

United Nations World Food Programme

The Economics of Early Response and Resilience in Niger

Country Study

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Executive Brief

Environmental degradation and extreme poverty have combined to make Niger - a landlocked nation of 17m of the arid West African Sahel - one of the world's most vulnerable countries. In any given year, 20% of rural households are food insecure, while more than 10% of children under 5 are acutely malnourished. In recent decades, drought has occurred every third year in Niger; such events inflict large economic losses, while requiring substantial volumes of food and nutrition assistance. For vulnerable households, it can take two to three years to return to its pre-crisis level of food security. Through an assessment of the cost of different response scenarios – early response, late response and 'resilience' -- this study offers insights into the economic implications of improving resilience in Niger.

As government and partners have committed to respond to these recurring needs, assistance programs have grown **increasingly complex and nutrition-sensitive**. Budgetary requirements for the 2012 drought response, which targeted some 6m people, cost an estimated \$429m, a figure equivalent to 7% of GDP. In 2013, a non-drought year, needs stood at \$356m (5% of GDP), reflecting the need for protracted responses to acute food and nutrition insecurity in Niger.

The 2012 early response led to efficiencies, notably through interventions during the 'post-harvest window of opportunity' from November to February when food prices are lower, and when households can choose among a wider set of economic choices. Early response in 2012 integrated food and nutrition programs, avoiding the costly experience of 2010. In 2012, WFP forward purchases of grain led to 50% savings, compared to regular purchases. During the post-harvest season, cash for assets are cheaper than at other times of the year, thanks to lower food prices. Post-harvest interventions, such as FAO's off-season seed packages, offer a cost-benefit ratio of 1 to 8; potentially offsetting lean-season household food deficits. The recent Epicentre, WFP, MSF, Forsani study (2012) has suggested that blanket feeding reduces the incidence of acute malnutrition in the lean season. Under a multi-year scenario, additional savings on procurement are likely, and program delivery would improve due to the reduced risk of pipeline breaks.

Importantly, in a context such as Niger's, with high underlying acute vulnerability, resilience building will require an approach **combining a large food and nutrition safety net that meets immediate needs with longer-term investments** in the productive and social sectors. Niger has launched an interdisciplinary plan to build resilience, the 3N initiative, which has a 2012-2015 investment plan costed at \$2bn. This report identifies a **'package' of interventions** in food, nutrition, agriculture, livestock, water, and education that would build resilience in Niger. Areas for further research are suggested that would identify other potential efficiencies in drought assistance programs.

Acronyms

ACF : Action Contre la Faim	
AGIR: Alliance Globale pour l'Initiative Résilience	
CAP : Consolidated Appeal Process	
CSI : Coping Strategies Index	
DNPGCA : Dispositif de Prévention et de Gestion des Crises Alimentaires	
FEWS NET : Famine Early Warning Systems Network	
FAO: Food and Agriculture Organization	
FPF: WFP Forward Purchase Facility	
GAM: Global Acute Malnutrition	
GDP: Gross Domestic Product	
3N: Initiative Nigériens Nourrissent les Nigériens	
MAM : Moderate Acute Malnutrition	
OCHA: Office for the Coordination of Humanitarian Affairs	
SAM : Severe Acute Malnutrition	
UNICEF : United Nations Children Fund	
WFP : World Food Programme	

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1 Country Context

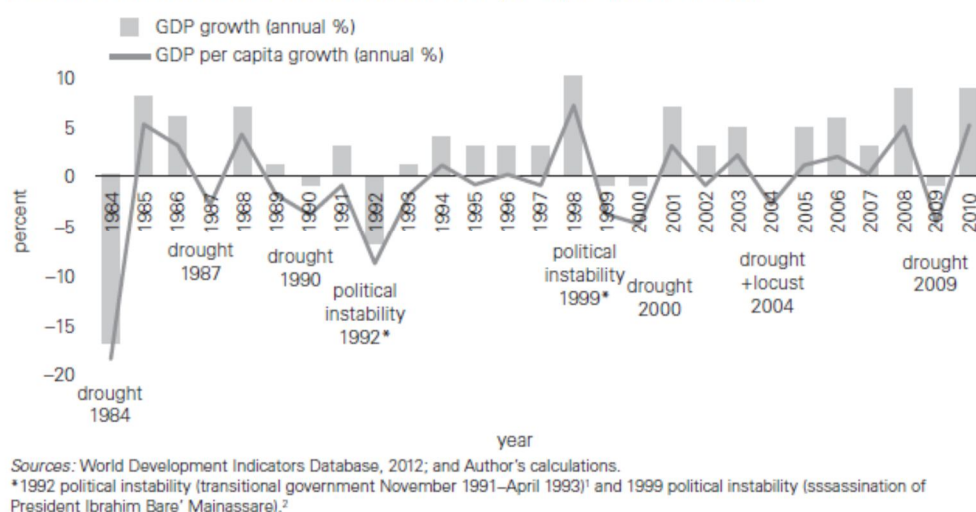
1.1 Resilience in Niger

Niger, a landlocked nation of the West African Sahel, is **one of the world's most vulnerable countries**, second only to Eritrea, according to the 2012 *World Risk Report*¹. Niger is ranked last, at the 186th place, in the 2012 edition of the UN *Human Development Report*².

Drought is by far the largest risk in Niger³. Agriculture accounts for 40% of Niger's Gross Domestic Product (GDP), itself estimated at some USD 6bn. As agriculture is predominantly rain fed, crop production experiences substantial year to year variation. In Figure 1 below, hazards such as drought and locust infestations are correlated with drops in GDP, in 2009 (drought), 2004 (drought and locust infestation) and 2000 (drought).

Figure 1: Annual GDP Growth and GDP per capita

FIGURE E.1: Annual GDP Growth (%) and GDP per Capita (%) (1984–2010)



Source: World Bank, 2012

The vagaries in rainfall inflict significant economic damage, in both absolute and relative terms. Over the past two decades, Niger has experienced drought in one out of every three years. Over the past 20 years, there have been 7 such episodes, four of which were 'severe', three of which 'catastrophic'. Non-climatic factors can exacerbate drought impacts. Political instability had blended with drought to cause years of economic stagnation in the late 1990s. A desert locust infestation and high food prices in Nigeria were driving factors during the 2005 food crisis. According to the World Bank, the 2009 drought caused crop losses of some \$55.6m, equivalent to

¹ United Nations University (2012) Environmental degradation increases disaster risk worldwide . <http://www.ehs.unu.edu/article/read/worldriskreport-2012>

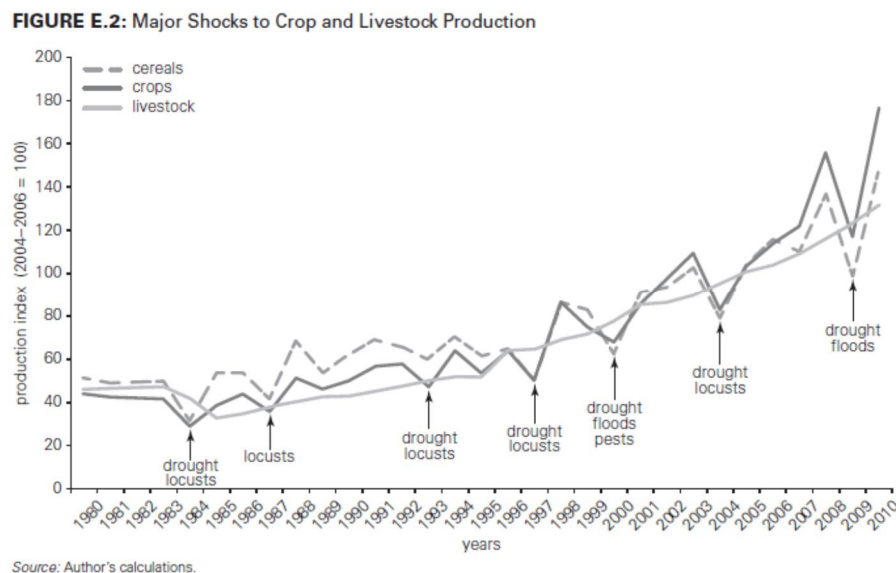
² UNDP (2013) Human Development Report. <http://hdr.undp.org/en/statistics/>

³ World Bank, 2013. Agricultural Sector Risk Assessment in Niger: Moving from Crisis Response to Long-Term Risk Management

a 3.1% decline in agricultural GDP. Droughts in 1995 and 1997 caused declines in agricultural GDP that exceeded 20%, with losses exceeding \$125m.

By suppressing growth in pasture, drought also weakens the livestock that pastoral households rely upon. In 2010, drought, disease and flooding took an enormous toll. In the sample area of a study on the impact of this crisis, livestock mortality rates were estimated at 25.5% for cattle, 38.6% for sheep, 31.3% for goats, and 2.6% for camels. In the major drought of the 1970s and 1980s, losses due to mortality were higher, standing at 40% of cattle and one third of all small livestock. Data limitations do not allow the calculation of the economic value of these losses. However, considering that live cattle constitute Niger's largest export after uranium, the economic consequences of drought on livestock are likely to be significant.

Figure 2: Shocks and Crop and Livestock Production, 1983-2010



Source: World Bank, 2012

In Niger, environmental fragility, high population growth and pervasive extreme poverty combine to limit the population's ability to absorb and recover from the recurring drought. Niger's environment is extremely fragile: three quarters of the country receives less than 300mm of annual precipitation. The southern strip of the country supports a fragile, rain fed agro-pastoral system that largely relies on a single rainy season.

Demographic factors explain why droughts have broad social impacts. Niger remains a very rural society: with 8 of every 10 Nigeriens living in rural areas that rely on rain-fed agriculture, droughts affect large sections of the population. On average, each woman gives birth to 7 children. As a result, the country's population, estimated at some 17 million in 2013, is increasing by 3.9% annually, representing one of the highest demographic growth rates in the world. Strong demographic growth has strained social service provision and natural resources. Growth in the rural

population has meant that farmers have brought ever more marginal land under cultivation, especially in the drought-prone agro-pastoral zone.

Pervasive poverty in Niger means that capacities to prepare for, and absorb and recover from drought are limited. Although there has been some progress in reducing poverty levels in recent years, 59.5% of Nigeriens continue to live below the national poverty line; GNI per capita stands at \$360. Literacy rates are very low, especially for women, of whom only 15% were able to read and write in 2005⁴. Due to severe poverty, Nigeriens are on the edge between survival and insecurity; the onset of a moderate drought can prove a tipping point for the most vulnerable.

