FEWS bulletin

USAID-Financed Famine Early Warning System

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AFR/98-03

Eastern Africa and the Horn

Favorable Weather in Eastern Africa

The flooded areas of eastern Africa and the Horn are drying up. Since late February, the rains have decreased and much of the excess soil moisture has evaporated (figure 1). In many places, land preparation and planting are under way. Swollen rivers are receding, and road access is improving. As farmers market newly harvested crops, improved commodity flows are stabilizing food prices. However, continuing problems along the major road and rail corridors across Tanzania and Kenya have forced WFP to reduce food rations to refugees and internally displaced persons.

Across the region, human and animal diseases are decreasing, but livestock morbidity in Kenya and Tanzania remains high relative to usual patterns. Saudi Arabia's ban on livestock imports, due to reports of Rift Valley fever, poses a threat to the livestock economies of Ethiopia and Somalia.

Potential for Residual Moisture Versus Normal, March 1–10, 1998

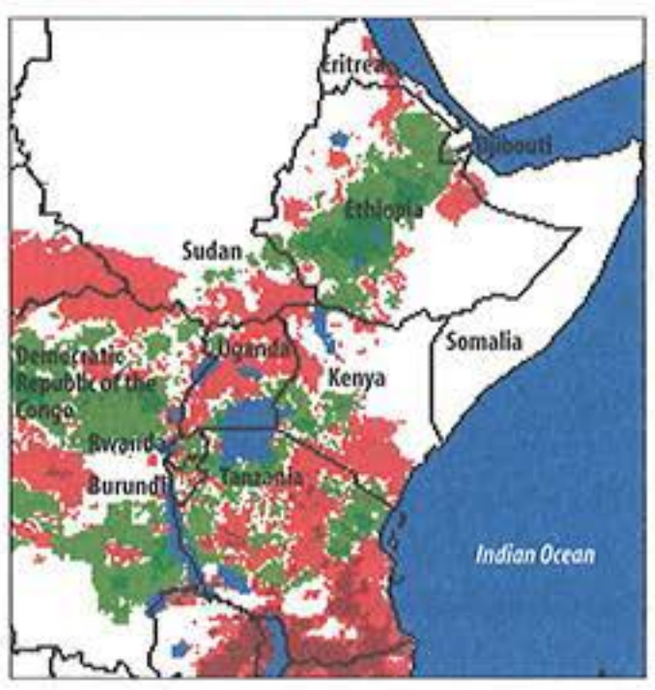


Figure 1 FEWS, March 1998

Ethiopia

Pastoral populations in Ethiopia's southeastern lowlands depend heavily on livestock exports to Somalia, most of which are reexported to the Gulf States. Saudi Arabia has responded to outbreaks of Rift Valley fever in eastern Africa by banning livestock imports from eight countries in the region, including Ethiopia. No cases of livestock Rift Valley fever have been reported in Ethiopia, however, and the Ethiopian Ministry of Health recently determined that suspected human cases were actually malaria. Until the Saudi Government lifts its ban on livestock sales, the livelihoods of about 3 million pastoralists in Ethiopia's southern rangelands will be seriously disrupted.

Belg (secondary season) rains began in most of Ethiopia's *belg* areas in January—1 to 2 months earlier than normal—and the *belg* weather pattern was fully established by mid-February. Rainfall amounts and timing have been favorable for crop production, particularly in the major *belg* production areas of the northern highlands and central and southern Ethiopia. Planting began at the higher altitudes in early January and progressed to lower altitudes throughout February. Substantial rains also fell in the southern rangelands of Borena Zone and western Somali Region during February, further benefiting already good pastures and abundant water supplies for livestock. If good rainfall continues throughout this *belg* season, it will be the longest and most favorable *belg* season in 6 years.

Although agroclimatic conditions so far range from good to excellent, some farmers lack the agricultural inputs that they need to realize this *belg* season's full production potential. Torrential rains damaged *meher* (main season) crops during the harvest period last year, resulting in a shortage of good seed this season. Low germination rates from damaged seeds will limit crop performance and thus production. Farmers are also encountering problems in obtaining fertilizer loans from the Government, whose current credit policy requires that all loans be repaid before it will make new ones. However, many farmers were unable to repay last year's loans because of reduced production caused by weather anomalies. Increased area planted this season may compensate for some of these negative effects.

Somalia

After months of excessive rainfall, the *jilaal* (long dry season) has arrived in Somalia. Southern Somalia is finally drying up, but floodwaters still join the Juba and Shabelle Rivers. Although roads have been badly damaged, food supplies are moving again by land. Water and sanitation conditions remain very poor, and malaria is a major menace to public health. With improving market flows and supply, the Food Security Assessment Unit estimates that food aid needs for March have declined by about one-third from February levels.

Responding to reported cases of Rift Valley fever in southern Somalia and other areas of the Greater Horn of Africa, Saudi Arabia has placed an embargo on livestock imports from eight countries in eastern Africa, including So-

Inside:

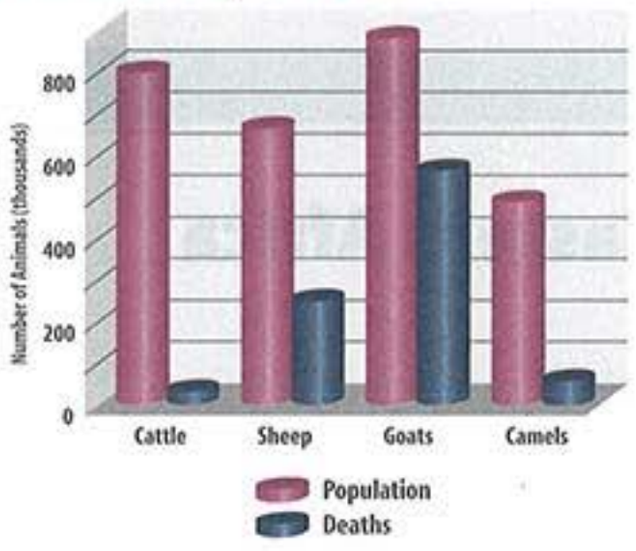
malia. Although international investigators have not found any clinical evidence of the disease in central or northern Somalia, this trade-dependent area will feel the heaviest impact from the ban. Because the ban coincides with a period of peak demand in Saudi Arabia, before the hajj, it will probably cause substantial economic and financial harm, including loss of income and revenues and deteriorating terms of trade. Those affected in the short term include herders, brokers, livestock exporters, food importers, and consumers. The economy of the vast area (Somaliland, and the Somali Region of Ethiopia) that supplies the port of Berbera, Somaliland, is more vulnerable to this embargo than the area supplying Bosasso, Somalia, because more than 90 percent of livestock exports from Berbera are destined for Saudi Arabia, compared with less than 50 percent from Bosasso.

