

Food Insecurity in the Sahel Strip and Permanent Food Assistance in Chad: Analysis from Bahr El Gazal Province

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Abstract: Bahr el Gazal Province is a semi-desert area located in northwestern Chad in the Sahelian strip. The population of Bahr El Gazal province, which is predominantly rural, derives most of its survival from agro-pastoral activities. The province has faced recurring food insecurity since the 1970s. The objective of this study is to identify the factors of food insecurity and the low involvement of vulnerable populations in the sustainability of the gains made by development projects in favor of food security. The methodological approach adopted is based on documentary research and a field survey carried out on a sample of 154 people supported by the World Food Programme through the national NGO AIDER (Association for the Support of Rural Development Initiatives). In addition, there are direct observations in the field and interviews with administrative, associative and religious authorities in the Province. The results of this study show that the Government of Chad and its partners prioritize the Sahelian strip in the national response plan (NRP) each year in support of vulnerable populations affected by food insecurity, in order to mitigate the effects of possible shocks. However, this permanent food assistance pushes these vulnerable populations not to sustain the works and activities put in place by development projects to combat food insecurity in the province of Barh El Gazal.

Key points: Food insecurity, Sahelian strip, food assistance and Barh El Gazal and Chad.

INTRODUCTION

Bahr el Gazal Province is a semi-desert province located in north western Chad in the Sahel strip. It is an agro-pastoral area. Agriculture is practiced on two different types of land: sand dunes during the rainy season and waddis in the dry season. Agriculture employs both men and women and is the main source of household food.

In terms of livestock, Bahr el Gazal is one of the largest livestock production regions in the country, with almost half of the population made up of nomadic and transhumant herders (49%). Added to this is the traditional nature of this agriculture where the use of modern inputs (improved seeds, fertilizers) is almost unknown. In Addition to this are the vagaries of the weather, animal damage, pests and crop pests, which limit the yields of traditional crops such as millet, cowpea and maize (OXFAM, 2015, p.11).

Natural constraints (climatic hazards, silting up of arable land and crop pests) have a negative impact on the main means of subsistence, namely agriculture and livestock. Poverty and food price increases (during lean seasons) limiting access to quality food for vulnerable populations.

Food supply has always been the focus of government attention because of its close relationship with people's livelihoods. For a long time confined to the political level of the nation-state, the food cause has gradually become internationalized as international organizations have gained legitimacy, with the eradication of hunger becoming one of the priority objectives of the United Nations in 1976 and a right to adequate food was included in the Charter of Human Rights.

It is in this context that the Chadian government has put in place a response plan which constitutes a framework, orientation and planning document for all the actors involved in the national system for the prevention and management of food, nutrition and pastoral crises in Chad. WFP's activities in Chad focus on two interventions: saving lives (food aid) and changing lives (food assistance since 2015).

In Barh El Gazal province, WFP is working in the area of food aid and food assistance. Assistance can be provided in the appropriate way: free food distribution, cash transfer or subsidized sales. Food-insecure populations in these areas urgently need food assistance in terms of food and livelihood strengthening to cope with the next lean season (WFP, 2022, p.11).

METHODOLOGICAL APPROACHES

Presentation of the province of Bahr el Gazal

The province of Bahr el Gazal is located on both sides of the 15th parallel. It covers an area of 69,000 km² (i.e. 5.3% of the national territory) with an estimated population of 265,865 inhabitants (i.e. a density of 3.8 inhabitants/km² compared to a national average of 8.7 inhabitants/km²) in 2009 according to RGPH 2. Administratively, the region is subdivided into 3 Divisions (Northern Bahr el Gazal, Centre and South) as shown in Figure 1.