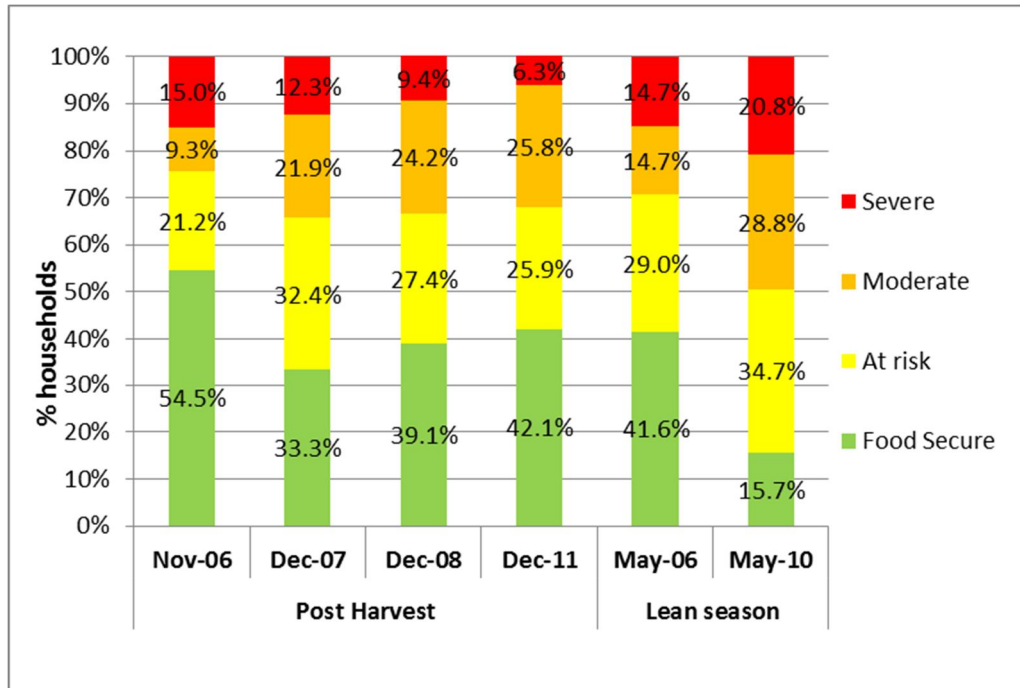
While surveys have confirmed the existence of widespread chronic food and nutrition insecurity, acute needs arise every year during the annual lean season, regardless of whether there has been a drought. Droughts tend to magnify the seasonal increase in these acute needs. Niger is in the midst of a protracted food crisis whose severity varies by season and according to the performance of annual rains. It is difficult to make a distinction between people who are chronically hungry, and those who are only hungry during the lean season.

⁴ World Bank (2013) World Development Indicators.
http://data.worldbank.org/country/niger#cp_wdi

1.2 Livelihoods

Government surveys conducted since 2005 indicate that in a typical year, at least **one out of five households is food insecure** in the aftermath of the harvest; this proportion - itself subject to seasonal increases - rises during drought years. For instance, during the 2010 lean season, close to half of the population was moderately or severely food insecure (Figure 4).

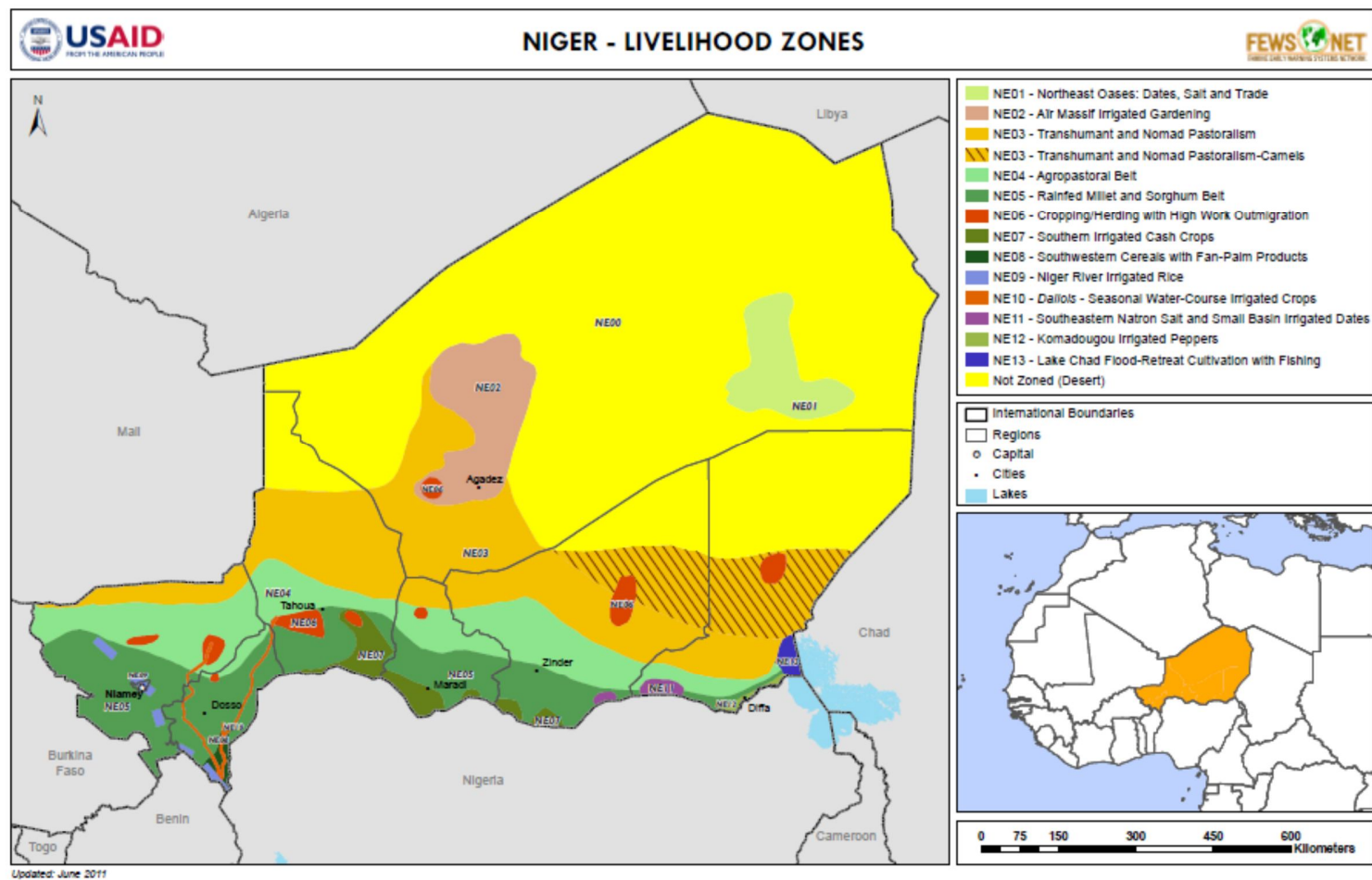
Figure 3: Trends in Food Insecurity in Niger, 2005-2010



Source: data from the National Bureau of Statistics

Figure 5 outlines the various livelihood zones in Niger, according to a profiling exercise led by FEWS NET in 2011.

Figure 4: Niger Livelihood zones.



Source: FEWS NET

In **agricultural** areas,⁵ households rely on their own agricultural production of millet, sorghum and cowpeas. The zone is more populated than others and benefits from relatively favourable rainfall and proximity to the Nigerian market. Poor households in the agricultural zone rely on casual labour, fodder/firewood sales and to a minor extent on cash crop sales; poorer households in this zone possess few animals. Where there are lowlands, households will grow off-season crops such as cucumbers and cabbage in a secondary season that lasts until March. Poorer households are market dependent; their purchasing power can drop dramatically in food crisis years, as rural employment opportunities decline and food prices rise. Seasonal migration is a common strategy in these areas.

In **agro-pastoral** areas, poorer households tend to obtain their income from casual labour, migration, cowpea sales and sales of grass and firewood. Following the annual harvest, households tend to send a member to migrate to other cities in Niger or other countries, including Nigeria and Cote d'Ivoire. Poorer households in these areas tend to own very few animals and are more agriculture-oriented than wealthier ones. Owing to the marginal nature of own food production, agro-pastoralist households rely on market purchases for much of the year. During food crises, poorer households sell the few small ruminants they possess and essentially rely on casual labour and out-migration for extra income. In 2010, large scale migration was noted in agro-pastoral areas to large cities.

In the **pastoral zone**, poorer households rely on contract labour, income from the sale of small livestock, firewood sales and migration to cities. Poor households typically possess goats and sheep. Pastoral households are largely reliant on markets, the exchange between small ruminants and grain constitutes an essential food access mechanism. When terms of trade decline, in April-June of each year, pastoralists compensate by selling more animals. The reconstitution of a herd after a drought can take years.

Over the past decade, successive **drought episodes have affected household food security in pastoral and agro-pastoral** areas the most, and especially for the poorest in those areas⁶. Households in the agricultural zone were somewhat less affected. Successive drought events have led to an erosion of household assets and livelihoods, reduced productive capacity, longer migration cycles, weakened social networks and increased dependence on aid. Low production and low incomes force households to sell their food stocks at harvest at low prices, to meet urgent vital needs, leaving them without reserves and therefore dependent on purchases during the lean season when food prices are highest.

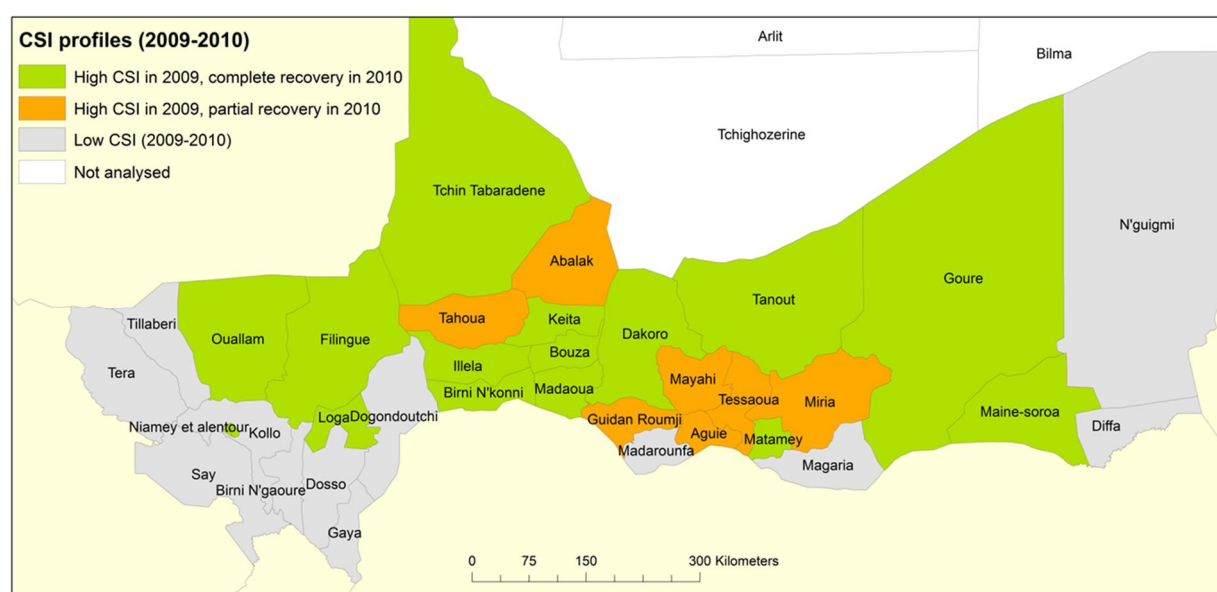
⁵ FEWS NET (2011) | Livelihood zoning 'plus' activity in Niger.