The Somaliland Ministry of Livestock is looking into rehabilitating a livestock holding ground and instituting animal health inspections to satisfy importing countries that health and safety concerns are being met. However, international quarantine requirements are stringent, and it will be difficult to fulfill them before the end of the peak export season. According to the health code of the International Office of Epizootics, an embargo can continue for 3 years if the exporting country is unable to observe the international guidelines. If the embargo becomes prolonged, it will likely weaken the currencies of Somalia and Somaliland, further eroding traders' capability to import foodstuffs. If the food security status of large segments of the population of Somaliland deteriorates as a result of the livestock embargo and its economic consequences, donors may be called upon to provide food and other assistance on a large scale.

Kenya

Mostly dry conditions throughout February in Kenya's northern and eastern pastoral areas led to sharp decreases in livestock mortality from diseases. However, total mortalities during the period of heavy rains, from October through January, were among the highest on record. In North Eastern Province, Provincial Livestock Office surveys indicate that approximately 200,000 sheep and 520,000 goats—that is, 53 percent of small stock—were lost (figure 2). The decimation of herds, reduced availability of milk, and poor livestock-to-cereal terms of trade have left most pastoralists in northern and eastern Kenya highly food insecure. The current WFP Emergency Operations Program is addressing immediate needs, but longer term interventions will be necessary to prevent large numbers of pastoralists from becoming destitute. NGO's working in pastoral areas report an influx of destitute pastoralists into towns.

Kenya—Livestock Deaths in North Eastern Province, October 1997–February 1998



Source: North Eastern Province Livestock Office

Figure 2 FEWS, March 1998

Drier conditions in pastoral areas have restored road access to markets in Isiolo, Marsabit, and Moyale Districts in Eastern Province; Mandera District in North Eastern Province; Samburu District in Rift Valley Province; and the whole of the coastal strip, but northern Garissa and southern Wajir Districts in North Eastern Province and much of Tana River District in Coast Province remain cut off. Even where roads are now passable, conditions are very poor, increasing transport time and costs for both commercial and relief food deliveries. Because of poor road conditions, WFP continued airlifts of relief supplies to Mandera and Wajir Districts in February.

Harvesting of pulses is complete in the short-rains pulse production zones, which are in Central, Eastern, and Nyanza Provinces. Estimated short-rains bean production is 47,773 MT, less than 20 percent of Ministry of Agriculture production targets. The quality of much of the bean harvest is very poor because many farmers harvested prematurely during a break from heavy rains in mid-January. Total short-rains maize production is slightly above average. Relatively dry conditions from mid-February to mid-March facilitated maize harvesting in lower elevation, short-rains production zones, but renewed rains at higher elevations in Eastern and Central Provinces will delay harvesting. Planting of long-rains crops, which normally begins in March, cannot start until fields are cleared of short-rains crops. In Kenya's principal long-rains production zones, in Western and Nyanza Provinces, relatively dry conditions in the second half of February facilitated land preparation.

Availability of pulses and maize from the short-rains harvest has improved the food security of farm households in short-rains production zones. In marginal agricultural areas of Eastern Province, however, cash-strapped farm households are selling much of their harvest. If the upcoming long-rains season is poor, these households may face difficulties later in the year.

Tanzania

Across much of Tanzania, relatively dry conditions in February provided relief from the heavy rains that had predominated since November. In bimodal areas, drier conditions facilitated harvesting of *vuli* (short rains) crops and land preparation and planting of *masika* (long rains) crops. In unimodal areas, they facilitated harvesting of the bean crop planted in November, planting of the second bean crop, and weeding of other crops planted in November and December.

In February, the FAO–WFP crop and food supply assessment mission published its initial estimate of *vuli* production, putting total production at 1.1 million MT: 620,000 MT of cereals, 430,000 MT of root crops, and 52,000 MT of pulses. The mission estimates this year's harvest in most areas at levels well above last year's drought-affected output. February was too early in the season to quantify *masika* production in unimodal areas, but the assessment mission reports that if rainfall levels are normal through April, production of maize, rice, and root crops should be well above average. Production of sorghum and millet will be below average because of seed shortages at planting time. In bimodal areas, where land preparation and planting of *masika* crops are in progress, area planted will depend largely on whether conditions remain dry enough in March for farmers to work their fields.

Availability of food from *vuli* harvests in bimodal areas and from harvests of early maturing crops in unimodal areas is improving food security in most of the country. Damage to transport infrastructure has hampered relief distributions to some areas that experienced drought-induced harvest losses in 1997, but there have been no reports of people resorting to extreme coping activities, such as sales of productive assets. Targeting for further distributions will be based on assessment missions planned for March through June.

Applying Climate Forecasts to Disaster Mitigation

In addition to arriving at a consensus forecast (see the February *FEWS bulletin*), participants in February's Greater Horn of Africa Climate Outlook Forum explored ways to use climate forecasts to improve food security. Both climatologists and food security specialists found the direct interaction from this multidisciplinary encounter valuable: Climatologists learned more about tailoring their products to meet the needs of the food security community, and food security specialists learned more about what climatology has to offer and how this information might be integrated into disaster mitigation planning.