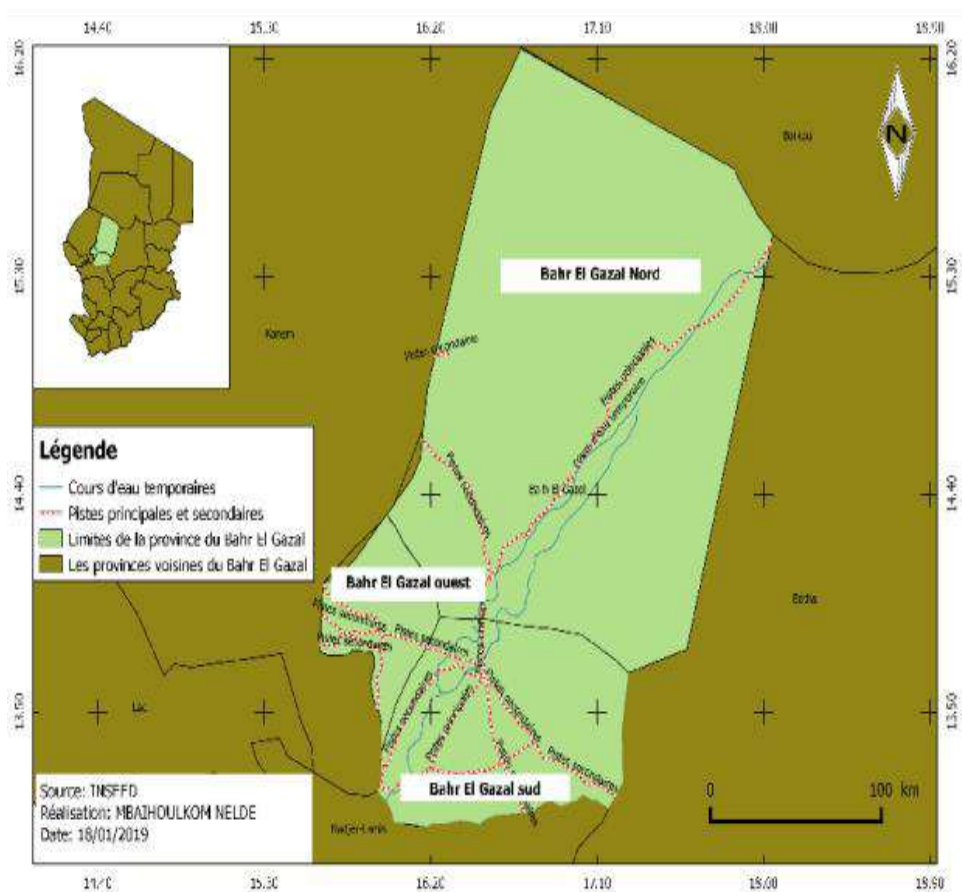


Figure 1: Location of Bahr El Gazal province in Chad

The Divisions of Centre and Northern Bahr el Gazal are desert areas while the Division of Southern Bahr el Gazal is a Sahelian area. The Division of Southern Bahr el Gazal is part of the livelihood zone known as the agro-sylvo-pastoral zone. This area is part of the vast Sahelian belt south of the Sahara. Livestock farming is practiced throughout the province, but agriculture and fishing are only practiced in Bahr el Gazal South. This Division is characterized by an expanse of sandy land, forming a relief strongly dominated by sand dunes and dotted with elongated inter-dune depressions that often form basins, called wadis, more or less fertile depending on the degree of salinization of the soil. Some wadis may be home to temporary or, more rarely, permanent lakes. The southern and central parts of the area are made up of a set of vast sandy plateaus.

Materials and methods

Documentary research in the libraries of the Centre d'Etude et de Formation pour le Développement (CEFOD), the Centre de Documentation Universitaire (CDU), the Centre Catholique Universitaire (CCU), the Centre Culturel Français (CCF), the Centre National de Recherche et de Développement (CNRD), on the Internet and also in the directorates and technical services of ministries, has enabled us to better identify the factors of food insecurity as well as the manifestations of food insecurity and nutrition in the province of Bahr El Gazal.

Interviews with resource persons (religious and traditional administrative authorities) took place from 24 November to 2 December 2017 and enabled us to identify WFP's activities related to the National Response Plan (NRP) for the Sahel zone

The questionnaire surveys that affected 154 beneficiaries of the WFP FFA programme, which took place from 03 December 2017 to 10 January 2018 and from 23 July to 02 August 2018, allowed us to better understand the level of appropriation of the works and activities implemented by the development projects and to propose solutions for a strong involvement of local populations in the sustainability of the activities implemented by development projects.