<http://v4.fews.net/docs/Publications/Niger%20Livelihoods%20zoning%20report%20Final.pdf>

⁶ WFP (2010) Chocs et vulnérabilités au Niger. <http://www.wfp.org/content/niger-chocs-et-vulnerabilite-au-niger-analyse-des-donnees-secondaires-2010>

Even when a **food crisis is followed by a good crop, households remain food insecure** due to reduced livestock holdings, loss of assets and the general weakening of their livelihoods. This insight is confirmed by a trend analysis of household food security indicators from 2007 through 2011⁷. That analysis show that the recovery times for household food security indicators took at least 3 years in drought-affected districts of pastoral and agro-pastoral areas of Niger. Good agro-climatic conditions in the year following a drought are not sufficient to bring household food security indicators back to pre-crisis levels.

Figure 5: Trends in Household Coping Strategies, 2009-2010



Source: WFP (2013)

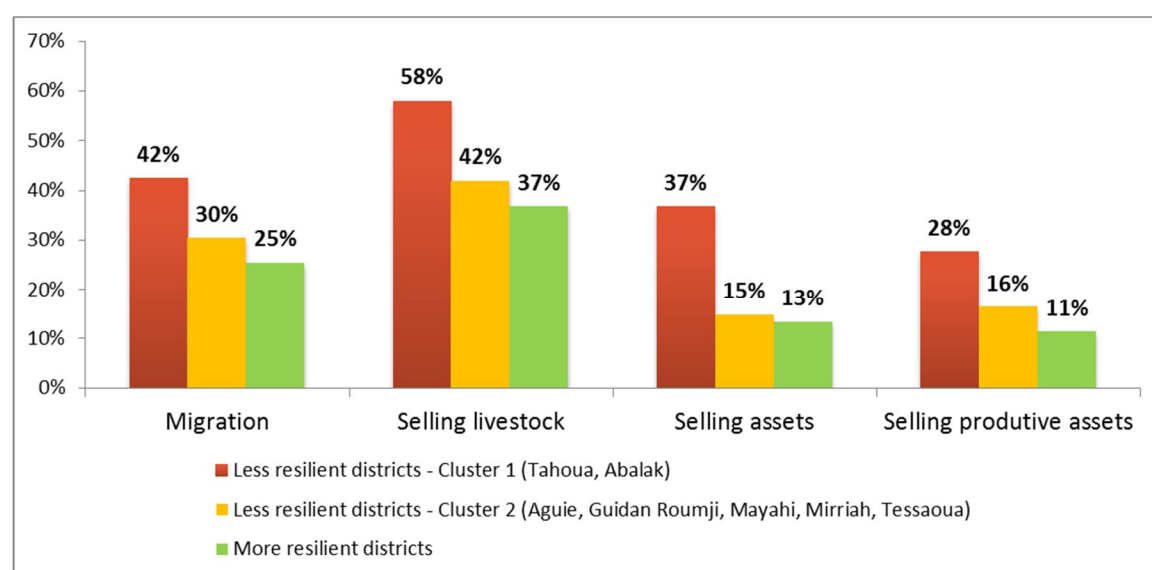
In 2009, households in 'less resilient' areas (areas with high CSI values in both 2009 and in 2010) implemented severe coping strategies such as asset sales, undermining their capacities to 'bounce back' from the drought in the short term. Two clusters of *departements* stand out as not having high CSI values after the crisis: a pastoral cluster (Abalak and Tahoua) and an agro-pastoral cluster (Aguié, Guidam Roumji, Mayahi, Mirriah and Tessaoua).

In the pastoral cluster, 68% of households sold livestock, 42% had engaged in migration, while many engaged in sales of non-productive (37%) and productive assets (28%). These strategies were also implemented in the agro-pastoral cluster. By contrast, the areas that were able to bounce back in 2010 had generally not implemented the severe, asset-depleting strategies observed in the pastoral and agro-pastoral cluster. They were ultimately able to take advantage of the good rains in 2010 and bounce back from the crisis. The retention of productive assets seems to be a strong predictor of household capacity to recover from drought.

⁷ WFP (2013) Recovering from drought in Niger: trend analysis of household coping, 2007-2011

The document identifies two geographic clusters of districts, in **agro-pastoral and pastoral areas**, where household coping strategies remained more severe than pre-drought levels in spite of generally adequate climatic conditions in 2010 (Figure 5). In 2011, households in these areas were implementing coping strategies that were in some cases as severe as during the 2010 crisis, indicating that a drought event can lead to years of food insecurity at the household level. Moreover, some households in Niger had not fully recovered from the 2010 drought when the 2012 drought occurred; the high frequency of shocks therefore compound each other and lead to protracted food insecurity. From the perspective of households in the less resilient areas of Niger, rather than being discrete events, the 2010 and 2012 droughts constituted a single, prolonged stressor that caused increased food insecurity.

Figure 6: Coping Strategies Implemented in 2009, post-harvest



Source: WFP (2013)

2 Cost Comparison

This section provides analysis of the cost of meeting humanitarian needs in Niger. Emphasis is placed on the recent 2012 response, for which most data is available. Historical patterns are described where data allows. Considering the **high level of acute food and nutrition needs** in Niger, **increasingly sophisticated and effective** food and nutrition responses are implemented every year in Niger at scale. Achieving results requires wide coverage of the population, long coverage periods and the use of specialized nutrition products -- implying sustained financial effort over the long run. Droughts tend to increase the level of need from a high baseline.

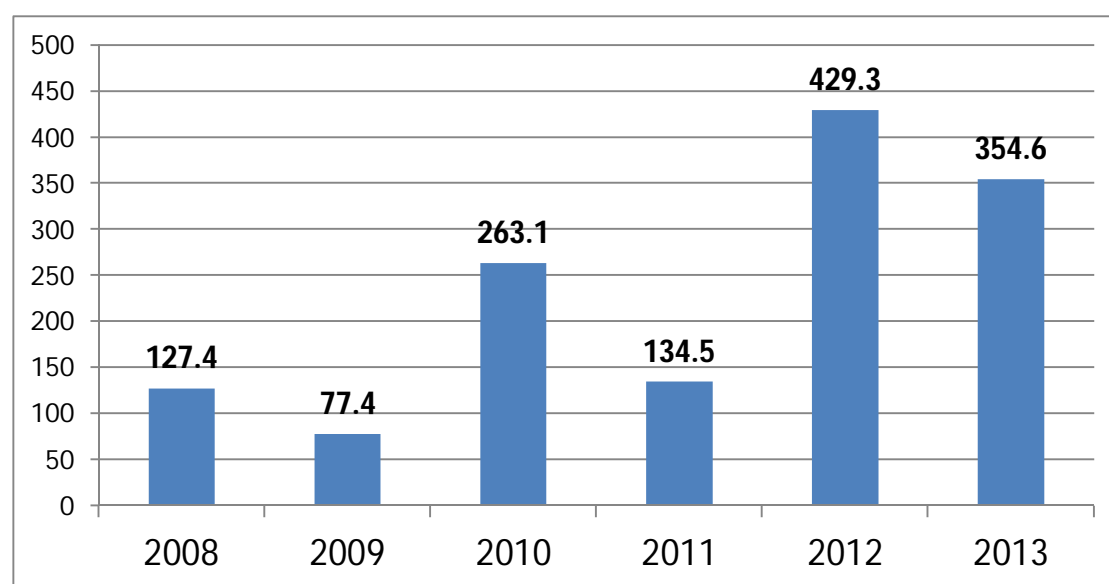
2.1 Responses to Food Crises in Niger

In Niger, needs for food and nutrition responses are expressed in the government's annual *plan de soutien* 'support plan'. Responses commonly include a combination of cash or food for work, unconditional cash and food transfers, seed distribution, cattle feed, moderate acute malnutrition (MAM) prevention and treatment, treatment of severe acute malnutrition (SAM), and subsidized grain sales. UN agencies implement the lion's share of the *plan de soutien*: the cost of WFP's emergency food and nutrition intervention in 2012 stood at \$235m, more than half of the 2012 plan.

In recent years, **food and nutrition programs have become more complex** in Niger. Whereas the emergency response in 2005 covered a short time frame, with emphasis on general food distributions, the 2012 response was implemented from late 2011 through 2012, and had a much stronger focus on nutrition, namely through the use of specialized nutritious foods for the prevention of moderate acute malnutrition. Considering the extent to which assistance programs have been transformed in Niger, one is essentially comparing apples to oranges when comparing the cost per beneficiary of response in 2005 to its cost in 2012.

The cost of the annual *plan de soutien* are increasing. During the 2010 crisis, total needs reached \$263m; two years later, they exceeded \$429m. The cost of the 2012 *plan de soutien* stood at 7.1% of Niger's GDP, underlining the increasing commitment of government and donors to provide meaningful and broader responses to the food crises that the country faces. The budget of the 2013 *plan de soutien* is equivalent to approximately 5% of GDP. The fact that responses continue to be required after a relatively good harvest is an illustration of the deep rooted nature of poverty in Niger, and the cumulative effect of multiple crises and years of low investments.

Figure 7: Annual Support Plan Requirements, 2008-2012 USDm,



Source: DPNGCA

Indeed, WFP's greater focus on nutrition-sensitive, higher quality programming in Niger has led to an increase in the aggregate costs of response in the country, while leading to better program outcomes. The rising trend in budgetary requirement for successive WFP emergency operations in Niger illustrates this change (2005: \$57m, 2010: \$213m, 2012: \$235m).

Box 1: Early food and nutrition response in 2011/2012

The food and nutrition response in Niger 2011/2012 may be contrasted with its response to the 2010 food and nutrition crisis. Government and UN responses were launched in the fourth quarter of 2011, only weeks after crop losses were confirmed. Government declared an emergency in 2011 and the government-donor dispositive adopted a preliminary support plan of some USD 76 million, covering December 2011 to February 2012⁸. The government also launched consultations on the '3N' programme in 2011.

WFP's initial, early response targeted 1m beneficiaries, including through cash and food for assets interventions. The intervention took advantage of the relatively favourable procurement prices that early response allows. The WFP emergency operation that was approved in April provided for an integrated food and nutrition lean-season response covering an additional 3m beneficiaries. WFP's experience in 2011/2012 illustrates how 'early response' can be implemented in Niger and the Sahel.