Refining Applied Forecasts

Both food security specialists and climatologists agreed on their need to share the responsibility for ensuring that the information from climate forecasts is incorporated into decisionmaking. This process requires clear, germane forecasts, timely dissemination, and accurate interpretation. Recommendations for improving the format and content of consensus climate forecasts as well as for improving the supplementary information produced by national meteorological services included the following:

- Gearing the timeframe of forecasts to the agricultural calendar. The current consensus forecast covered March–May 1998. For Ethiopia, Eritrea, and Somalia, however, an April–June forecast would have been more useful. Rolling 3-month forecasts, issued monthly, better fit the varieties of agricultural calendars within the region. The Nairobi Drought Monitoring Centre already publishes such forecasts for Kenya, but creating a rolling consensus forecast for the region would be a costly process.
- Providing more detail in forecasts. The onset of the rains and the timing, duration, and intensity of midseason dry spells can have a greater effect on agricultural conditions than the total rainfall experienced within a given period. Because the regionwide consensus forecast cannot provide such detail, users were encouraged as part of the consensus forecast to contact their national meteorological services for more detailed local information.
- Anticipating extreme climatic events. A geographically broad forecast cannot predict extreme events that have been infrequent historically. Climatologists are striving to improve their techniques; agriculturalists, hydrologists, and other professionals must increase their understanding of impact.

Food security specialists gained a better appreciation of the limits of the current state of the art in climatic forecasting. Forecasts continue to improve, and feedback from users will help the climatologists to refine their research priorities.

Integrating Forecasts With Mitigation Plans

Forum participants examined how to integrate climate forecasts—whether derived by regional consensus or by national meteorological services—into decisionmaking. Suggestions for improving the country-level mitigation plans included the following:

- Clarifying which agencies within government would be responsible for handling the various dimensions of climate forecasting and mitigation planning. For example, governments need to decide which channels to use for disseminating information on forecasts and forecast-related actions.
- Disseminating clear and simple climatological information that farmers (or traders, parastatals, or government agencies) can integrate into their activities as they see fit.
- Designing mitigation strategies that "play the odds" implicit in any uncertain event. Governments trying to encourage farmers, traders, or bureaucracies to alter their behavior should stress flexible strategies that minimize risk across all outcomes. For example, governments can provide farmers with the seeds or technologies they need to shift strategies as the season unfolds. Likewise, governments can develop flexible contingency policies or storage plans that they can implement as needed.
- Establishing mitigation plans and development strategies that lessen farmers' exposure to all kinds of climatic shocks. There is always a chance of significant climatic variability over time and across geographic areas.
- Interpreting forecasts in the context of the prevailing food security situation. Because certain population segments may be quite vulnerable to small variations in conditions, food security specialists need to improve their understanding of how various socioeconomic groups respond to climate shocks.

Forum participants presented several practical examples of how climate information improved food security, including adjusting seed choice decisions in Peru and northeastern Brazil and encouraging farmers in Mali to apply meteorological information. Each of these efforts had been built on close collaboration and feedback between climatologists and the various users of the information.

Building on Consensus

Climate forecasts have much to contribute to food security planning, as forum participants found in drawing up the mitigation plans for each of the Horn countries. The forum resolved to maintain the impetus for collaboration by meeting in September to review and update the consensus forecast. The February forum stimulated the exchange of ideas on improving the content, communication, and application of forecasts, generating a consensus that this dialog must continue and expand to include other users of climate forecasts.

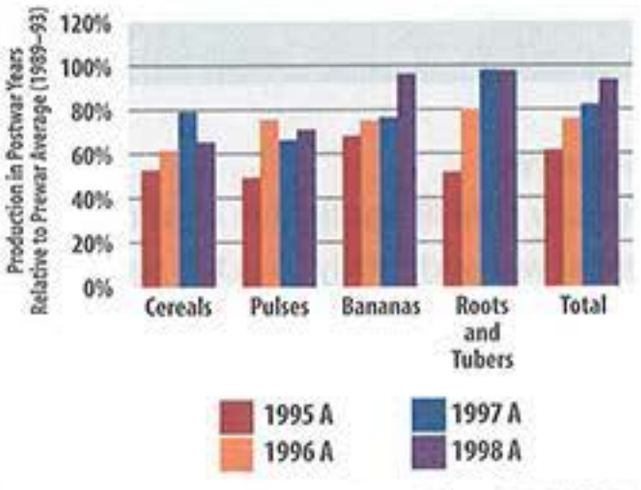
In pastoral areas, milk supplies are abundant because of excellent pasture conditions and water supply. The Ministry of Agriculture and Cooperatives reported incidences of Rift Valley fever among livestock in February in parts of Arusha and Kilimanjaro Regions. The affected areas have been put under quarantine. At present, the outbreak is minor, but if the disease spreads or the quarantine is maintained for a long period, there could be an adverse impact on pastoralists' welfare.

Rwanda

The February FAO–WFP crop and food needs assessment estimated that this year's season A agricultural production in Rwanda was 14 percent greater than last year's and approximately 94 percent of the season A average for 1989 through 1993 (figure 3). Better field maintenance resulted in a 25-percent increase in this season's banana production over last year. This increase does not translate into a 25-percent nutritional gain because of the low protein and energy value of bananas relative to cereals and pulses.

Responding to reports of food shortages, high food prices, and localized crop losses, the Government carried out rapid assessments in Butare, Byumba, Gikongoro, and Umutara Prefectures in late February and early March in collaboration with FEWS, the European Union, FAO, and Save the Children Fund-United Kingdom. In early March, the assessment team called for an immediate 1-month food aid intervention to

Rwanda—Agricultural Recovery Trends in Season A Production



Source: Adapted from FAO/WFP Crop and Food Needs Assessment Reports, various years

Figure 3 FEWS, March 1998

assist 14,000 households in Gikongoro Prefecture, where the this year's season A harvest was 22 percent below last year's and where the large food-for-work program had been suspended due to food aid transportation problems. This relief will be targeted to approximately 70,000 persons, or 30 percent of the total population of the seven affected communes. The assessment team called for strengthening capacities for multiplying sweet potato and cassava cuttings and increasing rural employment through labor-intensive projects in Gikongoro and the other Prefectures visited. Based on this and additional in-country assessments, the National Food Committee agreed that the national food aid requirement for January through July should be increased to 102,000 MT from the 82,000 MT of cereal equivalents estimated by the FAO–WFP crop and food needs assessment mission.

