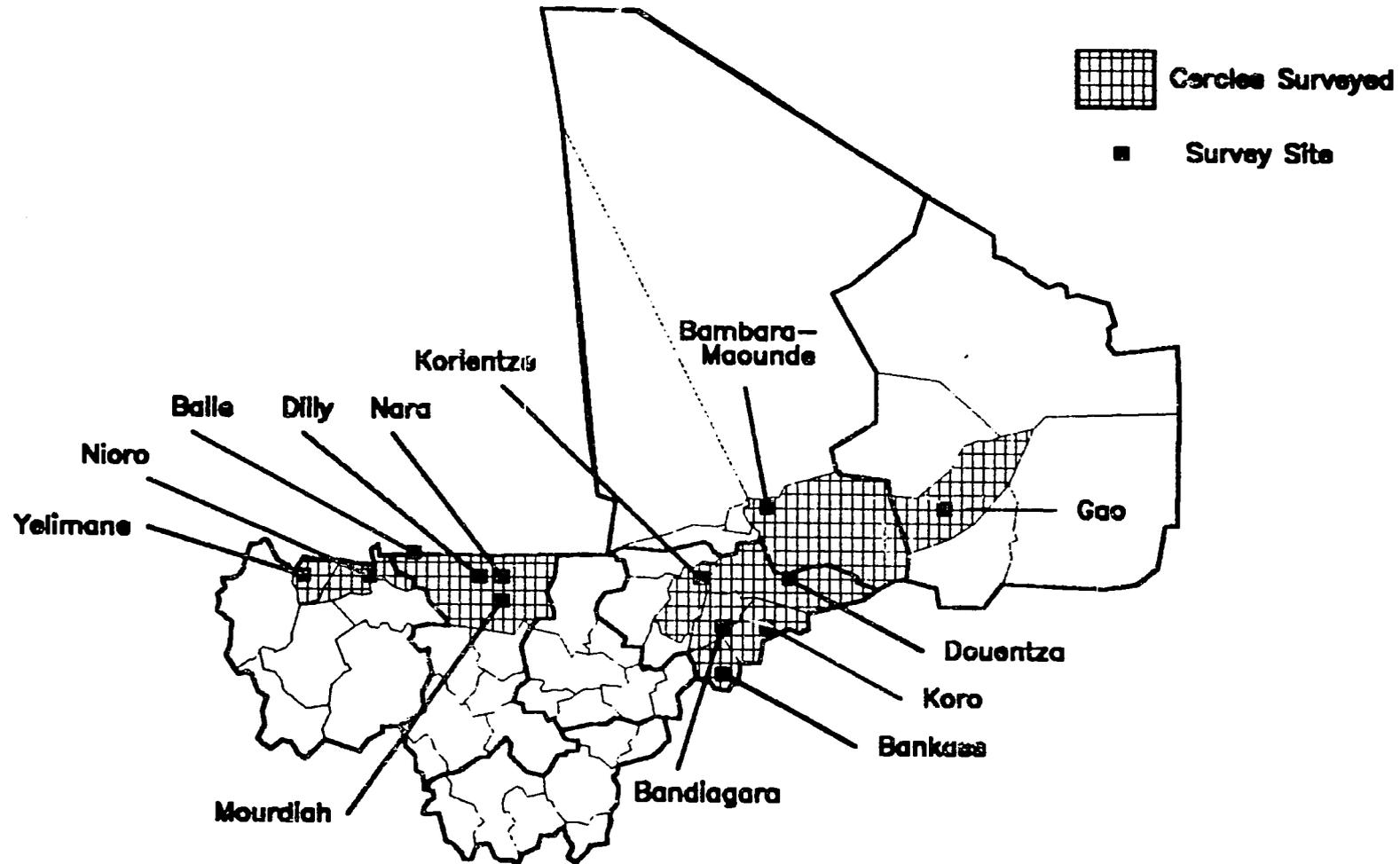
An egg-pod survey was carried out by the Malian Ministry of Agriculture, Operation for the Protection of Seeds and Harvests, from November 19 to December 18, 1986. Six teams of three to four people inspected a total of 12,470 sample areas of 1 meter square each. The sample areas were located in 914 hectare-size units which themselves were chosen from an initial sample area of 3,818 hectares. Map 5 shows the general location of the 914 hectares surveyed. Map 6 displays the average and the maximum densities of egg-pods per sample site. No samples were taken in other areas in which grasshopper problems were reported during 1986, such as Kayes, Diema, Tenenkou, Niono, Youvarou, and others.