RESULTS AND DISCUSSION

RESULTS

DRIVERS OF FOOD INSECURITY IN BAHR EL GAZAL

Food insecurity in BEG province is linked to natural, economic and socio-cultural constraints.

Natural constraints

Natural constraints are the primary factor exacerbating the vulnerability of communities. There are many of them, but the most cited are climatic hazards, silting up of arable land and crop pests.

Climatic hazards

The province of BEG is subject to the Sahelo-Saharan type of climate and is very affected by climatic hazards (rainfall deficit, cyclical droughts and natural calamities, etc.). The climate is characterized by the predominance of a long dry season from September to June. The average annual rainfall varies between 250 and 400 mm and is unevenly distributed both spatially and temporally. Average temperatures range between 30°C and 35°C (Neldé, 2017, p. 34).

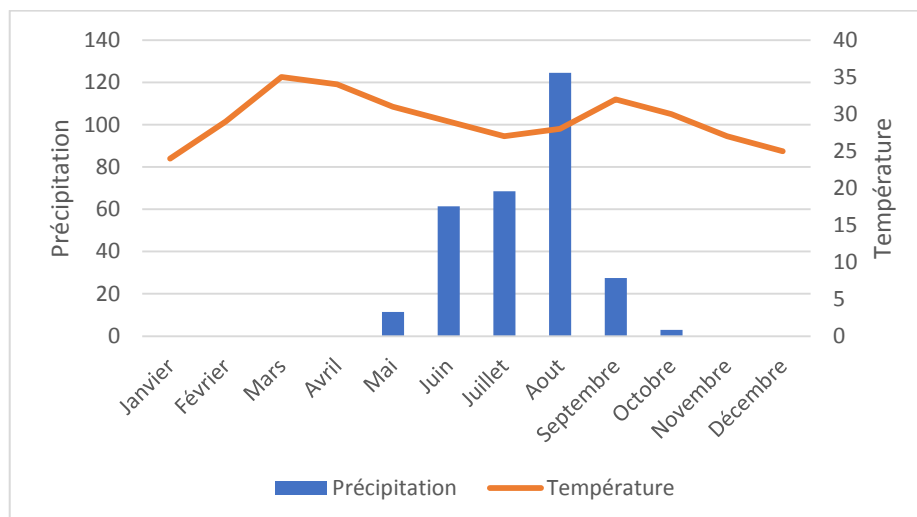


Figure 2: Precipitation and temperature trends in 2017 in the BEG

Source: National Meteorological Directorate, 2017

Poor rainfall, sometimes very localized, sometimes more extensive, affects local pastures and water points from year to year. The year 2009 witnessed poor rains and thus reduced availability of pasture and water for livestock. 2010 was quite the opposite in terms of water availability, with

flooding, which was equally problematic for these transhumant herders who found themselves unable to follow their traditional migration routes (FEWS NET, 2011, p.63). Excessive rainfall, as in 2010, can cause rivers to rise and delay transhumant herders and their animals on their journey north. This causes serious problems as a large number of animals migrating northwards are blocked by seasonal rivers that have become impassable. If this delay is prolonged, the situation can quickly deteriorate: animals are piled up in the fields along the banks of rivers and trampled on them, pastures and water resources are not enough for all the animals, there may be a spike in feed prices for farmers in the markets, or even a shortage, or a spike in the prices charged by guides to get animals across the stream for those willing to risk the violence of the current, with the associated loss of animals if they ultimately choose to take that risk.

Silting up arable lands

Geomorphologically, the province is characterized by an expanse of sandy land, forming a relief strongly dominated by sand dunes and dotted with elongated inter-dune depressions that often form basins, called wadis, which are more or less fertile depending on the degree of soil salinization (OXFAM, 2015, p. 2). Some wadis may be home to temporary or, more rarely, permanent lakes. The southern and central parts of the area are made up of a set of vast sandy plateaus. According to Neldé (2017, p. 28), soils are degrading rapidly and wadis, which are considered a suitable area where rural activities are concentrated, are threatened by silting. This situation leads to soil infertility, reduced agricultural land and grazing. This is not without negative consequences for the food security of the population.

