

**MSF**  
April 2013

# Niger 2013

## Tackling the deadly combination of malaria and malnutrition



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**Cover picture:**

Madaoua Hospital, Tahoua region. Niger.

“There are six of us in the family. We do not have enough food for everyone because we have not been able to harvest our crops. The rainy season has already started but the millet has not grown yet. Last year’s crops are finished. We always face the same problem.”

**Hadiza Adamou**, 30 years old, from Madaoua, Tahoua region, July 2012.



Women grinding grain in a village in Niger.



Feeding time at Madaoua hospital.

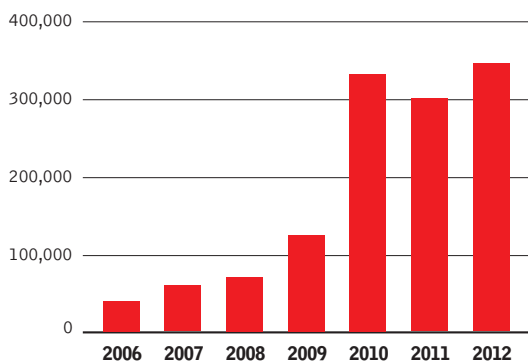
## A cycle of malnutrition

In the Sahel region, life is governed by the seasons. A short but intense rainy season lasts from May to September, followed by a long dry season from October to April. People rely heavily on crops grown during the rainy season. Typically there is a long lean period between harvests, known as the 'hunger gap', when people live on their dwindling food supplies as they wait for the next harvest.

Years are 'good' or 'bad' depending on the specific climatic conditions and the resulting volume of the harvest. However, malnutrition is endemic in some areas of the region and, even in a 'good' year, during the hunger gap, acute malnutrition often rises above the alert threshold of 10 percent in children under five, with frequent peaks reaching or even surpassing the 15 percent emergency threshold.

In Niger, this recurring situation reached crisis levels in 2005, generating a major emergency response by national and international organisations. The government of Niger responded by adopting a novel protocol for the treatment of malnutrition, involving a home-based model of care and a new product known as ready-to-use therapeutic food. The therapeutic food could be fed to a child at home by its mother, so freeing up hospital beds and medical staff, and allowing the treatment to be decentralised into the community. By moving away from the previous hospital-based model of care, the treatment of children with severe acute malnutrition (SAM) could now take place on a massive scale. This system, set up during the emergency response, has since been implemented throughout the country.

### Number of children treated for severe acute malnutrition in Niger (2006/2012)



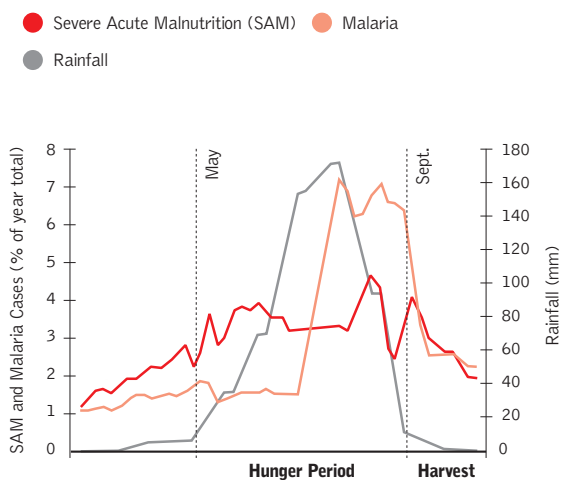
Source: Unicef, Ministry of Health of Niger.



Admissions ward at Madaoua hospital.

## Malnutrition and malaria, a deadly combination

### Seasonality in undernutrition, malaria, and rainfall in Niger, 2007



Source: *Plos Medicine*.

The period of the hunger gap, when malnutrition is at its peak, coincides with the rainy season, when mosquitoes breed and the number of malaria cases shoots up.