The results of the survey confirm that large numbers of viable Senegalese grasshopper eggs are in these areas. The egg-pod mortality rate (due to other insect damage, dryness, etc.) in the sample area is 51.4%, which is within the expected range at this time of year. The average density of egg-pods per square meter ranges from 0.06 to 1.80 per square meter, or 600 to 18,000 per hectare. The average number of eggs per viable egg-pod varies from 21.0 to 48.5. The highest density of viable eggs was found in a sample from the Yelimane area, where as many as 30,000,000 viable larvae per hectare could hatch. The results of the samples taken in Koro, Bankass, Douentza and Gao have led the Ministry of Agriculture to expect significant infestations moving northward from Burkina Faso in 1987. In more general terms, the survey results show that a significant threat exists for the 1987 rainy season, if rains are of normal quantity and regular in their spacing.

* The data presented in the body of the Ministry of Agriculture egg-count report about densities of eggs and egg-pods does not correspond with the tabular data given in a summary table at the end of the same report. Where the text of that report claims to give a range of average densities (the lowest and highest average density at any sample site) of egg-pods and eggs per egg-pod, the summary table implies that the range given in the text of the Ministry of Agriculture report is mistakenly composed of the lowest average density and the highest maximum density recorded at any sample site. The tabular data appears to be more correct and has been used here.

Grasshopper Egg-Count Locations

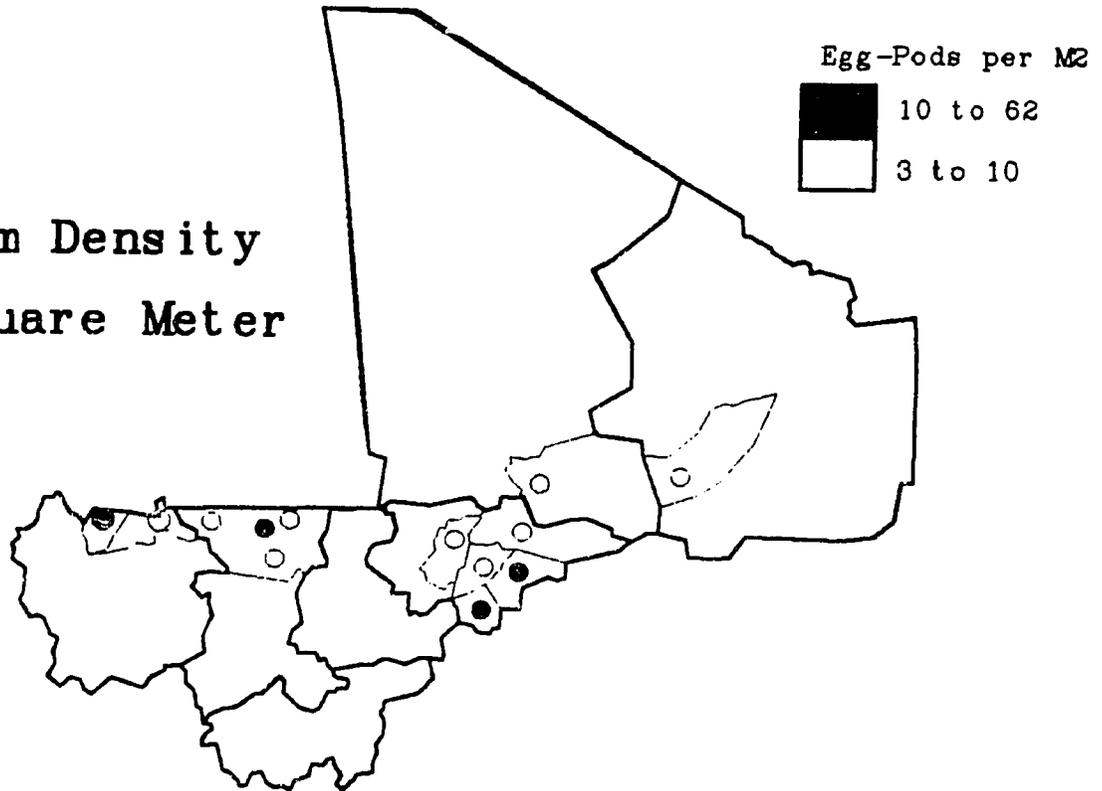
Surveyed from November 19 to December 18, 1986