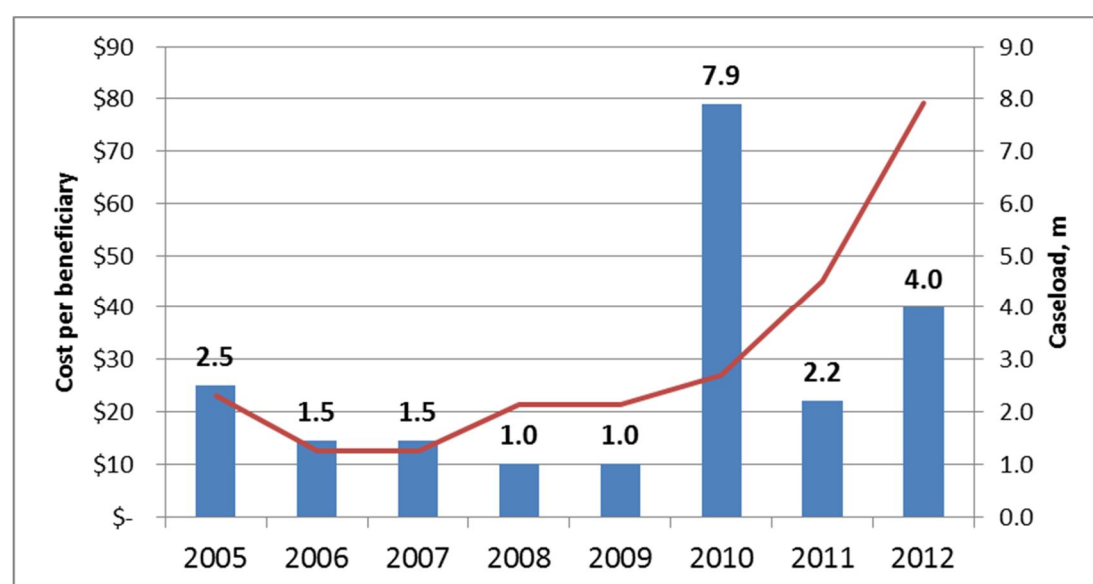
In 2010, under a climate of initial government reluctance to acknowledge the existence of a food crisis, WFP implemented a series of budget revisions. An emergency operation was only approved in July 2010.

As shown in Figure 9, the increase in cost of WFP interventions in Niger is driven by i) higher caseloads in 2010 and 2012, ii) longer coverage periods, and iii) higher costs per beneficiary, which have risen from \$23 during the 2005 emergency response, to some \$80 per beneficiary in 2012. The cost per beneficiary expresses the weighted average of the various modalities the operations provide for; in 2012, WFP's response included cash and food for assets, targeted food or cash assistance, blanket feeding⁹, and therapeutic supplementary feeding. These mutually reinforcing interventions would bring synergies that would ultimately produce better outcomes.

⁸ UNDP (2012) Niger : Gérer la crise alimentaire

⁹ Blanket Feeding aims to prevent widespread malnutrition and related mortality in nutritionally vulnerable groups by providing a supplementary ration for all members of that group (e.g. children under five, pregnant and lactating women, etc.) In Niger, blanket feeding covers children 6-23 months and lactating mothers.

Figure 8: Cost of WFP responses in Niger per beneficiary (USD), and caseload (millions), 2005-2012



Source: WFP operational data

Food assistance responses in Niger combine conditional and unconditional assistance, and provide for a mix of food and cash transfers. The choice of modality is made on the basis of market functionality, which is known to vary by season and location. As the lean season approaches, market conditions tighten; more in-kind assistance and unconditional assistance is then provided. Markets in sparsely populated and more remote agro-pastoral and pastoral areas less responsive to changes in demand than the larger, more integrated markets in the southern agricultural zone bordering Nigeria¹⁰. In-kind provision of specialized nutritious products remains the norm for blanket feeding programs.

Cost of cash-for-assets and food-for-assets

Food or cash for assets consists of land rehabilitation, such as half-moons, dykes, dams, and tree planting, activities that aim to support household food production and watershed management. Food transfers provide a food ration of a value below the dominant wage rate for unskilled labour. Likewise, cash transfers are sized to remain below the market-clearing wage rate, in order to avoid disruption to the casual labour market. Beneficiaries typically work for 6 months, during a period that straddles the post-harvest period and the dry season.

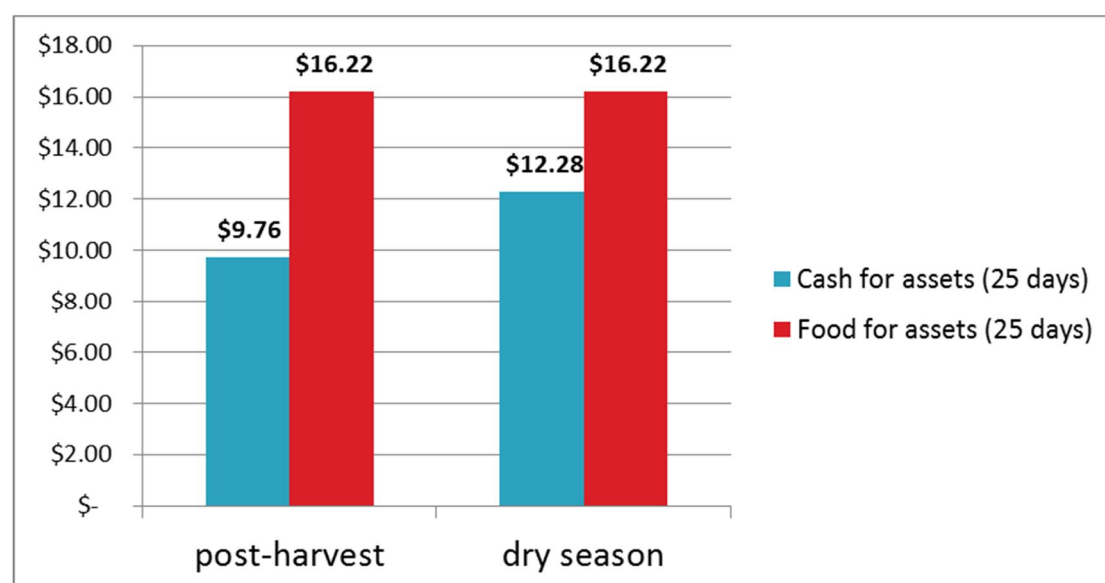
The comparison of the cost of cash-for-assets and food-for-assets, shown in Figure 10 below, illustrates the extent to which responses achieve greater efficiencies by leveraging local markets. Effort was made to ensure comparability of results. For in-kind transfers, all WFP costs are included in the cost per beneficiary. These include the purchase price of the commodity, external and internal transportation, distribution costs, administrative costs and overheads. For cash distributions the

¹⁰ The dynamic nature of the food trade linking north-Nigeria and southern Niger is documented in CILSS et al. (2006) and in successive annual market assessments carried out by CILSS, FAO, FEWS NET and WFP in the following years.

same calculation is made, covering the value of the cash transfer and other associated costs.

Project data shows that the cost of providing 25 days of cash for assets assistance cost \$10 per person in the post-harvest period of late 2011/ early 2012. This cost rose to \$12 during the dry season, as wage rates were adjusted to account for higher market prices. In-kind food-for-assets assistance cost approximately \$16 per beneficiary month, year round. Whereas cash is 40% cheaper than food during the post-harvest period, the differential narrows to 24% during the lean season.

Figure 9: Cost per beneficiary/month of cash for asset and food for assets, 2011/2012

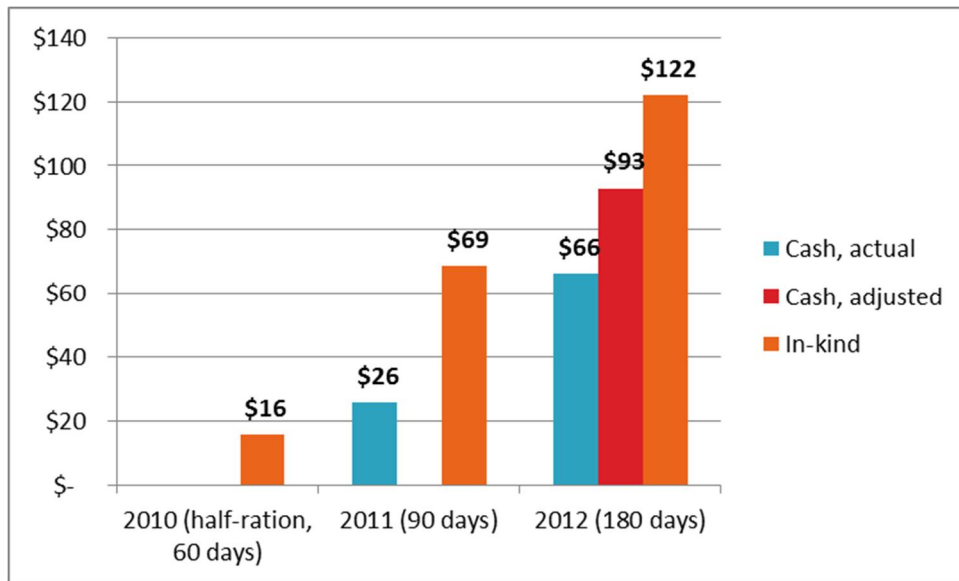


Source: WFP data

Cost of unconditional food and cash transfers

During emergency responses, **unconditional targeted transfers of food or cash** take place for vulnerable households. The comparison presented here considers the cost per beneficiary for identical coverage periods, and accounts for all WFP costs. In 2012, targeted food assistance was provided for 180 days, or 6 months. The cost of providing the food ration in-kind, came to \$122 per beneficiary. Although the cost of providing cash amounted to \$66 per beneficiary in 2012, the estimated cost of providing a cash transfer equivalent to in-kind food basket is estimated at \$93. This is the 'adjusted' amount appearing in Figure 11. .

Figure 10: WFP cost/beneficiary of Unconditional Transfers (targeted food assistance)



Source: WFP data.

Non-food assistance

Following the government appeal for international assistance, the UN agencies developed a consolidated appeal reflecting overall needs for humanitarian assistance in Niger, including food, nutrition, water, health, and other sectors. In November 2011, the 2012 consolidated appeal stood at \$229m. By the time of its revision in April 2012, needs had reached a total of \$487m in 2012¹¹. Food aid and nutrition assistance combined accounted for 80% of the original and revised appeals. The revised CAP also provided for the Malian refugees that arrived in Niger during the 2nd quarter of 2012.