The other most common shocks faced by the people of Bahr El Gazal

In the province of Bahr El Gazal, producers are confronted with pest attacks, and in 2016-2017, insects (ketoines, leafminers, aphids, borers, flies and grasshoppers) appeared throughout the fields (Neldé, 2017, p. 28). In the livestock sector, epizootics are the main threat to the livelihood of the population (dermatosis, pneumonia, foot-and-mouth disease, rinderpest).

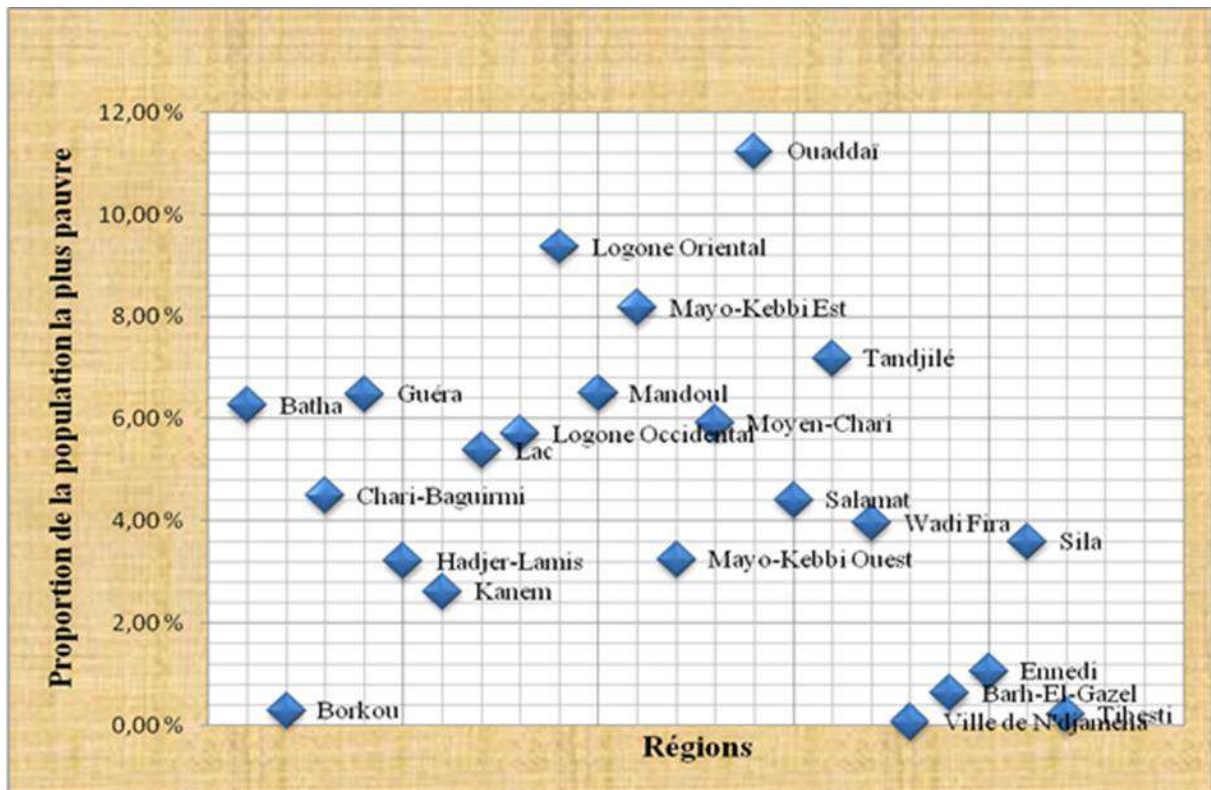
In Bahr El Gazal province, 65% of spending is spent on food. As a result, the rise in the prices of basic foodstuffs has a negative impact on the household baskets.