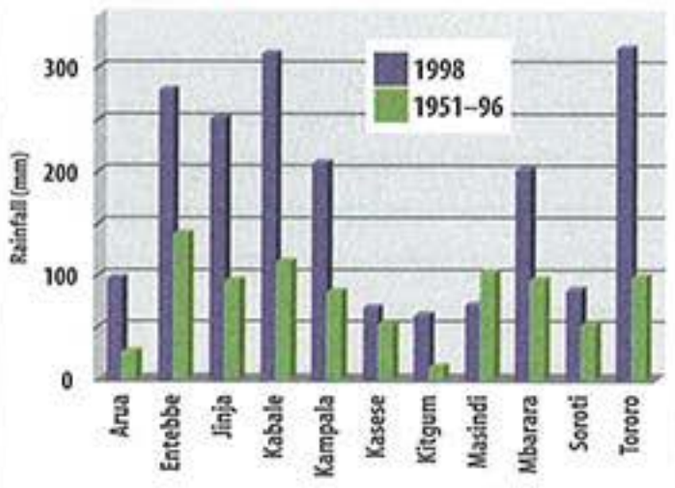
Farmers are currently planting season B crops. Increased soil moisture following months of heavy rains should provide favorable crop conditions. As in recent seasons, the campaign to distribute agricultural inputs to needy households has been largely unsuccessful due to a lack of funding and to poor road conditions. Almost no inputs had been distributed as of the early March deadline for completing the campaign.

Pastoral conditions are very good, and reports from the important livestock areas of the north and southeast indicate that animals are in good health.

Uganda

High humidity accompanying the above-normal rains that fell in Uganda during the first 6 weeks of this year (figure 4) hampered the drying of harvested cereals and decreased the overall production of cereals and beans. Although lower cereal production will reduce incomes, most households in Uganda depend primarily on their own production of crops, such as cassava, sweet potatoes, and *matoke* (plantains), for their food security. These traditional food crops produced well in the high rainfall of the second season of 1997 and should permit most farm households to meet their food needs in the upcoming season.

Uganda—Comparative Rainfall Station Data, January 1–February 20, 1998



Source: Department of Meteorology, Ministry of Natural Resources, FEWS/Uganda

Figure 4 FEWS, March 1998

A return to seasonably dry conditions in late February and early March dried out previously flooded feeder roads, increasing the flow of cereals to markets and contributing to the gradual decline of maize, millet, and sorghum prices since their May–July 1997 peak. Beans remain in short supply, and bean prices are about 50 percent above the 1991–97 average for this time of the year. The second season's poor maize and bean crops will likely result in rising prices for these commodities until the next harvest, in June and July.

WFP and NGO's working in Gulu and Kitgum Districts in northern Uganda report that civil insecurity has increased since early February, and they estimate that the number of internally displaced persons has risen from 250,000 to 400,000. WFP's current emergency program for those Districts—based on the lower target population—has received pledges for about 40 percent of the 21,000 MT of food requested. Transportation bottlenecks in Tanzania and Kenya have reduced available supplies and forced WFP to suspend food deliveries for rehabilitation and construction activities.

Southern Sudan

It is seasonably dry in southern Sudan. Pasture conditions are good, and livestock health is normal for this time of year. Planting should begin in late March and early April in some areas, but a shortage of seeds will limit area planted and reduce production this year if farmers do not receive additional supplies. Seeds are in short supply because last year's poor harvest forced many households to consume seeds that they had saved for planting. In addition, tens of thousands of internally displaced persons without benefit of relief food are relying on local households (who barely have enough for themselves). People in southern Sudan need relief food and seeds to prevent the situation from deteriorating further.

The continued suspension of flights to Bahr-el-Ghazal Region is preventing the delivery of adequate relief to the 150,000 persons displaced since January. Initially dispersed throughout the Region, these displaced populations have been converging on possible relief distribution points. Truck convoys delivered 120 MT of sorghum to northern Bahr-el-Ghazal in February, but only one-quarter of the population there can be reached by road.

The annual appeal for southern Sudan was released in February. UNICEF-Operation Lifeline Sudan requested US$20 million for the southern sector, and WFP requested US$59.4 million. WFP's priority for emergency food interventions in 1998 is to provide assistance to populations whose productive assets and coping mechanisms have been eroded by long-term food insecurity.

Southern Africa

Zimbabwe

February rainfall was light in most of Zimbabwe—extremely so in the southern half of the country. Through the end of the month, much of the country had received 80 to 100 percent of normal cumulative seasonal rainfall, although most of it had been concentrated in January. The commercial farming areas of the north and the marginal farming areas of the northwest had received the highest percentage of normal cumulative seasonal rainfall, and the largest deficits were in the marginal farming areas of the south.

A Government assessment mission visited communal farming areas between mid- and late February to survey crop and pasture conditions. The mission arrived at minimum and maximum grain production estimates of 1.33 million and 2.18 million MT, respectively, for the current season (average grain production during the 1990's is estimated at 1.89 million MT). It found pasture conditions good in most of the country.

The assessment mission noted a strong north-to-south gradient from favorable to poor agricultural conditions. The areas where the production outlook is poorest include those that FEWS has identified as the most vulnerable to food insecurity going into this season. The marginal farming areas of the

south typically rely less heavily on their own grain production than do most areas of the country, meeting the remainder of their food requirements through market purchases. This season, however, high cereal prices may compromise food access in what are some of the poorest areas of the country. The Government has already registered over 600,000 persons for food aid or grain loan distributions.

Zambia

Rainfall dropped off substantially in early February in much of Zambia and was very patchy in the south. It climbed back to seasonable levels later in the month, beginning in the north and moving southward. The break in rainfall was welcome in much of the country, because it facilitated such tasks as weeding and provided sunlight needed for plant development. By late February, most maize was approaching maturity, and in some areas of Eastern Province green maize was available for consumption.