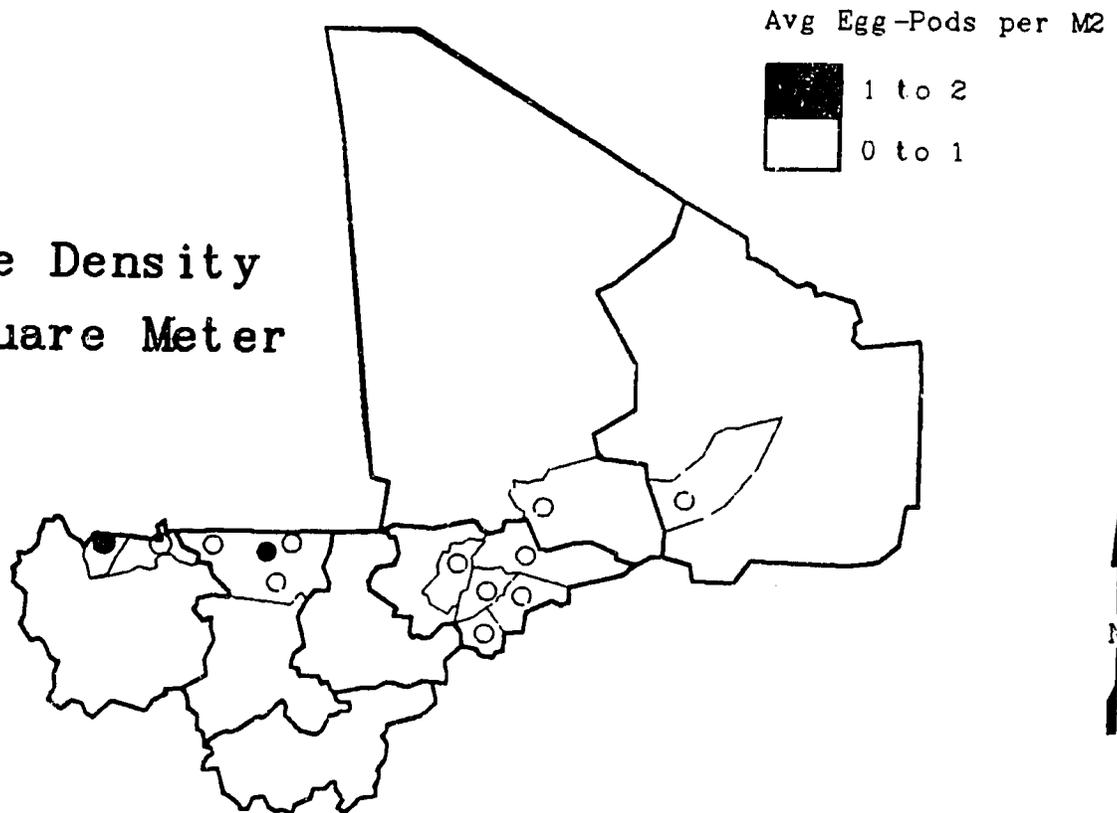
Source: Mali Ministry of Agriculture
FEWS/PWA, February 1987