Economic constraints

According to the general human population census (RGPH 2) (2009), the distribution of the poorest households in terms of non-monetary poverty in Chad between regions (Figure 3) allows them to be classified as follows:

- The regions with the lowest proportions (less than 1%) of the poorest households are Barh El Gazal, Batha and Tibesti. These low rates are due to the fact that the people of these regions hold the economic power of the country.
- The regions with moderate proportions (between 1% and 5%) of the poorest households are Ennedi, Guera, Sila, Mayo Kebbi West, Wadi Fira, Salamat and Borkou. More than 50% of these regions are made up of personalities who have ruled the country since Chad's independence in 1960 and have wealthy businessmen. The different clans in these regions are very supportive; the wealthiest always support the poorest materially and financially.
- Regions with a high concentration (more than 5%), of which the majority are the southern and central regions. However, the case of the Ouaddaï region seems atypical because alone, it concentrates more than 10% of the poorest households. The southern and central regions (Sahelian and Sudanese zones) are victims of climatic hazards, which have an impact on the exacerbation of food insecurity. Despite this precarious food situation, the populations of this area do not benefit from food aid from ONASA¹.

¹ National Food Safety Office



Source: RGPH2, 2009

Figure 3: Classification of the poorest populations by region

According to OXFAM (2011, p. 30), at least 65% of the food consumed comes from market purchases from all socio-economic classes, due to the low level of household agricultural production in this agro-pastoral area. This high dependence on the market for these staple foods exposes the very poor to the effects of changing food prices in markets, making them more vulnerable to food insecurity and therefore certainly to malnutrition. This is reinforced by the existence of factors that are very favourable to speculation on food prices: chronic insufficiency of agricultural production, weak and remote markets, lack of infrastructure, limited number of traders, etc. Any price increase could contribute to an energy deficit. Even affluent and middle-income households are subject to this price change, although they have a little more room for manoeuvre.

MANIFESTATIONS OF FOOD INSECURITY IN BAHR EL GAZAL

According to Oxfam (2012, p. 2), Bahr El Gazal is characterized by recurrent rainfall deficit leading to food insecurity and chronic malnutrition estimated at more than 28% among young children. The main activities are animal husbandry and agriculture. The populations, especially in the northern part of the region, are very vulnerable due to very poor access to water and food due to the lack of rainfall and attacks on crops by crop pests. This vulnerability is accentuated by the Libyan crisis, which has caused the return of several Chadians, thus blocking the only source of income for several hundred, if not thousands, of households in the Sahel strip.

Low food availability

The province's low agricultural production does not cover all of the population's food needs. Indeed, during the lean season, i.e. the time when food stocks are depleted, populations obtain supplies from local markets and/or when food prices have risen sharply, populations tend to develop survival strategies by using their economy, reducing food rations or resorting to extreme measures such as indebtedness or the sale of productive resources just to feed themselves. This strategy creates a situation of impoverishment and increasing vulnerability of the population