In parts of the south, continued drier-than-normal conditions have hurt crops. The Department of Meteorology has reported crop stress in some locations, including Mkushi District (Central Province) and Kalomo District (Southern Province). In parts of the north, where some crops were already stunted and yellowing due to the effects of excessive rain, the rains continued unabated. In a recent field trip to Luapula and Northern Provinces, FEWS observed visible damage to crops, roads, and bridges. Flooding has rendered some areas inaccessible by road.

Food prices remained stable in most areas during February, and maize and maize meal are readily available in the markets. Commercial maize imports and the release of maize from Food Reserve Agency stocks are credited with helping to maintain this stability. Commercial trading companies have brought in most of their planned 50,000 MT of imports, while at least 55,000 of the 70,000 MT of maize to be imported from Zimbabwe through the Food Reserve Agency has arrived in country. The Food Reserve Agency has continued to release maize from its stocks, which are reported to be nearly exhausted following the sale of 8,000 MT in Lusaka and 2,450 MT in Lundazi, Eastern Province.

Malawi

Northern Malawi received average to above-average rainfall in February, and the southern

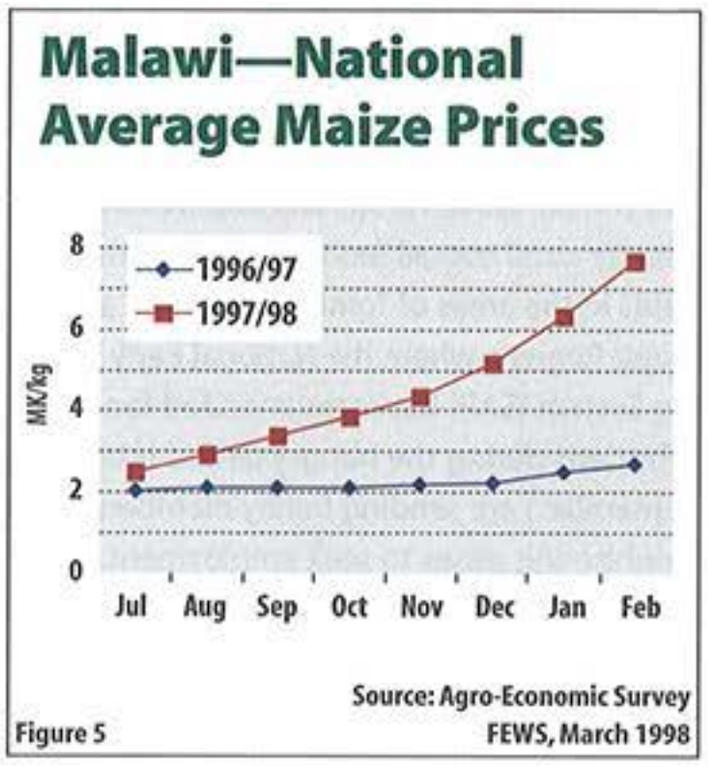


Figure 5

and central regions experienced a dry spell that lasted up to 2½ weeks in some areas. The dry spell was welcome in many areas following very wet conditions in January; however, where maize was at the silking and tasseling stages and groundnuts were at the pegging stage, the dry spell will cause some yield reductions. In the south, where some farmers took advantage of the first rains to plant in October, maize has reached maturity and farmers are beginning to harvest. Harvesting and curing of tobacco have also begun across the country.

Maize is available in private markets, but the national average maize price increased to MK7.53 (US$0.31) per kilogram by the end of February. Maize prices have increased 300 percent since last year's harvest in July, whereas they increased just 40 percent over the same period in 1996/97 (figure 5). The price increases are well above the general rate of inflation, which is 23 percent. The main factor fueling this increase is the limited maize supply—both from last year's harvest and from imports.

The Agricultural Development and Marketing Corporation (ADMARC) has not been able to import enough maize to keep its outlets stocked. Logistical problems have delayed the arrival of the 30,000 MT of maize that ADMARC purchased in Mozambique. Demand is high for ADMARC maize, which is selling at MK3.90 (US$0.16) per kilogram—half the private market rate. With such high demand, sales outlets frequently run out of stocks. For consumers who cannot afford maize prices at private markets, ruptures in supply to ADMARC markets cause real hardship. In rural areas, where households are harvesting early crops, the harvest has increased household access to food. In urban areas, however, the poorest households' only alternative to ADMARC maize is the private market, where their limited resources buy them half as much.

Mozambique

Most of Mozambique received substantial rainfall in February. In the important maize-growing northern and central areas, where rainfall has been abundant and well distributed during most of the season, crops appear to be doing well. At the end of February, most plants in the central region were in the vegetative growth stage; in the north, where the season starts somewhat later, planting was compete and plants were at stages ranging from germination to early vegetative growth.

In southern Mozambique, the agricultural situation varies by region. In the coastal regions, rainfall and moisture have been adequate since mid-November. At the end of February, most maize was in the vegetative growth stage and entering the flowering stage. In the inland regions, rainfall started late and most planting began in mid-December. Due to the scattered planting times, crops are at various stages of development. Recent good rains have benefited crops throughout the south.

The area under cultivation in Mozambique increased again this season, as recovery from the years of warfare continued. Most observers expect the upcoming harvest to match or surpass last year's production. Government and industry sources report that the areas planted to tobacco and cotton have increased since last season in the center and north as more small-scale producers have planted these crops in response to favorable market conditions last season. Cash crop production will contribute to household incomes and food access. Livestock numbers also continue to rise, following several years of good rainfall, and pastures in the main livestock areas of the south are in good condition.

Despite the generally positive outlook for agricultural production, some areas are experiencing difficulties. Heavy rainfall and the resulting flooding have contributed to outbreaks of disease, including cholera, in urban centers. A recent multiagency assessment visit to deficit districts of the south estimated that 15 to 20 percent of the households were unable to purchase food in the market. These households had reduced their consumption of food and were meeting an increasing share of their needs through gathering and hunting.

Sahel

Mauritania

The winds of the harmattan have been unusually persistent in Mauritania, drying out both crops and water sources (ponds and low-lying areas). Harvests under way in the river recessional areas *(walos)* indicate there will be mediocre production from these areas, due in part to the drying effects of the harmattan, as well as attacks by birds, caterpillars, and other pests. The areas hit hardest are along the Senegal River in Brakna and Gorgol Wilayas.