¹¹ OCHA (2012) Consolidated Appeal Process, Mid-year review. Niger.
https://docs.unocha.org/sites/dms/CAP/MYR_2012_Niger.pdf

Table 1: Funding Requirements for the 2012 CAP in Niger, original and revised (USD m)

Sector	Original		Revised	
	Cost, USD million	Share	Cost, USD million	Share
Coordination	3.6	2%	3.7	1%
Early recovery	7.3	3%	7.3	2%
Education	-	0%		0%
Food	109.1	48%	276.4	57%
Health	11.2	5%	13.1	3%
Logistics	9.0	4%	9.0	2%
Multi		0%	52.2	11%
Nutrition	83.9	37%	116.0	24%
Protection	1.7	1%	2.5	1%
WatSan	3.2	1%	6.8	1%
Total	229.1	100%	487.1	100%

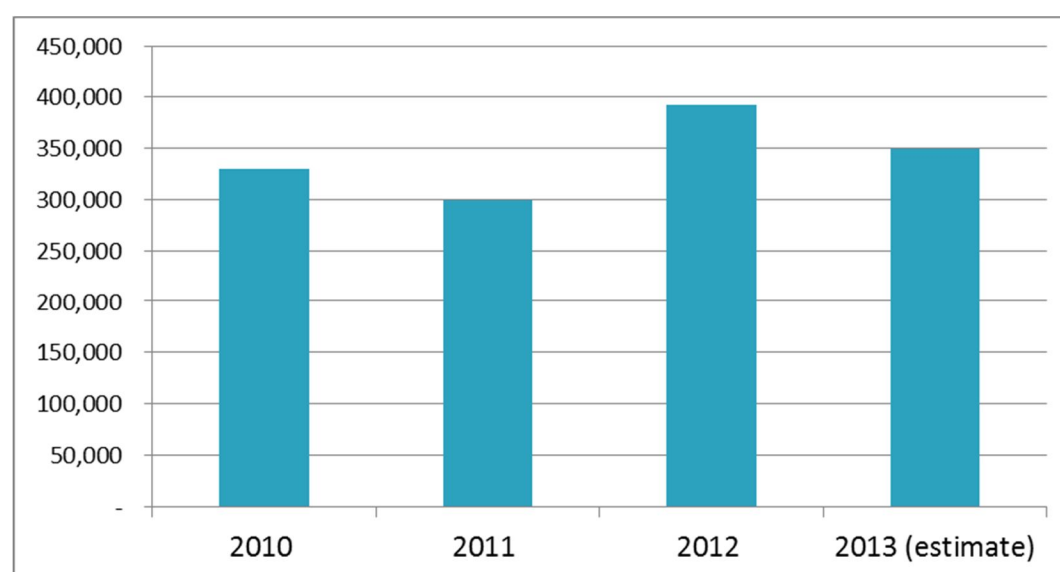
Source: OCHA

Prevention and treatment of malnutrition

Successive government surveys over the past decade have shown that global acute malnutrition (GAM) levels in Niger fluctuate above emergency levels. High levels of acute malnutrition are a structural, long-term issue that shocks exacerbate. According to the June 2012 SMART survey, the GAM rate reached 14.8 per cent, compared to 12.3 per cent in June 2011 and 16.7 per cent in June 2010.

In a 'typical' year, the number of children affected by malnutrition is elevated. The total number of children requiring assistance for SAM never seems to fall far below 300,000 in Niger, whereas prevalence at the national level has never been measured below the WHO's 'serious' threshold of 10% in the past decade. As shown in Figure 12, the number of severely malnourished children rose from 300,000 in 2011 to 393,000 in 2012. Although there was a good harvest in late 2012, it is expected that in 2013, 350,000 children will require SAM treatment. Rapid demographic growth also contributes to the steady year-to-year increase in SAM treatment numbers. The increase in the number of SAM cases during a food crisis can be from 60,000 to 80,000 above baseline levels. That would represent some \$6 to \$8m in additional costs of treatment alone, on the basis of UNICEF's estimation of treatment costs.

Figure 11: Trends in Expected SAM Admissions in Niger, 2012-2013



Source: CAP documents, UNICEF

In 2012, 'blanket supplementary feeding' was provided to all children aged 6-23 months in at-risk areas, in order to prevent the onset of acute malnutrition. Lactating mothers also received a ration costing a similar amount. As shown in Table 2, the prevention of MAM and SAM in Niger, in 2012, cost approximately \$65 per child, considering a 180 day coverage of 200g of Supercereal+. A discussion of the effectiveness of various blanket feeding activities is offered in Section 2.2.

While the cost of prevention of MAM (\$65 with Supercereal+) is above the cost for the treatment of MAM (\$30-35) the costs of MAM also include other aspects (e.g. health) that are not captured in the cost of treatment alone. The high cost of prevention is at least in part due to the fact that the products are not produced locally, with few producers of such nutritious commodities active at the global level.

Table 2: Cost of Prevention and Treatment of Malnutrition in Niger, 2012

Intervention	Cost per person	Remarks
MAM prevention, children	\$65 (Supercereal+)	Blanket feeding for children 6-23 months. 180 days.
MAM prevention, mothers	\$66	Blanket feeding, pregnant and lactating mothers. 180 days.
MAM treatment	\$30-35 (Plumpy Sup)	Cost of WFP therapeutic supplementary feeding. Same cost in Plan de Soutien. 90 days.
SAM, standard	\$100	As per 2012 Plan de Soutien and according to UNICEF
SAM, intensive care	\$200-300	According to UNICEF

Source: Plan de Soutien 2012, WFP, UNICEF figures

Box 2: Nutritious Products used for MAM Prevention and Treatment in Niger

Lipid-based products targeting children ages 6-59 months include:

- Plumpy Sup (92g/day for 60-90 days)
- Plumpy Doz (46g/day for 90-180 days)

Fortified blended food:

- Supercereal (corn, wheat, soya, vitamins and mineral blend) is distributed to pregnant and lactating women (200g/day) for 6 months
- Supercereal + (corn, wheat, soya, vitamins and minerals, sugar, milk power, oil) targets children aged 6-59 months.

Source: WFP Specialized Nutritious food sheet

Government responses in 2012.

The *plan de soutien* captures the government's overall response strategy to the 2012 crisis. Conditional and unconditional transfers accounted for 45% of the overall budget. Nutrition activities represented 27% of needs. UN agencies implemented the lion's share of food and nutrition activities.

Beyond food and nutrition interventions, the government implements a series of complementary activities. In 2012, the authorities planned to carry out **subsidized grain sales** budgeted at \$51m, accounting for 12% of needs for the *plan de soutien*. The government planned to sell 80,000 tons of grain. The **reconstitution of the national grain reserve** is another common feature of the *plan de soutien*; this intervention was budgeted at \$20m in 2012, or 5% of overall needs. Support to community **cereal banks** and buffer stocks for cereal banks was planned (\$4.5m, 1%

of the plan). Other interventions, such as destocking (7%) and seed distribution (1%) were more marginal contributors to aggregate budgetary needs.

The 2012 *plan de soutien* included a **livestock** component. Provision was made for 20,000 tons of feed and support to 500 community feed banks, for a total amount of \$7 million. Destocking of over 600,000 animals was provided for under the *plan de soutien* for a total amount of \$30.1m. Livestock losses are notoriously difficult to measure due to the imprecise available data. However such losses are significant, considering the importance of herding to livelihoods in the country. It is known that herds take years to recover after a drought.

For **agriculture**, the *plan de soutien* provided for the distribution of 10 kilos of millet, sorghum and cowpea. The activity, costing \$11 per seed package, targeted some 442,000 farmers in food-deficit villages. Assuming a household size of 7, the activity would have reached some 3m people.

Overall, the 2012 *plan de soutien* cost USD 425 million, or approximately \$106 per targeted beneficiary. The *plan de soutien* aimed to reach nearly 6m beneficiaries through its various components.

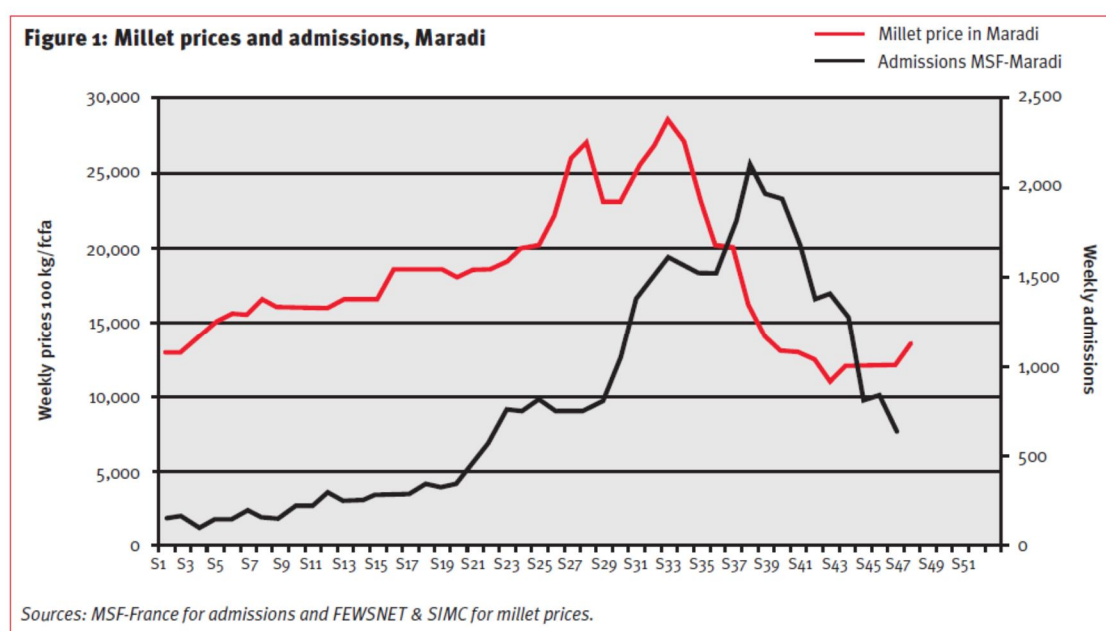
2.2 Early Humanitarian Response

This section focuses on how mechanisms of ‘early’ response following droughts could lead to efficiencies in humanitarian responses, drawing on evidence of what have been regarded as good practices in Niger. This section draws on the experience with the 2012 response, which is considered ‘early’. The key advantage of early response is the ability to meet needs in a timely fashion; the cost of doing so is outlined in the previous section of this document, with extensive reference to WFP’s response in 2011/2012. This section focuses on mechanisms that could bring further efficiencies to responses in Niger.

Critically, efficiencies may be found by leveraging the annual post-harvest period, a time of year when local markets are most competitive and when food and nutrition assistance needs have not yet reached their annual peak. The link between seasonality and needs is made evident in Figure 13 below, (MSF, 2006)¹², which illustrates the correlation and lag between food prices and SAM admissions in Maradi, from January to December 2005. To some extent, the intra-year variation in economic conditions and humanitarian needs in Niger offers some scope to improve aspects of response, assuming that resources are available in time.

¹² Humanitarian Exchange 33, March 2006.