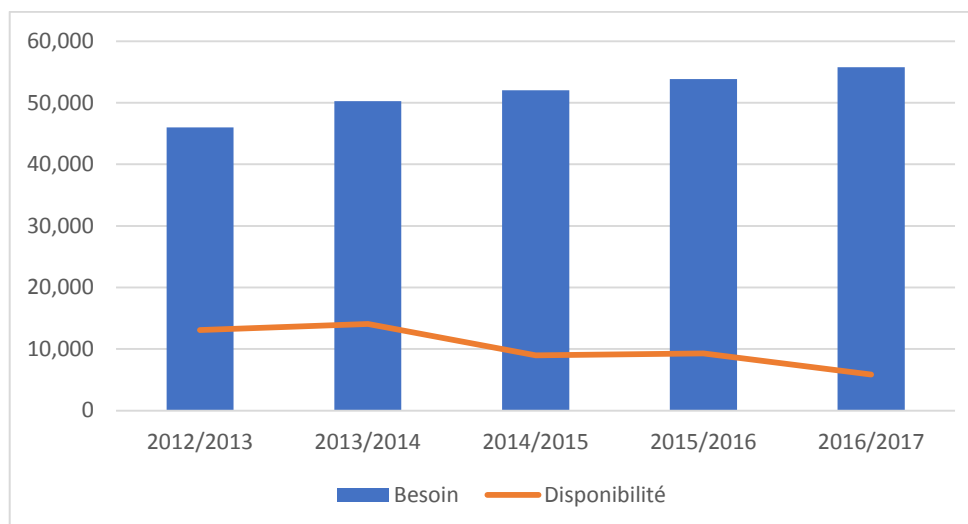


Figure 4: Changing Needs and Cereal Availability in the BEG

Source: ANADER/BEG, 2017

The analysis of the evolution of needs and cereal availability in the Bahr El Gazal region in the figure above clearly reflects the seriousness of the food situation in Bahr El Gazal. The production of five (5) crop years does not cover even half of the annual grain requirement in the province. These resulted in a five-year average deficit of 41,335 tonnes, putting the entire province on high alert. Year after year, the need for cereals increases with the increase in population while the availability is always decreasing. From 2012 to 2017, the requirement increased from 45,987 to 55,575 tons, but the availability, which was 13,065, decreased to 5,857 tons in 2017.

The November 2015 National Food Security Survey (ENSA) reported alarming rates of food insecurity in Bahr el Gazal province, with 85.6% overall food insecurity and 27.6% severe food insecurity, respectively. This food insecurity translates into an insufficient and undiversified diet: 81.8% of households in Bahr el Gazal have a poor and limited Food Consumption Score (ENSA 2015, p.1); The Household Food Diversification Score is very low, with an average of 3 out of 12 food groups consumed (ENSA 2015 data).

Poor access to clean water

According to the Provincial Delegation of Water and Pastoral Hydraulics (DPEH) of the BEG, the rate of access to drinking water is low (see table1). In rural households, the situation is worse. In this part, traditional wells and human-powered boreholes or pumps are the main sources of water.

Table 1: Drinking Water Coverage in the BEG

Total number of drinking water supplies	07
Estimated number of TDCs (Human Motor Pumps)	169
Rate of access to safe drinking water	35,2%
Rates of access to drinking water in urban dwellings	12,4%
Rates of access to drinking water in rural homes	0%
Number of pastoral wells	181 pastoral wells, 86 of which are modern

Source: DREH/BEG, 2016

The analysis of the table 1 shows that only 35.2% of the population has access to safe drinking water. This rate compared to the national average is the lowest. However, 12.4% of households have a source of drinking water in their homes in urban areas and 0% in rural areas. For households that do not have drinking water on site (in the house or in the yard), they get their water from standpipes, community boreholes or use water from traditional wells to drink and water their animals. In most cases, water-related diseases are multiple.

A dependency on the market

The producers surveyed produce only 1 to 3 months of production and consumption of millet and maize. Markets are their main source of supplies of cereals and other consumer goods (cf. Figure 4). In this figure, food purchases are concentrated from February to September. This is evidenced by the fact that 95.45% of the households surveyed buy cereals on the market. They sell part or all of their vegetable production after the harvest and buy food, mainly millet, maize, rice, beans, sorghum, pasta, etc. According to Bouyo (2016), “dependence on markets goes hand in hand with household food insecurity; the more a household depends on markets for its supplies, the more likely it is that this household will be food insecure.”

The sale of market garden, livestock, local handicrafts and labour are real sources of income in the area. Overall, the main markets in the region (Moussoro, Chaddra, Michemire, Amsilep, Fassaladjoul etc.) are difficult to access due to the weak road network. Most of the roads are impassable due to silting up and flooding during the rainy season in some localities. This situation is not without consequences for food prices. Trade flows between the department of South Bahr el Gazal and the outside world (Mao, Mando, Guédéa, N'Djamena, Massakori, Gama, Bokoro, Nigeria, Libya, etc.) are structured around activities such as the purchase and sale of cereals, market gardening, animals and manufactured products.

Food Source	Oct	Nov	Dec	Jan	Feb	Tue	Av	May	Jun	Jul	Aug	Sep
Rainy Months												
Millet	Harvest						Preparation		Dry sowing	weeding		
Sorghum	Harvest						Preparation		Dry sowing	weeding		
Maize	Harvest							Preparation	seedling	weeding		
Cowpea	Harvest						Preparation		seedling	weeding	R	
Onion		Preparation	pépi	Rep				Harvest				
Other market gardening products			Preparation	pépi	repi			Harvest				
Purchase of live												
Milk production												
Picking												
Agricultural daily employment												
Exodus												
Solder									average		Strong	
Debts/Repayment	repayment							Repayment			Ready	
Food distribution by NGOs												