Farmers have been cutting hay to sell to animal keepers in urban areas, leaving little pasture for local stock in Brakna and Hodh Ech Chargui Wilayas. In search of better pastures, many herders are now seeking authorization from Government officials to bring their animals into Senegalese pastoral zones. With the completion of the *walo* harvest in the Senegal River area, herders are moving their camels to the southern pastoral zones.

Food security is worsening in the Aftout area of Assaba, Brakna, and Trarza Wilayas as well as southern Hodh Ech Chargui and Hodh El Gharbi Wilayas due to the poor *walo* production, the deterioration of the grazing areas, and reduced cereal imports from Mali (see box at right). The Government of Mauritania has sent food aid requests to donors totaling 50,000 MT. Donors have responded with pledges for 16,000 MT to be used for regular food aid programs (restocking cereal banks, food for work) and over 11,000 MT for emergency food aid.

Mali

A good harvest of late-season sorghum has begun in the north of Mali's Kayes (Yelimané and Nioro Cercles) and Koulikoro Regions (Nara Cercle). Farmers are harvesting rice, and the outlook is good for irrigated rice production in Ségou, Mopti, and Gao Regions but poor for floating rice in Tombouctou Region and in Tenenkou and Youvarou Cercles, Mopti Region. Off-season onions, potatoes, and tomatoes are progressing well along the Niger River, but in Bandiagara Cercle, on the Dogon Plateau—where people are heavily dependent on off-season gardening as a source of income to supplement their food security—poor seasonal rainfall and dilapidated water barriers have reduced the area planted by half. Pasture conditions remain adequate except in the northern parts of Mopti and Tombouctou Regions and in eastern Gao Region.

The late-season sorghum and rice crops and the off-season crops will improve Mali's already good overall food security. Households in the areas of Tombouctou, Gao, and Mopti Regions where the National Early Warning System (SAP) has recommended food distributions during the hungry period (May to September) are sending family members to neighboring zones to seek employment. Some seasonal migration typically occurs from these regions, but this year it appears to be abnormally large, due to the precarious food situation.

Cereal prices remain low compared with the past few years at this time, and cereals are readily available in the markets. Government officials have expressed some concern about the outflow of this year's surplus harvest to neighboring countries (see box below). Added pressure on food supplies from Nigerien migrants in Ménaka and Ansongo Cercles in Gao Region may lead to food access problems for local populations (see box on p. 7).

Burkina Faso

Based on updated field measurements, the Government of Burkina Faso now estimates net cereal production for the 1997/98 season at 1,685,000 MT—nearly 12 percent below its early December preliminary estimate. Adjusting for reduced production, for a 13,000-MT reduction in estimated stocks, and for a 30,000-MT increase in projected imports, the Government now calculates a national cereal deficit of nearly 160,000 MT, rather than the previously projected surplus of 15,000 MT. Production estimates decreased for the central Provinces of Boulkiemdé, Kouritenga, Namentenga, Oubritenga, Passoré, Sanguié, and Sourou, yet increased in all other Provinces.

Basic food commodities, especially millet and sorghum, are becoming scarce and expensive in the north. In some places—especially Namentenga, Sanmatenga, and Yaga (formerly Séno) Provinces—the poorest households are turning increasingly to alter-

Administrative Formalities May Limit Mali's Cereal Exports

In response to reports of large outflows of cereal to neighboring countries, in January the Malian Customs Service issued a public notice reminding all economic agents of the rules governing cereal exports: any person planning to export rice or traditional cereals (millet and sorghum) worth more than CFAF50,000 (US$84) or CFAF25,000 (US$42), respectively (essentially, any quantity of cereals over 200 kg), must fill out an export declaration form. The form must be filed with the nearest customs office. Customs offices are located in the regional capitals. Any person violating these rules is subject to fines and confiscation of the cereals. The Customs Service also directed customs agents to take all measures necessary to enforce these rules.

In practice, the filing of an export declaration is a significant barrier for people trying to export even small quantities of cereals, especially along the border of Koulikoro Region, where the nearest customs office is in Koulikoro, over 300 km away (figure 6). In Nara Cercle of Koulikoro Region, which has a structural cereal deficit, authorities have become concerned about reports that up to 100 MT of cereals a month are leaving the circle for border areas of Mauritania, where cereal harvests were very poor this year. They have increased its efforts to stop illegal exports, and customs officials confiscated a total of 33 MT of millet in February. These efforts to control exports will reduce access and increase relief needs for the food-insecure populations of Mauritania's Hodh Ech Chargui and Hodh El Gharbi Wilayas, who have been purchasing cereals in weekly border markets or who have benefited from traders' transporting cereals from Mali to markets in Mauritania. The 115,000 persons in southeastern Mauritania who are moderately food insecure (see the February 1998 FEWS Special Report) may become highly food insecure.