Malnutrition and malaria combine in a vicious circle that has a huge impact on morbidity and mortality among the most vulnerable in the population. Malnourished children have very weak immune systems, so their bodies are less able to fight diseases such as malaria, diarrhoea and respiratory infections. Children who are sick with these diseases are also more likely to become malnourished.

In tandem with its efforts to tackle malnutrition, the government of Niger has put in place several measures to reduce childhood mortality. For the past few years, children under five have received free healthcare, while significant steps have been made in immunisation coverage, recruitment of health staff and in the number of malaria cases treated.

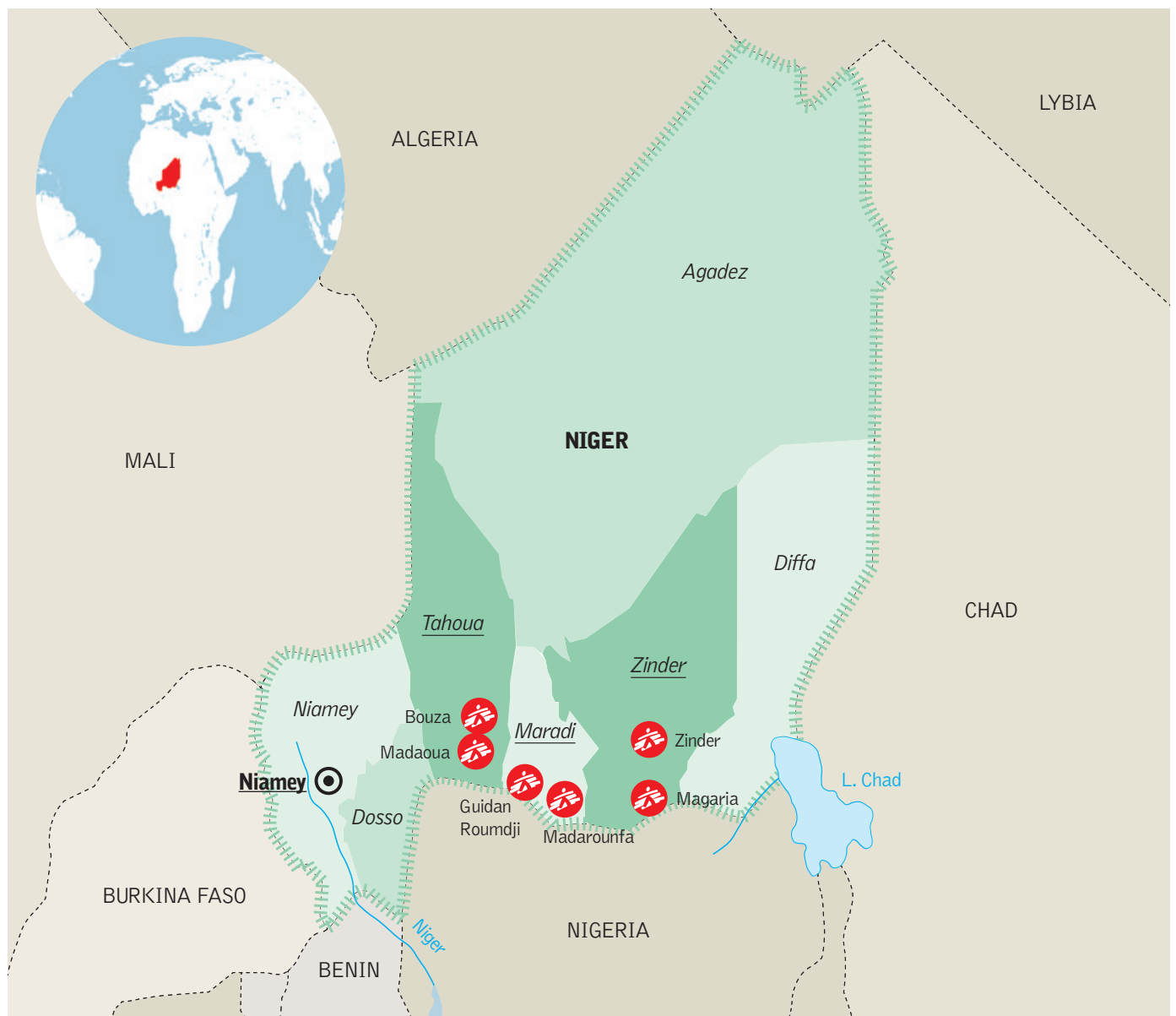


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Admissions ward at Madaoua hospital.