Figure 5: Timing of economic activities and food sources in the BEG

Source: Field survey, December 2017

Other sources of food include remittances or money for food purchases, school canteens, in-kind payment and food vouchers distributed by WFP and other NGOs during the lean season, and cash for work transfers. School canteens cover between 3 and 4 per cent of household needs for all socio-economic categories. Also, the influx of food into the household by exodus of some household members for several months represents 6 to 7% of household needs (OXFAM, 2016)

NATIONAL RESPONSE PLAN FOR THE SAHELIAN ZONE

Chad, like other countries in the Sahel and West Africa, conducts an analysis of the food and nutrition situation of households twice a year, using the Harmonized Framework for the Identification of Risk Areas and Populations at Risk and Food and Nutrition Insecure Populations. On the basis of the results of this consensus analysis, validated by national and regional authorities, the Government and its partners develop a national response plan (NRP) each year to support vulnerable populations, in order to mitigate the effects of any shocks.

The main activities of the response plan for the Sahel zone

In the past, to combat food insecurity or food crises, governments and NGOs focused on direct food aid. This form has its advantages, but also its constraints, to which the introduction of cash transfers, can bring some improvements. Today, cash transfer assistance can give beneficiaries the choice to set their priorities (food, health, IGA, family well-being, maintenance of the means of production, etc.). Thus, particular attention is paid to the use of cash transfers by beneficiaries.

This response plan is a framework, guidance and planning document for all the actors involved in the national system for the prevention and management of food, nutrition and pastoral crises.

Table 2: Response Plan Focus Areas

Targeted areas of intervention	
Food assistance	Free distribution of food Unconditional distribution or transfer of WORK cash Sale of cereals at a reduced price
Resilience and livelihood protection	Support for rainfed and vegetable crops Support for livestock farming Support for fish farming
Nutrition: Preventing and combating malnutrition	Distribution of Dietary Supplements Caring for malnourished children Support for pregnant and lactating women

Source: PNR Tchad, 2017

THE LIMITS OF FOOD ASSISTANCE IN BAHR EL GAZAL

Humanitarian food assistance can also be used to protect and strengthen the livelihoods of a crisis-affected population, to prevent or reverse negative coping mechanisms (such as the sale of means of production or the accumulation of debts) that could have damaging consequences, both in the short and long term, for their livelihood base or their food security and nutrition situation (European Union Commission, 2014, p.6).

The province of Bahr El Gazal, like any other province hit by food crises, is receiving assistance of all kinds. This assistance for food security can be summed up in food distribution operations, development projects and cash distribution that are supposed to facilitate the recovery of the populations most affected by these crises.

➤ Food distribution

Since the food crises of 1983-1984, several NGOs have been almost dedicated to the distribution of food to the most vulnerable populations. To this day, the government, in partnership with UN agencies and other NGOs, continue the distribution in dependent regions during the lean season, including the BEG. The duration of coverage of the food distributed in the BEG can range from 3 to 4 months. Thus, for the period from 2014 to 2017 alone, WFP through some national and international NGOs distributed 5,895,634 tons of food in the region; the details per year are presented in the table 3.

Table 3: Food distribution in the BEG by WFP

Year	Food Distributed in Tons	Beneficiaries
2017	996,976	39 584
2016	3 790, 658	55 927
2015	1 055	33 245
2014	53	14 340
Total	5 895,634	143 096

Source: OCHA, 2014-2017

➤ Financial support for the population

Globally, cash transfers are growing very rapidly, from less than 1% in 2009 to 20% in 2017, but this growth is unevenly distributed across regions (WFP, 2017). This practice aims to alleviate food insecurity by facilitating access to food for poor households. Instead of distributing food directly, it should allow beneficiaries to choose the pockets of expenditure according to their needs.