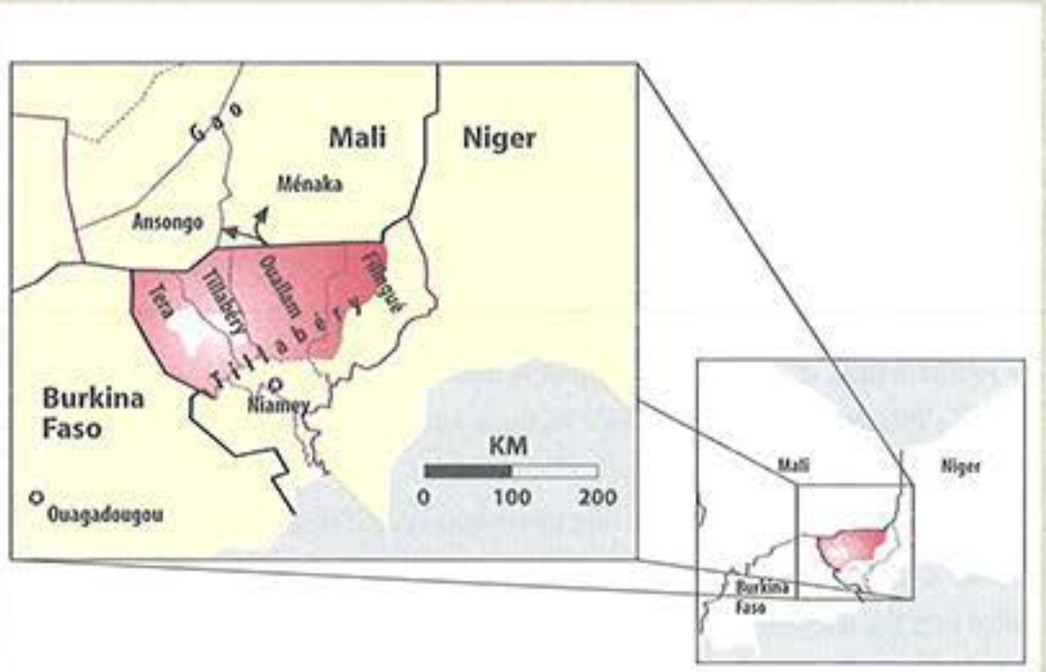
Figure 6 Source: FEWS/Mali FEWS, March 1998

Outmigration From Tillabéry Department Continues

The outmigration of people from the north of Niger's Tillabéry Department continues. Able-bodied men migrate from this area every year in search of work during the dry season, but this year's migration started earlier than normal and has included some entire families.

The Malian Early Warning System (SAP) reports that people fleeing Niger's chronically deficit Ouallam Arrondissement, Tillabéry Department, were arriving in Mali's Gao Region, in Ménaka and Ansongo Cercles (figure 7). The added pressure that these migrants will exercise on food supplies may lead to food access problems for the populations of these cercles. Projet Agro Silvo Pastorale Niamey-Nord reports that men who have returned to Tillabéry Department to get their families state that food is available in Mali.

Niger's Ministry of Agriculture reports that Ouallam Arrondissement has received food aid totaling 335 MT from the Governments of Algeria, Switzerland, and Saudi Arabia and the President of Niger. Support has also been sent by Nigeriens living in Côte d'Ivoire and Ghana.



Source: FEWS/Niger

Figure 7

FEWS, March 1998

native food sources, such as wild foods, or are sending family members to seek employment elsewhere. Water levels in rivers and reservoirs are low, due to this season's poor rainfall and the drying effects of the unusually severe harmattan, which will reduce the potential of alternative sources of income and food, such as fishing and gardening. February millet prices averaged about CFAF129 (US$0.22) per kilogram—well above the 1997 and 1996 February prices of CFAF115 (US$0.19) and CFAF103 (US$0.17), respectively. In Bam, Sanmatenga, and Yaga Provinces (three Provinces that FEWS has identified as highly food insecure), February millet prices exceeded CFAF150 (US$0.25) per kilogram.

In response to the very poor harvest in central, eastern, and northern Burkina, the Government and several NGO's are providing cereal for sale at subsidized prices to the Provinces with the greatest deficits. The European Union, Swiss Cooperation, WFP, and other organizations have taken initiatives to replenish cereal banks in these Provinces, and they have also discussed the possibility of providing seed at subsidized prices for the upcoming agricultural season, which will begin sometime between April and June.

Niger

In January, the Government of Niger lifted import taxes on cereals to encourage their flow into the country. Cereals are now available in most markets, but at prices that remain very high compared with previous years. Mitigation activities, such as food for work, will be necessary during the hardest part of the hungry period (May to September) to support the most vulnerable people. The food aid delivered against donor pledges of 39,922 MT remains at some 18,074 MT.

To offset the main-season production shortfall, to improve the revenues of households in deficit areas, and to curtail outmigrations, the Ministry of Rural Development, Hydrology and Environment (with the help of FAO, UNICEF, and NGO's) launched in January an off-season gardening program designed to benefit over 150,000 persons in all Departments (see the January *FEWS bulletin*). The Government recently conducted a midterm evaluation of the program and found that farmers have cultivated about 43,000 ha (82 percent of the program's goal) during this off-season. The evaluation estimated garden production at over 800,000 MT of vegetables—equivalent in monetary value to 144,000 MT of cereal.

FEWS recently visited representative gardening sites along the Niger River, where farmers reported that vegetables helped them diversify their diets, but proceeds from the sale of these off-season crops are insufficient to purchase sacks of millet. Cereal prices are high, and vegetables fetch low prices in local markets due to the success of the program. In addition, farmers lack appropriate storage facilities to avoid spoilage of the vegetables.

Chad

The Lake Development Society (SODELAC) expects Chad's 1997/98 off-season cereal production to exceed the amount estimated by FAO and the Permanent Inter-State Committee for Drought Control in the Sahel (CILSS) in their November preharvest assessment. The cause for this improved outlook is better-than-expected recessional agricultural production, especially in the Lake Chad polders in Lac Prefecture (see box on p. 8). SODELAC reports that the cold-off-season wheat crop has reached maturity without major problems and that area planted was much greater than anticipated in the preharvest assessment.

In Salamat Prefecture, the off-season recessional sorghum *(berbéré)* harvest has ended. Farmers report greatly increased yields versus last year.

Increasing cereal availability has resulted in price decreases and eased access to food for the poor.

Pastoralists' terms of trade should continue to improve as prices of cereals drop with further harvests and as prices of animals (especially sheep) increase with the approach of the Muslim sacrifice holiday. According to officials of the Office of Pastoral Organization (DOP), there will be sufficient pasture and water and no major animal health problems are likely.

The Early Warning System (SAP) has identified 236,000 persons as highly food insecure. In February, it requested a total of 5,157 MT of food aid, including 4 months of aid for Nokou in Kanem Prefecture (1,008 MT), for Am Dam in Ouaddaï Prefecture (503 MT), for Mangalmé in Guéra Prefecture (606 MT) and for Oum-Hadjer in Batha Prefecture (1,071 MT); 3 months of aid for Ouadi-Chok in Abéché Rural (491 MT); and

Lake Chad Polders

Lake Chad is one of the most important agricultural production and fishing areas in Chad (see the May 1997 *FEWS bulletin*). In the dunes around the lake, farmers grow millet. In the polders, they practice recessional and irrigated agriculture, growing maize, wheat, and other crops in the fertile soil and planting up to three times a year.