Médecins Sans Frontières (MSF) has also carried out a number of specific activities in Niger aimed at tackling this chronic emergency by improving access to healthcare for pregnant women and children under five. In 2012, medical teams in the regions of Zinder, Maradi and Tahoua run outpatient feeding programmes in some 37 health centres. Severely malnourished patients who needed hospital care were admitted to inpatient feeding centres in Zinder, Magaria, Madarounfa, Guidan Roundji, Madaoua and Bouza hospitals.

In districts including Madarounfa, MSF is working with local medical organisation Forum Santé Niger (FORSANI) to develop child healthcare projects which integrate the prevention and early treatment of both malaria and malnutrition in order to reduce mortality and morbidity among this vulnerable age group.





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Malaria testing in a health center of Madaoua.

In Madaoua district, MSF has implemented a strategy to diagnose and treat children suffering from malaria as early as possible. Known as PECADOM (from the French 'Prise En Charge A Domicile'), it aims to bring malaria diagnosis and treatment into rural areas where previously it was unavailable. Health agents in outreach health posts and community health workers in villages far from medical facilities have been trained to diagnose and treat simple cases of malaria. Meanwhile a network of nurses travel by motorcycle and camel across the region, distributing diagnostic tests and treatments to the health agents and making sure that they are used correctly.

“In rural areas, access is a serious problem. Testing and treatment is only available at health centres –and not always then. Sometimes, the closest health centre is five or even 10 hours away, making it impossible for a pregnant mother carrying a sick child to walk to the nearest health centre for treatment. She usually tries natural remedies and traditional medicine, only going to the health centre when her child is very sick and suffering convulsions, severe anaemia or neurological disorders.”

**Esperanza Santos**, MSF emergency team in Niger, 2012.

## Extensive malaria peak in 2012

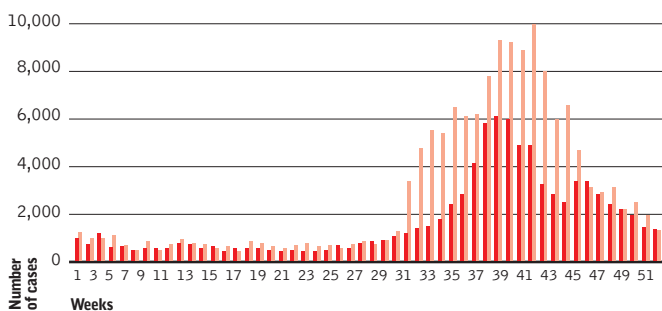
In 2012, the malaria peak was much higher than in 2011. From the beginning of the year to 7 October, there were 2,630,075 malaria cases reported in the country and 3,049 deaths – compared to 1,961,811 cases and 251 deaths in the same period of 2011. In Madaoua and Bouza districts, Tahoua region, one of the areas where MSF works, the increase of cases was significant.