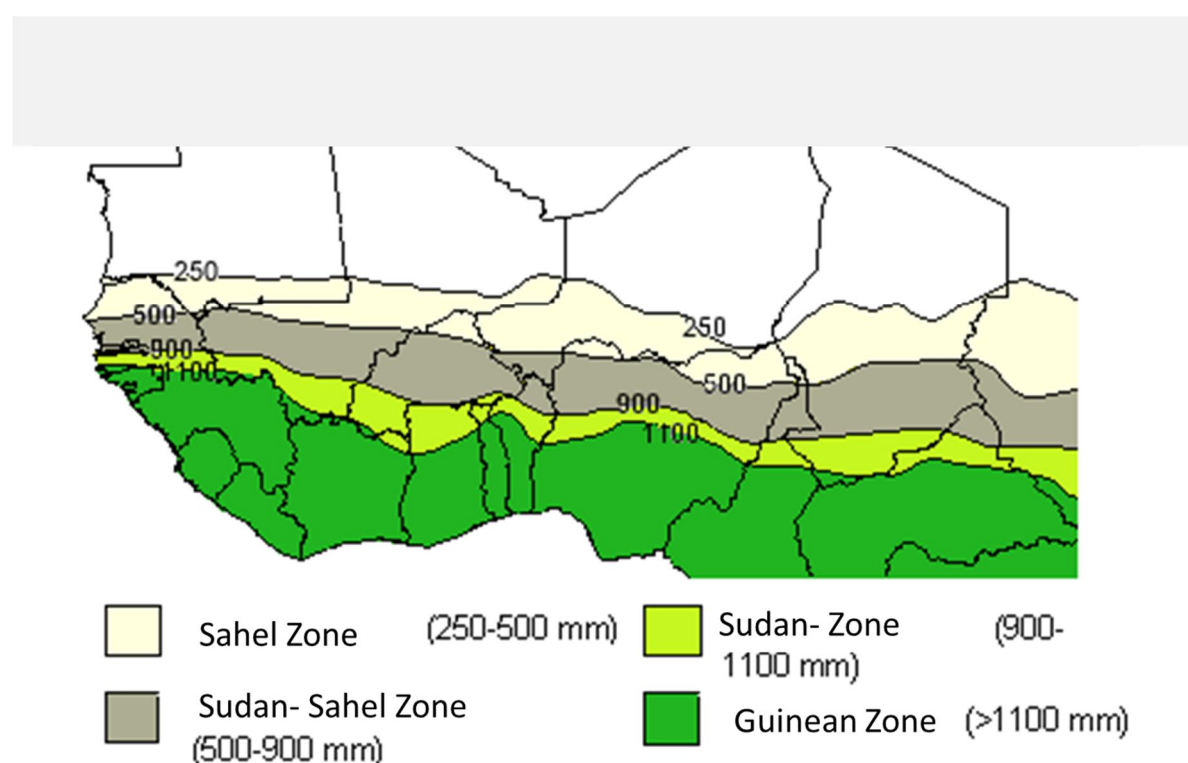
Figure 12: Millet prices and SAM admissions in Maradi, Niger, 2005



Forward purchasing saves time and money

As in other landlocked countries of the Sahel, providers of food assistance in Niger have hedged against this risk by procuring food commodities in the local and regional markets. These regional purchases are known to be 40-60% cheaper compared to international grain imports; and lead times are of 2 to 3 months, compared with at least 4 for international imports. Regional purchase takes advantage of agro-ecological complementarities between the arid, drought-prone Sahel and the surplus-producing Sudan zone to its south (in green in map below).

Figure 13: Sahel and Sudan zones



Source: FAO (2005)¹³

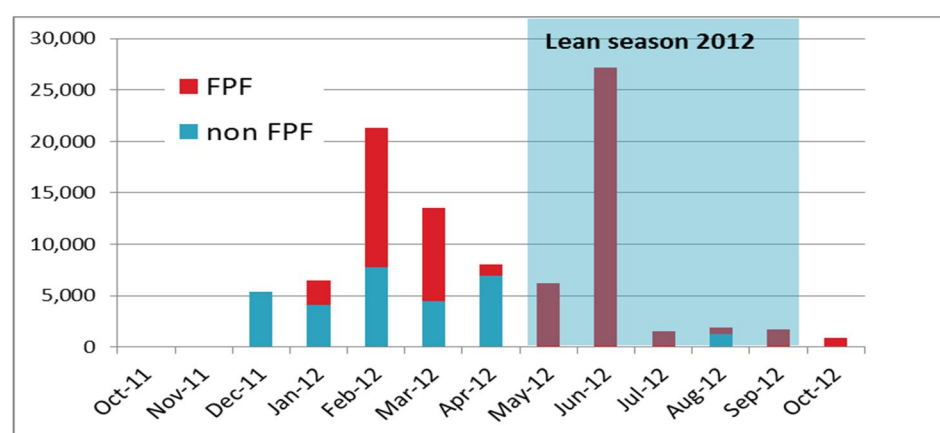
Local and regional food purchases in West Africa are challenging, including a narrow procurement window, volatile availability and prices, low capacity to produce the specialized nutritious foods needed for nutrition programs and red tape.

WFP's **Forward Purchase Facility** (FPF) allows the organization to purchase food ahead of the materialization of a specific contribution, allowing the organization to secure grain supply in a regional market. Cost savings can be achieved by timing local food procurement to market conditions, and purchasing at times when prices are at their seasonal lows. In 2012, forward purchasing allowed WFP to save over 50% on its cereal purchases, compared to regular cereal procurement modalities. The use of the FPF also allowed WFP to ensure early physical access to food commodities, as shown on Figure 15. Although WFP did experience a pipeline break in April 2012, the critical lean season distributions went largely uninterrupted.

¹³ FAO (2005) Situation des cultures.

<http://www.fao.org/docrep/009/j8124f/j8124f00.HTM>

Figure 14: FPF and non-FPF purchases in Niger, 2011-2012 (tons)



Source: WFP data

From the time the crisis was declared in October 2011, until September 2012, 70,000 tons of grain were purchased for Niger. Of this, 40% - equivalent to 27,000mt - was purchased before April. The bulk of these purchases came from national food reserves of Benin, Togo and Nigeria. WFP monitoring did not reveal any adverse price impacts on source markets¹⁴.

Early response and the post-harvest window of opportunity

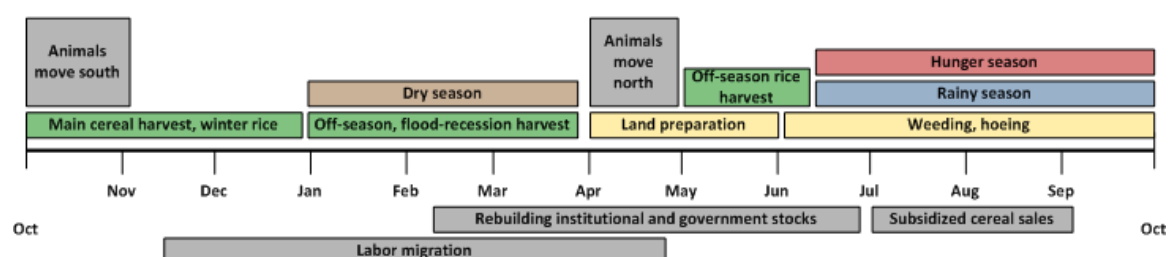
During the annual post-harvest season, food prices tend to be lower. The early response of 2012 took advantage of these conditions to conduct post-harvest cash for assets more cost-efficiently. The post-harvest daily wage rate in 2012 and 2013 was 1,000 CFA francs (\$2) per day, increasing to 1,300 CFA francs (\$2.6) per day. The cost to WFP of 'early response' through cash for assets is \$9.76 per beneficiary per month, rising to \$12.28 during the lean season.

During the post-harvest period, households in rural Niger have a **window of economic opportunity** to undertake a range of activities including labour migration, off season farming, market gardening, and livestock trade, as outlined in Figure 16. A household's strategy is to attempt to earn income during this period and delay tapping into their reserves of own food production from the just-completed harvest. It is likely that cash transfers in the immediate post-harvest period enable beneficiaries to take advantage of these economic opportunities. Conversely, 'late' cash transfers, during the lean season, take place in an environment where consumer's purchasing power and terms of trade are less favourable, and where cash transfers are likely to be used only for immediate consumption. During the lean season, livestock to millet terms of trade decline from 100/kg per goat to 70kg in June and July¹⁵, as millet prices increase and small livestock prices drop.

¹⁴ WFP (2012) Sahel 2012: Has WFP procurement disrupted regional grain markets?

¹⁵ Système d'information sur les marchés Agricoles (2013). Albichir, issue 30 April 2013.

Figure 15: Seasonal Calendar and Critical Events Timeline for Niger



Source: FEWS NET

Early response can take place through agriculture programs. Monitoring data from FAO's **post-harvest/off-season seed distribution** activity in Niger demonstrates that the average producer, benefiting from a seed package including 10kg of onion, 10kg tomato, 10kg cabbage, 10kg carrot and 10kg lettuce and 25kg potatoes costing \$38 is able to produce 976kg of vegetables. After accounting for production costs, it's estimated that the farmer would have a profit of \$319, representing a 1:8 cost benefit ratio.

Early response and nutrition interventions

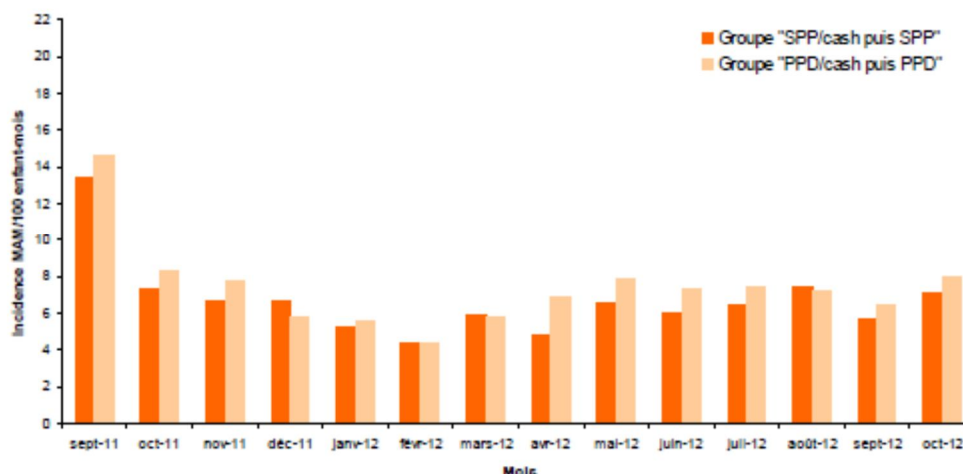
During the 'late response' of 2010, post-distribution monitoring revealed that sharing of the blanket feeding ration was extensive, limiting its effect on the children the intervention targeted. It was therefore decided to 'protect' the blanket feeding ration by providing beneficiary households with a complimentary ration of cereals, pulses and vegetable oil. This 'protection ration' cost \$24 per beneficiary and was provided to some 6.4m Nigeriens between July and September 2010, at an estimated cost exceeding \$150m.

Under the 2011/2012 early response, WFP was able to integrate food and nutrition response and **avoid the need for costly 'protected' blanket feeding**. In 2012, complementarity between the food and nutrition activities allowed WFP to target general food distributions to 2.5m vulnerable households, rather than to all households receiving blanket feeding.

In the area of nutrition, early response through **blanket feeding** would limit the need for treatment of acute malnutrition. Blanket feeding aims to prevent widespread malnutrition and related mortality in nutritionally vulnerable groups – children under 2 years of age, in the case of Niger. WFP post distribution monitoring confirms that the implementation of blanket feeding reduces the prevalence of malnutrition in targeted children. Under an early response scenario, blanket feeding would be launched in areas facing a shock, and would be pursued until the following harvest.

A 2012 study conducted by Epicentre, WFP, MSF and Forsani¹⁶ in the district of Madarounfa demonstrates that continuous blanket feeding (using Supplementary Plumpy® or Plumpy Doz® or Supercereal+), and five months of cash or food transfers reduces the incidence of moderate malnutrition. A statistically significant decrease in the incidence of malnutrition was observed, dropping from 15.2/100 children months in September 2011 to 6.7 in September 2012. This trend is illustrated in Figure 17 below.

Figure 16: Incidence of MAM, for groups receiving Plumpy Supp and cash, then Plumpy Supp and groups receiving Plumpy Doz and cash then Plumpy Doz.