Lake Chad consists of two pools separated by a ridge (figure 8) known as the Grand Barrier. The Logone-Chari river system feeds the southern pool, which spills over the Grand Barrier into the northern pool. Throughout the 1970's and 1980's, recurrent droughts caused both pools to shrink. The Logone-Chari system has continuously fed the southern pool, regardless of rainy season quality, but in low-rainfall years, such as 1984/85, 1986/87, 1990/91, and 1993/94, there was no spillage into the northern pool.

From 1994 to late 1997, rainfall was heavy enough to cause a steady increase in the lake level. The Lake Chad Basin Commission reports that the southern pool has spilled into the northern pool every year since 1994. Consequently, polders that had been dry for years were flooded in 1996/97, allowing farmers in Lac Prefecture to increase maize production significantly this off-season. Unfortunately, a recent drought in the Central African Republic caused the Logone and Chari Rivers' levels to drop significantly, beginning in August. Spillage into the northern pool this season is unlikely.

Lake Development Society (SODELAC) technicians recently conducted a study to determine whether upriver drought could force Lac Prefecture's farmers to return to the more limited agriculture of the 1970's and 1980's, and they found that the present poor hydrological season should not reduce agriculture around Lake Chad and along the Chari and Logone Rivers in the near future. A traditional (nonirrigated) polder should remain cultivable for about 5 years after flooding ends. The area planted would decrease gradually, but until the fourth crop—a period of about 1½ years—the decrease would be very slight. The 1997/98 growing season's 30,000-ha increase in planted polder area would thus remain available, even in the event of another poor rainy season upriver, until the next cold off-season (November 1998 to February 1999).

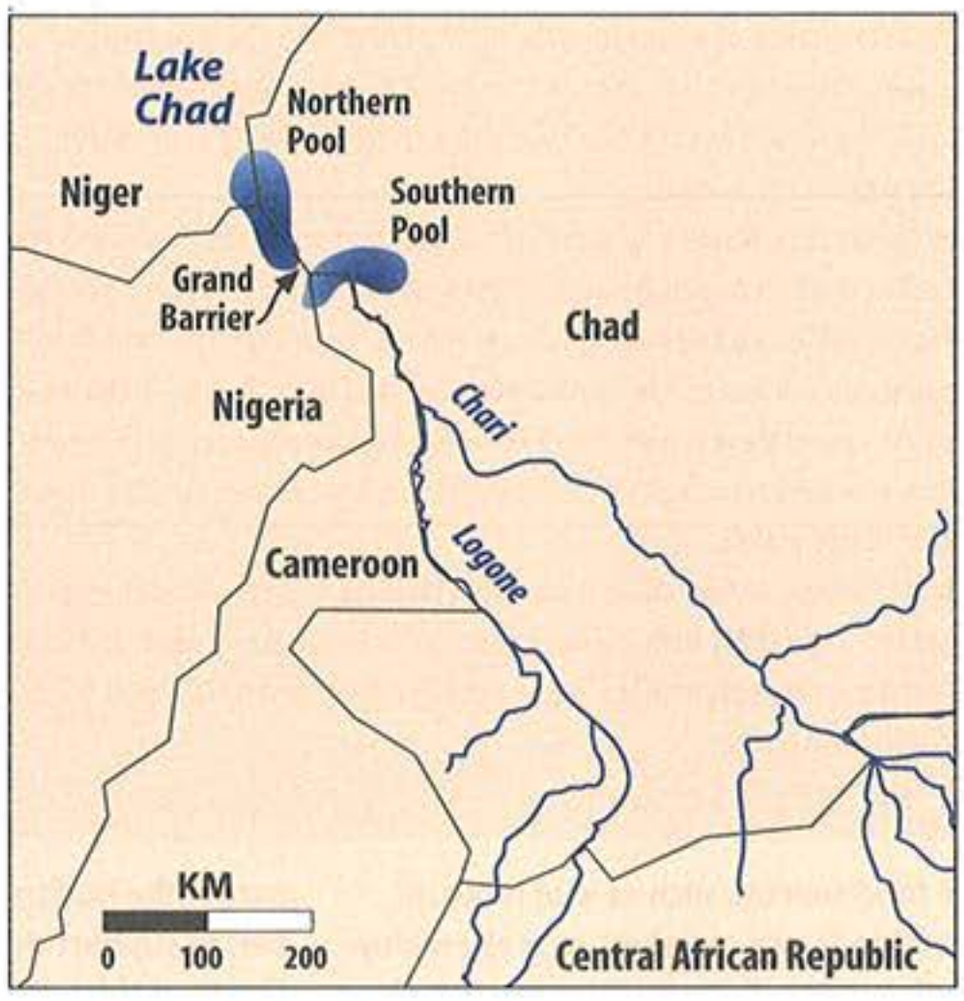


Figure 8

Source: FEWS/Chad FEWS, March 1998

As for the rivers themselves, although the water level is low, it is adequate for such activities as fishing, gardening, and watering large herds of livestock. These activities should not be hampered this season, but monitoring is necessary, because another poor rainy season could result in water levels low enough to adversely affect both people and livestock.

2 months of aid for Mao Subprefecture in Kanem Prefecture (1,478 MT). FEWS recently visited northern Djedaa Subprefecture, Batha Prefecture, and found that the population will need food aid during the coming hungry period (June to September).

The National Cereals Office (ONC) is involved in a purchase plan for more than 10,000 MT of cereals, which donors are committed to completing by the end of March. As of late January, ONC had about 2,000 MT in warehouses.

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FEWS Project
ARD, Inc.
1611 N. Kent Street, Suite 1002
Arlington, VA 22209 USA
Telephone: 703-522-7722
Fax: 703-522-7729
E-mail: info@fews.org
URL: http://www.info.usaid.gov/fews/fews.html