### Weekly incidence of malaria 2011 and 2012

#### Madaoua

Total number of cases 2011: 88,580

Total number of cases 2012: 146,306

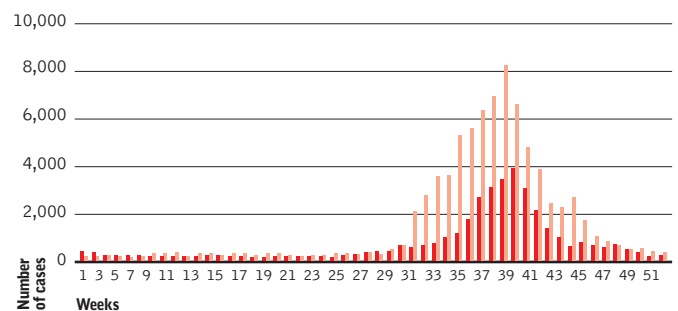


● 2011 ● 2012

#### Bouza

Total number of cases 2011: 39,448

Total number of cases 2012: 81,956



Source: Ministry of Health

Due to the high incidence of malaria, there was a major increase in the number of malnourished children with malaria admitted to hospitals. In Madaoua district hospital, where MSF is running the paediatric and malnutrition wards, 17,306 children were admitted with severe acute malnutrition in 2012, around 57 percent of them suffering from malaria.

“Severe acute malnutrition can be treated on an outpatient basis when there is no other related complication; this means we are able to reach many more children, and it is better for the families too. However, because of the very high prevalence of malaria, we are admitting to hospital a much higher percentage of malnourished children who are seriously ill. These children have a very weak immune system, so their bodies are less able to fight the disease. Then malaria becomes fatal.”

**Cristian Casademont**, MSF medical referent for Niger, October 2012.



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Diagnosis of malaria in a health center of Madaoua.

MSF conducted retrospective mortality surveys in both Madaoua and Bouza to gain more information about death rates from malaria. Looking at the period from 20 July to 9 December 2012, a total of 5,708 people were surveyed, 1,078 of them children under five. The results were even worse than anyone had anticipated.

#### Main results of the survey

Crude mortality rate: 2.4/10,000/day	45.4% of deaths due to malaria	Emergency threshold: 1/10,000/day
Under-five mortality rate: 7.0/10,000/day	60.7% of deaths due to malaria	Emergency threshold: 2/10,000/day
64.8% died at home	22% died in hospital	

These mortality rates far exceed the emergency threshold. The crude mortality rate is twice the level considered an emergency by the WHO, while the under-five mortality rate is three times the emergency threshold. The impact of malaria on the mortality of the population is significant, accounting for more than half of the deaths of children under five. And even with the efforts made to improve people's access to healthcare, 64.8 percent of the deaths occurred at home.

The mortality survey gives us an insight into only two districts within Niger, and it is not possible to extrapolate these figures to the entire country. However, these results must be taken into account when preparing a response to the hunger gap and malaria season in 2013.



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Health center pharmacy. Madaoua District.

## Innovative approaches to reduce mortality rates in 2013

In 2013, once again Niger will face hunger and malaria. Even with better harvests than last year, the number of malnutrition cases is again expected to be very high at close to 300,000.

Over recent years, models for combating malnutrition have shifted to include prevention as a key element in tackling the problem. Following the same logic, more work needs to be done on preventing malaria.

During 2013, and based on its experience in 2012, MSF is planning to increase activities aimed at improving malaria prevention within communities. MSF will continue training community health staff and community leaders on how to detect and treat malaria, and will continue distributing mosquito nets. MSF will also make artemisinin combination therapies (ACT) more widely available in health centres, and will increase PECADOM activities to make diagnosis and treatment more available in rural areas.



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Explaining the use of the mosquito nets. Madaoua District.

If security conditions allow, MSF also plans to implement a new strategy in Madaoua district for preventing malaria, known as seasonal malaria chemoprevention (SMC). With SMC, children aged from three to 59 months are provided with a full course of antimalarial treatment during the peak malaria season. So from July until October, children under five will take three tablets of amodiaquine and one of sulphadoxine/pyrimethamine over a three-day period once every month.