Grasshopper Egg-Count

Maximum Density
per Square Meter

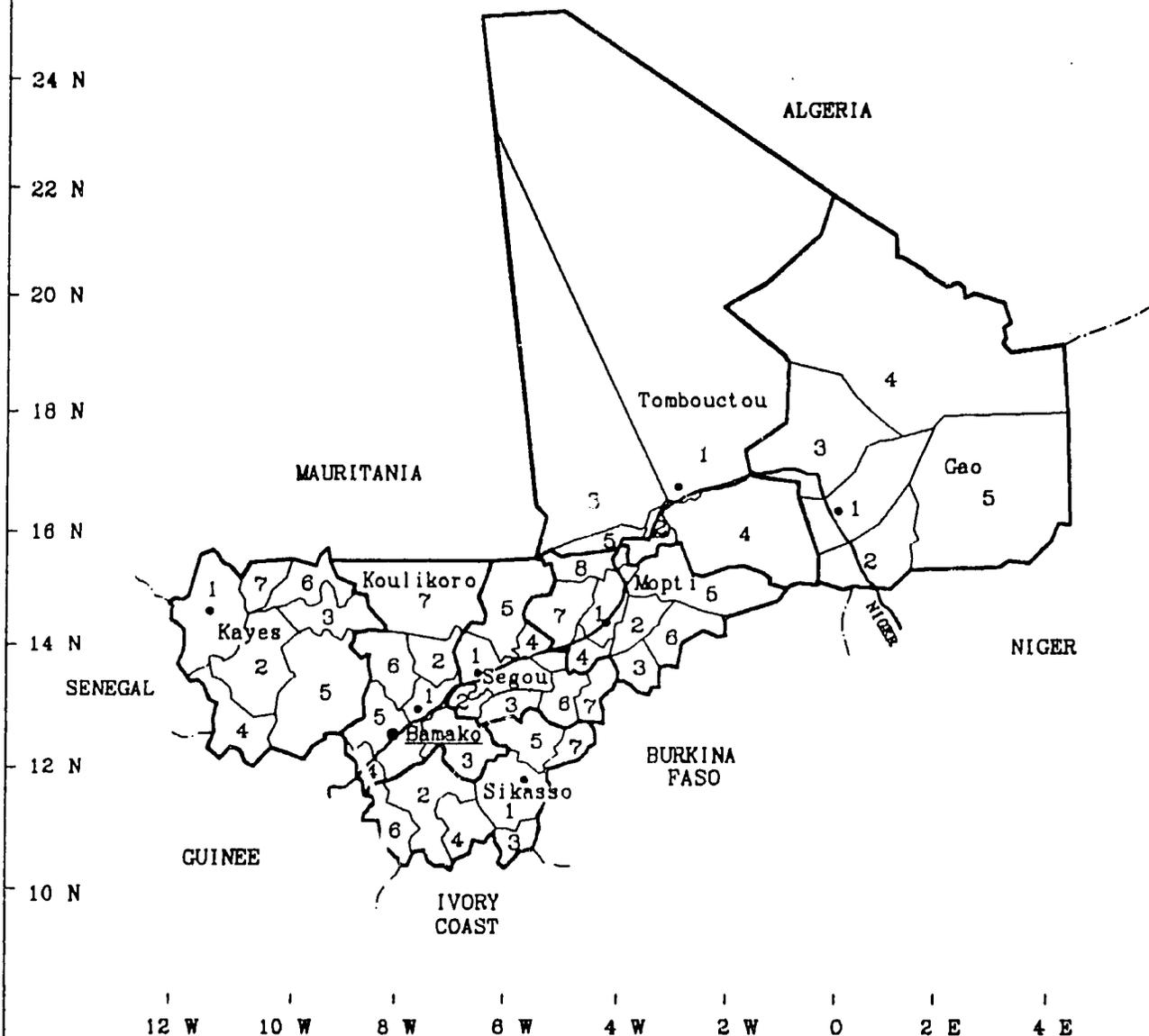


Average Density
per Square Meter



Source: Mali Ministry of Agriculture
FEWS/PWA, February 1987

Administrative Units: Regions & Cercles



REGIONS and CERCLES

KAYES

- 1. Kayes
- 2. Bafoulabe
- 3. Diema
- 4. Kenieba
- 5. Kita
- 6. Nioro
- 7. Yelimane

KOULIKORO

- 1. Koulikoro
- 2. Banamba
- 3. Dioila
- 4. Kangaba
- 5. Kati
- 6. Kolokani
- 7. Nara

SIKASSO

- 1. Sikasso
- 2. Bougouni
- 2. Kadiolo
- 4. Kolondieba
- 5. Koutiala
- 6. Yanfolila
- 7. Yorosso

SEGOU

- 1. Segou
- 2. Baraoueli
- 3. Bla
- 4. Macina
- 5. Niono
- 6. San
- 7. Tominian

MOPTI

- 1. Mopti
- 2. Bandiagara
- 3. Bankass
- 4. Djenne
- 5. Douentza
- 6. Koro
- 7. Tenenkou
- 8. Youvarou