Source: Epicentre, WFP, MSF, Forsani (2012)

This suggests that children need to remain in MAM prevention programs for extended periods. The reduction in incidence of MAM was only achieved by the year-round use of specialized nutritious foods and a food or cash transfer. Considering that other modalities (food alone, cash alone and specialized nutritious food alone) did not achieve a statistically significant impact on GAM incidence, this finding suggests that at risk children – essentially all children under 2 in Niger – should receive blanket feeding continuously in addition to an unconditional cash transfer (cost of \$11 per beneficiary month), in order to achieve a reduction in the incidence of acute malnutrition at scale at the national level.

It is acknowledged that an 'early response' consisting in launching an extended period of blanket feeding has significant cost implications, as the cost of an 180 day coverage period (\$65) in Supercereal+ approaches the cost of treatment. Additional interventions linked to education, health and community based interventions are required to control malnutrition. Large scale blanket feeding is likely to be required until longer-term investments in water, sanitation, livelihoods and education bear fruit.

¹⁶ Epicentre, WFP, MSF, Forsani (2012) Evaluation de différentes stratégies de distributions préventives de la malnutrition au Niger *District de Madarounfa Région de Maradi Août 2011 – Octobre 2012.*

There is narrow scope for economy for the purchase of many of the products used for blanket feeding, as these are specialized products that are not (yet) produced in the West African region. However, early response would have the important benefit of allowing the timely purchase and shipment of these commodities, ensuring that products would be available for distribution.

Multi-year Humanitarian Response

Multi-year response is critical to ensuring more efficient programs in Niger. Every year, the country faces a high level of food and nutrition need that peaks during the annual June to September lean season. In drought years, these peaks swell. A multi-year funding scenario would allow a response to baseline levels of need while adapting to increases in needs.

Under the hypothesis of multi-year response, in-kind food assistance cost would decline thanks to increased ability to resort to regional sources of supply. Timeliness would improve as well, as increasing reliance on regional sources of supply would reduce lead times. For all programs – in-kind food, nutrition and others -- the quality of programs would improve, as multi-year funding would smooth the pipeline and make funding breaks less likely.

Food procurement could be further streamlined, for example by striking longer term deals with suppliers in the West African region. The share of external transport costs in overall budgets would decline somewhat, the cost of shipping goods from overseas is estimated at some \$100 per ton for Niger. The certainty that multi-year funding brings would constitute a major incentive for the private sector to set up local production of Supercereal, Supercereal+ , or Plumpy Sup® and Plumpy Doz®. Already, Plumpy Nut® is produced in Niger, at a level that allows savings of \$2-\$3 per child per year.

Increasing reliance on regional supply sources – notably from Nigeria – would allow gains in timeliness. The lead time for regional food procurement is 2.5 months, compared to 4 months for international procurement; further gains can be achieved by increasing the share of locally procured commodities. This would increase flexibility of programming and allow activities to scale up more effectively in the event of an increase in needs in Niger. Multi-year planning would also make it easier to plan cash distributions ahead of time, and to have the required staffing partnerships and infrastructure in place. In the specific case of regional procurement, multi-year funding would help WFP put into place the staffing and systems required to implement and monitor the solutions required to make the country a reliable supply base for WFP.

The pipeline breaks that commonly affect food and nutrition programs would become less likely under a scenario of multi-year funding. Pipeline breaks caused by the variability in funding force providers of humanitarian assistance to reduce rations or swap products, with impacts on service provision to beneficiaries.

2.3 Resilience

The earlier sections of this report have provided an indication of the cost of response to drought in Niger. This section therefore outlines what the cost of strengthening resilience could be in Niger, with reference to existing programs in the country. It should be clear that, due to high levels of underlying food insecurity, **Niger will require both humanitarian assistance and resilience interventions in the medium term**. As such, this section shows how some humanitarian interventions can be coupled with longer term support to resilience.

Long-run development programs in Niger fall under the 2012-2015 *Plan de Developpement Economique et Social* (PDES)¹⁷, which incorporates 11 strategic objectives and 86 programs. The PDES - whose goal is to achieve GDP growth rates of 8% per annum and a 20 per cent reduction in the poverty headcount -- costs \$12.6 billion¹⁸. The 3N initiative is itself a key component of the PDES. Overall, the costs of enhancing resilience are encapsulated in the 3N investment plan, requiring some \$2 billion over 2012-2015. That amount translates to a cost of roughly \$117 for each Nigerien man, woman and child over that period. Additional interventions would be required to complement the existing plan, which is largely agriculture-focused.

A resilience 'package' for Niger would include interventions in the fields of food and nutrition security, agriculture, livestock, water and sanitation and education. In order to achieve improved resilience in a context with a chronic level of acute food and nutrition insecurity, and recurrent shocks, such as Niger, a 'resilience package' will necessarily include a strong **safety net** component that provides for continued support to consumption. A resilience package will simultaneously provide for **investments** that address the underlying causes of vulnerability, such as livelihoods, access to water, health and education. These interventions, expressed in costs per person per year, are outlined by sector in Table 3 below. The costs provided here are considered indicative, as they are known to vary substantially by location. It is also not relevant to add the figures to a total sum, as not all of these interventions would be required by everyone; rather, the table gives a sense for the relative costs of some of the relevant components.

¹⁷ Government of Niger (2012) Plan de Developpement Economique et Social. 2012-2015. http://initiative3n.org/files/pdes_niger_2012-2015_fr.pdf

¹⁸ IMF (2013) Niger: Joint Staff Advisory Note on the Poverty Reduction Strategy Paper. <http://www.imf.org/external/pubs/ft/scr/2013/cr13106.pdf>

Table 3: A Resilience Package for Niger, US dollars

Area	Intervention	Cost	Unit	Type	Source
Food security	Targeted food or cash transfers	122	per person per year	recurrent	WFP
Food security	Community cereal banks	17	per person	one-off	WFP
Nutrition	Blanket feeding	65	per course	recurrent	Government
Nutrition	Nutrition education	0.7	per course	recurrent	WFP
Nutrition	Iron supplementation	29	per course	recurrent	UNICEF
Nutrition	MAM treatment	35	per course	recurrent	Government
Nutrition	SAM treatment	100	per course	recurrent	Government
Agriculture	Land rehabilitation	465	per hectare	one-off (last 5 years)	WFP
Agriculture	Drought resistant seeds	65	per farmer	recurrent	FAO
Agriculture	Off-season seeds	38	per farmer	recurrent	FAO
Agriculture	Tools	5	per farmer	recurrent	FAO
Livestock	Small ruminants	50	per head	one-off	ACF
Livestock	Vaccination and deworming	5	per head	recurrent	ACF
Livestock	Feed bank	90	per herder	one-off	ACF
Water and sanitation	WASH in schools	222	per student	one-off	ACF
Water and sanitation	community potable water supply	37	per person	one-off	ACF
Education	School meals	90	per student	recurrent	WFP
Education	Girl's access to education	315	per girl	recurrent	UNICEF
Education	life skills training	40	per student	recurrent	UNICEF

Food Security

Considering high levels of vulnerability – with 20% of the rural population food insecure in the ‘typical’ year – resilience should incorporate a combination of **unconditional and conditional transfers** to vulnerable households. Such transfers can take place at a cost of USD 93-116 per person, for a coverage period of 180 days. Interventions to support food security would include productive asset creation during the post-harvest period and unconditional transfers during the June to September lean season. Considering the recurring high level of vulnerability in the country and the challenge of resolving its underlying causes, the provision of such transfers constitutes a long-term commitment for Niger.

Community food banks would be put into place in order to stabilize local markets and avoid localized market failure. The intervention consists in providing an initial grain stock to a community, the stock is sold at a discount to market prices during the annual lean season. The stock is reconstituted in the aftermath of the harvest

from local sources. The typical stock is 10 tons, which allows for a month of cereal coverage. On the basis of WFP data, the full cost of setting up a cereal bank comes to some \$15 to \$17 per beneficiary. Cereals bank stocks are known to dwindle after a shock; the re-stocking of cereal banks is a common activity in government drought response plans.

Nutrition

As is the case for food security, needs for the prevention and treatment of moderate and acute malnutrition are high in typical years, and should be considered as part of a resilience package. Additional interventions include **nutrition education** (\$0.7 per beneficiary per year) and **iron supplementation** to address the high prevalence of anaemia (\$29 per beneficiary per year, an activity that is conducted through school feeding programs).

Agriculture/Environment

Resilience building interventions recommended by the World Bank (2012) include **soil and water conservation**. These programs are implemented through cash or food for asset schemes by the communities they target (these conditional transfers are described above). It's estimated that a hectare of severely degraded land yielding approximately 100kg of coarse grain can be rehabilitated by digging half-moons, at a one-time cost of \$465. The fertility of the recovered land can be maintained for years, should the farmer adopt appropriate techniques. At historical market prices, the intervention pays for itself in two seasons.

A package of seeds comprising 15kg of certified millet seeds and 7.5kg cowpea seeds, selected for **drought tolerance/hardiness**, and 50 kg of fertilizer, costs \$68. These inputs are for a 1.5 hectare plot of land and an expected production of approximately one ton per hectare. The distribution of a seed package to farmers with the capacity for off-season production of vegetables and tubers costs \$38 per farmer. A kit of agricultural tools can be provided at a cost of \$5 per farmer. Ideally, the agriculture input kit would be combined with a cash transfer the first year, to ensure they spend adequate time in their fields and achieve the increases in yields that the package brings.

Livestock

Livestock 'package'. In Niger, livestock can be vaccinated and de-wormed at a cost of \$5 per livestock head per year. A livestock 'package' that includes the provision of three small ruminants, 3 vaccinations per head, 180kg of feed and deworming costs some \$218 per beneficiary household. The provision of such a 'complete' livestock

package allows households to restock following a drought. Feed banks –which operate similarly to cereal banks – cost some \$90 per herder to set up.

Water and sanitation

Interventions to build resilience would include improving access to **potable water** at the community level at a cost of \$37 per household; this cost varies widely according to local geological conditions. It is also recommended to provide potable **water and sanitation in schools** at a cost of \$222 per student.