Last year, MSF implemented this strategy in Mali and Chad with promising outcomes. In Mali, where the strategy reached more than 165,000 children in Koutiala district, there was a 66.5 percent reduction in consultations for simple malaria within the first weeks of distributing the medicines, and a 70 percent reduction in children admitted to hospital with severe malaria. In Chad, where the preventive strategy reached 11,000 children, in the eight weeks following the first distribution of the medicine, teams recorded a 78 percent reduction in the number of patients with simple malaria treated in the health centres.

In March 2012, the WHO recommended the strategy of seasonal malaria chemoprevention based on research carried out in African countries with high levels of seasonal malaria. Niger's Ministry of Health has also adopted the strategy, and plans to implement it in several areas of the country.



“We need to look for innovative approaches to tackling malnutrition and malaria – and we need to work on two levels at the same time: prevention and cure. Historically we have been more focused on treatment, so working on prevention is quite new for MSF. Year after year we hear about the dual crisis in Niger. We need to act to stop people continuing to die from preventable causes.”

**Luis Encinas**, programme manager for Niger, april 2013.



Medical consultation at Madaoua hospital.

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## A public health problem

Malnutrition is endemic in Niger, and more than 368,000 children with severe acute malnutrition were treated in the country in 2012. Numbers in previous years were also very high, with 307,000 treated in 2011 and 330,000 in 2010. However, this does not necessarily indicate that Niger has more cases of severe acute malnutrition than elsewhere in the region, but that a higher percentage of children has access to treatment. The more than one million children treated for malnutrition in the past three years shows the huge efforts made by the government of Niger to tackle the problem.



Public awareness session. Madaoua District.

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Malaria is also a recurrent problem, according to the incidence of the disease and the number of cases reported, and needs to be tackled at the same time and with equal urgency. Both are public health problems in Niger and should be addressed as such.

To tackle this fatal combination requires a holistic approach, which integrates the treatment of severe acute malnutrition with a strong malaria component. It should become part of the set of basic health measures aimed at young children, like immunisations, and supported with nutritional supplements to help children grow up strong and healthy.

It is also crucial to improve people's access to healthcare by decentralising it to rural areas, which will allow common pathologies to be diagnosed and treated early, and which will prevent health facilities becoming overwhelmed by large numbers of complicated cases. Key strategies to prevent and treat malaria, such as seasonal malaria chemoprevention and PECADOM activities, should be part of this decentralised approach, together with nutrition and immunisations, in order to achieve integrated assistance that is based on people's needs and is not focused on one problem to the exclusion of others.

“The effort being made to treat severe acute malnutrition in Niger is tremendous, and this needs to be supported. The problem in 2012 was that a massive plan for treating severe acute malnutrition was prepared and implemented, but it excluded other health needs, in particular malaria prevention and immunisations. The response was tailored to the malnutrition crisis, and failed to take account of the fact that even if you provide children with appropriate nutrition, you can still lose them to malaria or a respiratory infection which could have been prevented by a pneumococcal vaccination. There is a need for an integrated response, rather than for pushing one response to the exclusion of others, which can have a detrimental effect on the survival of children.”

**José Antonio Bastos**, MSF Spain president, April 2013.



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Patient in MSF programme. Madaoua District.

## Challenges

Despite the innovative preventive strategies being implemented this year in Niger, MSF is concerned by the current delays in funding mechanisms for malaria rapid tests and treatments. A lack of rapid tests and artemisinin combination therapies (ACT) was already identified last year, and with the peak malaria season on its way, MSF is concerned about the availability of the crucial tests and treatments in Niger in coming months.

Other challenges are presented by the security situation in Niger. It deteriorated during 2012 and early 2013, mainly due to the conflicts in Mali and Nigeria, which limited the capacity of humanitarian workers to access people in need. MSF had to constantly assess the security situation and take measures that would allow it to continue its work; the restrictions on access inevitably complicated the implementation of MSF's medical and humanitarian activities. In the rest of 2013, security conditions may hamper the deployment of humanitarian aid in Niger, so it is vital to prepare in advance alternative strategies that can be implemented in even the most difficult conditions.



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**Médecins Sans Frontières**

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