TOMBOUCTOU

- 1. Tombouctou
- 2. Dire
- 3. Goundam
- 4. Gourma-Rharous
- 5. Niafunke

GAO

- 1. Gao
- 2. Ansongo
- 3. Bourem
- 4. Kidal
- 5. Menaka

Other Int'l Boundaries

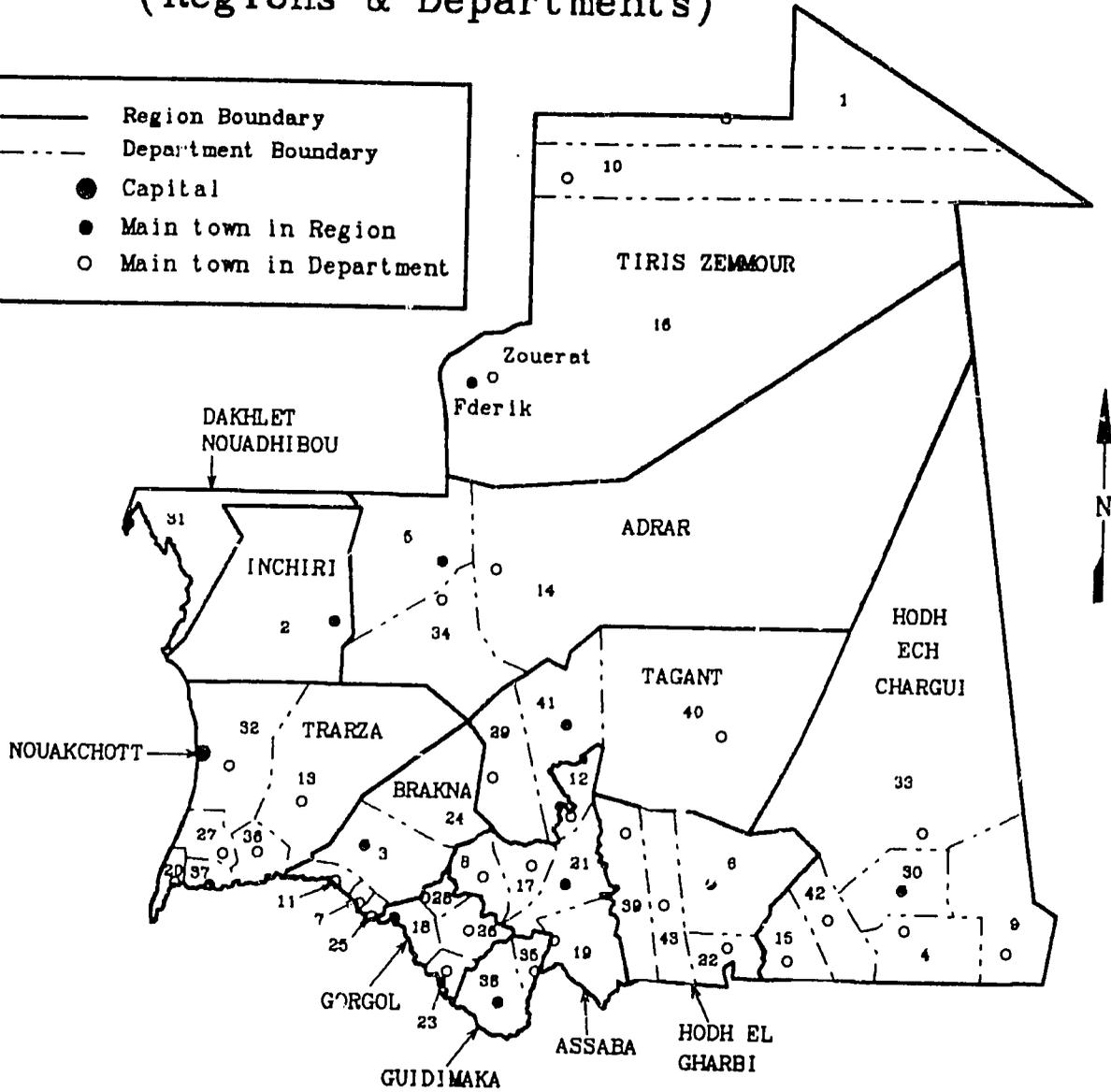
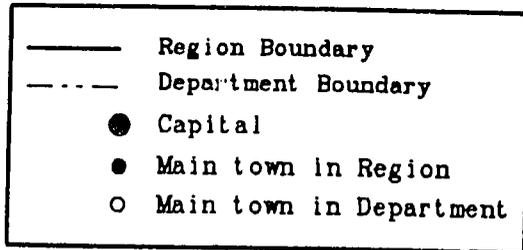
Region Boundary

Cercle Boundary

● National Capital
• Regional Capital

200 km

Administrative Units (Regions & Departments)



Department	RGN	Department	RGN	Department	RGN
1. Ain Ben Tili	TZ	16. Fderik/Zouerat	TZ	30. Nema	HC
2. Akjoujt	IN	17. Guerou	AS	31. Nouadhibou	DN
3. Aleg	BR	18. Kaedi	GO	32. Ould Naga	TR
4. Amourj	HC	19. Kankossa	AS	33. Oualata	HC
5. Atar	AD	20. Kour Massene	TR	34. Oujcit	AD
6. Ayoun el Atrous	HC	21. Kiffa	AS	35. Ould Yenge	GU
7. Bababe	BR	22. Kobenni	HG	36. Rkiz	TR
8. Barkewol el Ablod	AS	23. Maghama	GO	37. Rosso	TR
9. Bassikounou	HC	24. Magta Lahjar	BR	38. Sellabali	GU
10. Bir Mogrein	TZ	26. M'Bagne	BR	39. Tamcheppet	HC
11. Boghe	BR	28. M'bout	GO	40. Tichit	TA
12. Boumdold	AS	27. Maderdra	TR	41. Tidjikja	TA
13. Boutilimit	TR	28. Monguel	GO	42. Timbedgha	HC
14. Chinguetti	AD	29. Moudjeria	TA	43. Tintane	HC
15. Djigueni	HC				

Source: FEWS/Mauritania 1986; IGN 1980
FEWS/PWA, February 1987