Education

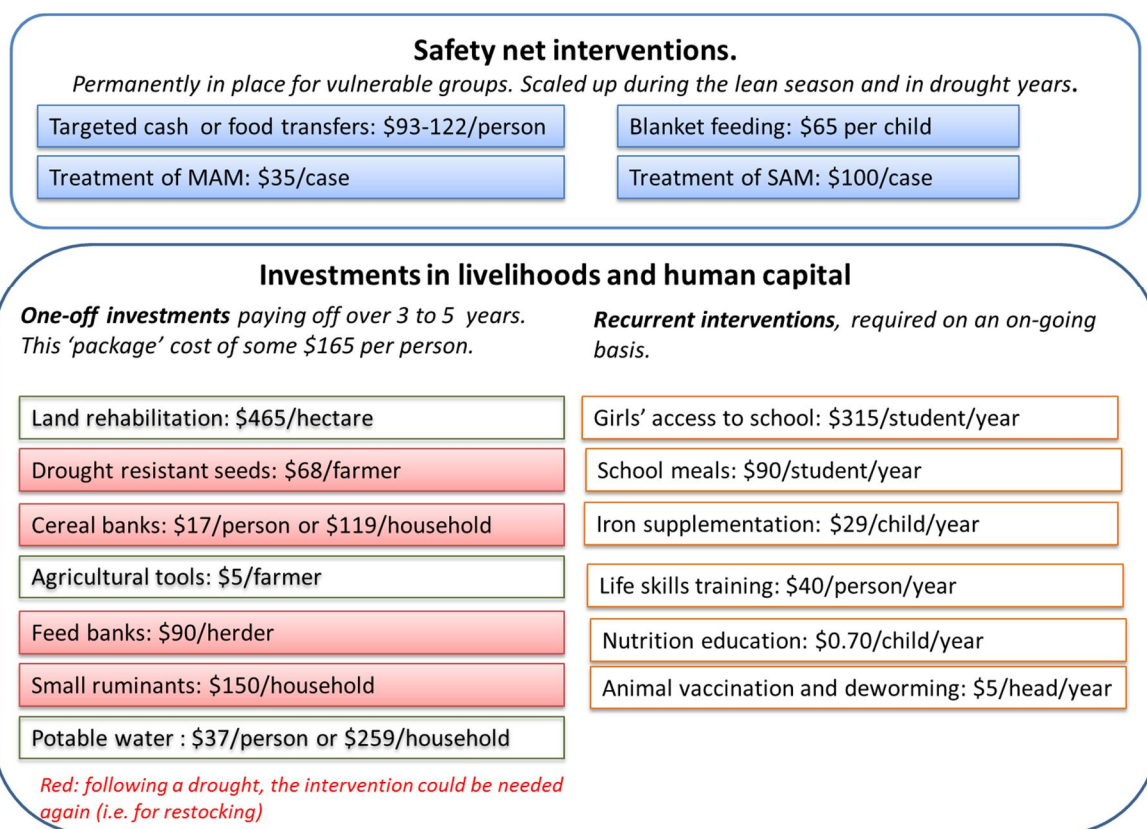
The cost of school meals is estimated at \$90 per beneficiary per year, for 180 days of coverage. Promoting girl's access to education – including the cost of scholarships and support to host families – is estimated at \$315 per girl per year. In addition, life skills training can be delivered to children at a cost of some \$40 a year.

This paper has argued that in order to build resilience, Niger requires safety nets that provide support to the country's large vulnerable population, in addition to substantial investment in livelihoods and human capital. Niger's safety net interventions – which include targeted food and cash transfers, blanket feeding, MAM and SAM treatment -- should be flexible, scaled up during the annual lean season, and intensified in drought years.

The long-term support to livelihoods and human capital required to address the root causes of high, recurrent vulnerability can take place through a combination of one off and recurrent interventions. A package of 'one-off' interventions including land rehabilitation, distribution of drought resistant seeds, cereal banks, feed banks, distribution of farming tools, distribution of small ruminants and provision of potable water come to a total of some \$165 per person¹⁹. These one-off investments would pay off for 3 to 5 years. However, due to the high frequency of shocks in Niger, it's likely that some of these interventions would have to be re-initiated after a drought: cereal and feed banks would have to be re-stocked. Recurrent interventions to support livelihoods as human capital include school feeding, promoting girls' access to school, iron supplementation, life skills training, animal vaccination and deworming.

¹⁹ Assumes a household of 7 persons cultivating 1 hectare of land, receiving a 'package' including soil and water conservation, access to cereal and feed banks, distribution of 3 small ruminants, a package of tools and receiving access to potable water.

Figure 17: Safety net interventions and investments in livelihoods and human capital.



Category	Humanitarian/ Emergency Relief	Early response – anticipating the next drought	Disaster resilience – Increased ability to withstand repeated disasters
Food / Cash Transfers	<ul style="list-style-type: none"> Unconditional food and cash transfers, mostly in the lean season 'Protected' blanket feeding (2010) 	<ul style="list-style-type: none"> Early regional procurement Post-harvest cash-for-work at lower rates Targeting food assistance to vulnerable households. Integrating food and nutrition responses 	<ul style="list-style-type: none"> Increasing reliance on local and regional supply sources Greater reliability and quality of programming More market knowledge allowing informed use of food and cash transfers
Nutrition and Health	<ul style="list-style-type: none"> Cost of treating SAM Outreach therapeutic and supplementary feeding programmes (OTP/SFP). Blanket supplementary feeding programmes (BSFPs). Emergency vaccination campaigns, cholera response etc. 	<ul style="list-style-type: none"> Prevention of MAM and nutrition education integrated into blanket feeding programs Use of micro-nutrient powders, iron supplementation Pre-positioning of medical and nutrition supplies Timely vaccination campaigns, cholera response etc 	<ul style="list-style-type: none"> Preventative measures such as HINI and IYCF MoH supported to scale up high impact nutrition and health interventions to all locations Trained and equipped community based health care workers able to provide basic preventative and curative health care to remote communities Local health committees prioritising and planning local health care. Comprehensive coverage of facility-based and outreach health and nutrition services (including NIDs), stock out of medical and nutrition supplies Local production of specialized nutritious foods
WASH	<ul style="list-style-type: none"> Emergency borehole repairs, maintenance 	<ul style="list-style-type: none"> Water user / management committees 	<ul style="list-style-type: none"> Drinking water supply Expansion of irrigation WASH in schools
Livestock	<ul style="list-style-type: none"> Fodder distribution Emergency deworming and vaccination campaigns 	<ul style="list-style-type: none"> Fire-breaks to preserve rangelands (cash for work), post-harvest Information to pastoralists on grazing conditions Transhumance agreements with neighbouring countries Destocking 	<ul style="list-style-type: none"> Development of value chains for livestock and associated products On-going facilitation of livestock market facilities, market information systems and linkages with buyers. Community feed banks set up Support comprehensive coverage of quality vet services and drug supply able to implement regular deworming

Category	Humanitarian/ Emergency Relief	Early response – anticipating the next drought	Disaster resilience – Increased ability to withstand repeated disasters
		<ul style="list-style-type: none"> • Management of agriculturalist/pastoralist conflict 	and vaccination campaigns.
Education	<ul style="list-style-type: none"> • School feeding programmes, take home rations for girls for the lean season 	<ul style="list-style-type: none"> • School feeding incorporated into single food / cash pipeline planning • School / community water and sanitation clubs/ committees implement school drought contingency plans 	<ul style="list-style-type: none"> • Ensure comprehensive access to primary education via traditional and alternative school provision • Expand provision of boarding schools for pastoralists (for girls and boys), teacher training and vocational and technical colleges • Life skills training in schools
Infrastructure			<ul style="list-style-type: none"> • Road construction, electrification, improved communication networks, expanded financial services etc

3 Conclusions and Recommendations

3.1 Conclusions

Due to its extreme environmental and social fragility, Niger faces **high recurrent acute food and nutrition needs**. In recent years, food and nutrition interventions have become more complex as they have become nutrition sensitive and higher-quality. In 2012, the drought response accounted for 7% of GDP, underscoring the strong commitment of government and donors to respond to acute food and nutrition needs.

The 2012 experience has shown that early response can lead to more efficient and effective programs that bring together food and nutrition components, avoiding the costly late response of 2010. Early response would allow food programs to take advantage of the **'post-harvest window of opportunity'** when food prices are lower and when some economic opportunities exist in rural areas. Government and WFP can take advantage of prices for regionally procured cereals and pulses. Under an early-response scenario, cash transfers are less expensive than during the dry season. 'Early' livelihoods interventions offer attractive long-term payoffs; off-season gardening projects offer a 1 to 8 cost benefit ratio; it's recognized that the intervention is possible in only a few geographic areas in Niger²⁰ The 2004-2008 agricultural census estimated that there are some 400,000 farmers with access to off-season farming, of which 39% are in Zinder, 20% in Tahoua, 15% in Dosso, 13% in Tillabery and 4% in Maradi. However, as there are a higher number of economic opportunities at the post-harvest period, it is possible that targeted transfers at that time could be put to productive uses that may reduce lean-season food deficits at the household level.

Early blanket feeding can reduce the caseload of children requiring MAM treatment in Niger. MAM prevention activities, coupled with cash transfers, need to take place early and year-round in order to reduce the incidence of moderate malnutrition. Under a multi-year scenario, the main advantage expected would be **timeliness of interventions and the continuity in the delivery of services** to beneficiaries, as well as greater flexibility in the event of a shock. A multi-year nutrition intervention would also serve as an incentive to conclude on-going efforts to set up a plant for the production of nutritious foods.

²⁰ According to the Ministry of Agriculture (2013) the 2011/2012 off season agricultural production exceeded 300,000 tons in grain equivalent terms. Some 100,000 hectares of land in Niger can be used for off season crop production, of which 27,000 in Tahoua, 16,000 in Diffa and 11,000 in Dosso region. Potentialities are more limited in other zones of Niger.

Resilience interventions in Niger, under the I3N framework, have a strong agricultural focus. Complementary efforts should be inclusive and ensure that **food and nutrition-insecure groups receive targeted support** in order to ensure that progress in agriculture translates into gains in resilience at the household level for those segments of the population. A 'resilience package' would include continuous delivery of food and nutrition assistance until such time as the structural programs lead to durable improvements in poverty and access to social services.

3.2 Recommendations

Food interventions should continue to leverage the regional market, including partnering with the food commodity trading platforms in Ghana and Nigeria. Relevant actors should remain attentive to initiatives to constitute **West African commodity futures markets**. Significant cost savings could be achieved by reducing the substantial external transport cost for commodities imported from overseas.

Considering the recurring high level of acute needs in the country, humanitarian partners could consider developing a **multi-year instrument** reflecting medium term resilience building needs, complementing the agriculture-focused interventions proposed under the I3N.

The lives and livelihoods of a sizeable proportion of the population of Niger continue to be affected by protracted and diverse stresses, exacerbated every year during the pre-harvest period. It must be acknowledged that **resilience-building interventions will necessarily be implemented alongside humanitarian assistance**. It is essential, therefore, that humanitarian and resilience-building programmes be formulated and implemented to maximize synergies, be mutually reinforcing and deliver the best possible results for the poorest people.

3.3 Areas for Further Work

Further research on **how households use cash transfers** would allow more strategic implementation of such programs. For instance, how do households from different livelihood groups use cash transfers? Under what conditions is cash invested rather than consumed? Does the distribution of a lump sum (rather than a series of monthly transfers) lead to differences in food security and nutrition outcomes?

Additional analysis should **quantify the benefits of early response**, for different livelihood groups and under different shock and response scenarios. Including a strong monitoring and evaluation component to post-harvest livelihood support programs would be a way of producing this knowledge. This information would help support decision on the duration of coverage for lean season assistance.

Further investigation is required to follow up on the findings that show that continuous distribution of specialized nutritious foods and cash transfers reduce the incidence of malnutrition. Information on **how the cash is used within the household** to improve nutrition outcomes for children could help tailor blanket feeding interventions. Further monitoring of blanket feeding programs could determine what, if any, scope exists to target the program according to social or economic criteria.

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