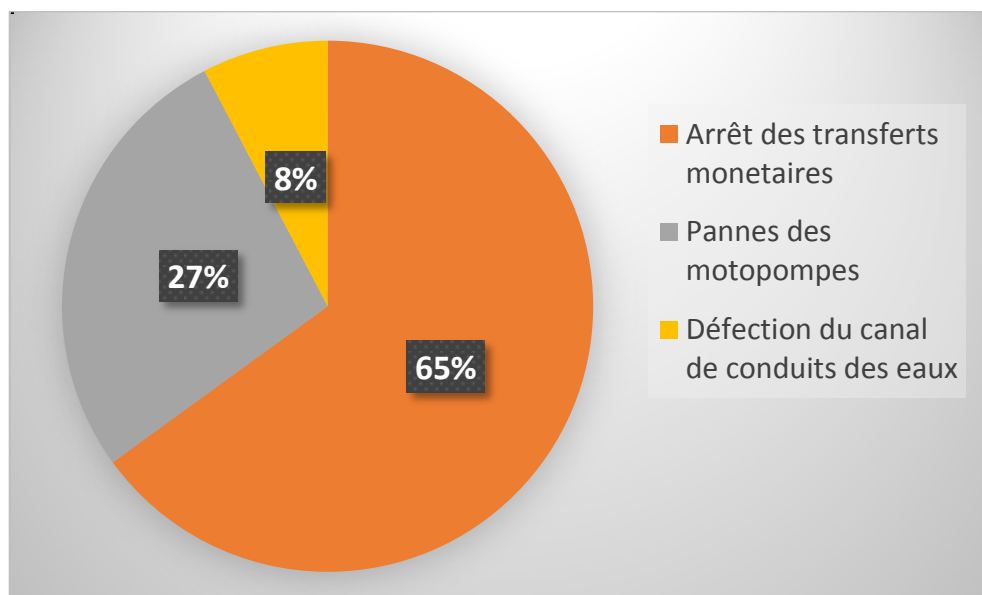
In recent years, there has been a growing interest in the use of cash assistance as a tool in the humanitarian sector and in response to chronic poverty. There are several modes of cash transfer (restrictive transfer, conditional transfer, work-based transfer, etc.). In the context of this project, the labour-based transfer or "Cash-for-Labour" was chosen. It encourages vulnerable populations to practice market gardening.

It is a payment (monetary or in coupons) as wages for work performed, often as part of community or personal service programs. It is a help to the person who has worked, and the work itself can benefit the whole community (improving infrastructure) or more specifically individuals.

Sending money before a disaster strikes allows beneficiaries to better protect themselves, suffer less from the effects and recover faster, which also helps to reduce the cost and duration of the humanitarian response (WFP, 2023, p.8). Advance cash transfers are most often used in the case of predictable extreme weather events, as they can effectively reduce the risks associated with these events to people and their livelihoods.

POOR OWNERSHIP OF THE WORKS AND ACTIVITIES IMPLEMENTED BY DEVELOPMENT PROJECTS\

Of the 154 respondents, 140 beneficiaries of WFP's FFA programme gave up market gardening at the end of the programme. 65% of the respondents abandoned the practice of market gardening after the cessation of cash transfers, 27% gave up because of motor pump breakdowns and 8% gave up because of the defection of the water pipe channel (see Fig.6).



Source: Field survey, December 2017

Figure 6: The main causes of abandonment of vegetable cultivation

The low level of ownership of the achievements of development projects by local populations can be explained by:

- Market gardening is not part of the diet. Peasants sell a large part of their produce in local markets;
- Local populations, religious authorities and economic operators were not involved in the implementation of the projects.

Conclusion

The people of Bahr El Gazal province derive most of their income from agro-pastoral activities. Natural and economic constraints are having a negative impact on the food situation of vulnerable populations in Bahr El Gazal. The study shows that in the province of Barh El Gazal, WFP intervenes in the field of food assistance through the distribution of free food and cash-for-cash transfers. The people of the BEG consider this food assistance from the Chadian State and its partners to be an acquired right since independence.

Cash transfers (CTs) have been a new form of aid to the most vulnerable populations in Africa for several years, which is becoming more widespread rapidly.

The study shows that the project's actions, galvanized by cash transfers, led to an increase in sown area and an increase in production during the 2016-2017 crop years, which led to an improvement in the incomes of rich and medium-sized producers. But they do not address food insecurity in a sustainable way because they have not allowed for the diversification of sources of income. Therefore, there is always a lean period.

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