



Urban profile: Flood risk areas and other risks in the city of Niamey (Niger)

Working Paper #3  
(Translated from French)

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## Foreword

The report presents the results of a Baseline study on the Urban Households Economy Analysis (Urban HEA) for households that are at risk of flooding in the city of Niamey, Niger. Data were collected in the field from communities of 11 vulnerable districts often victims of flooding. The work was conducted by a team of Early Warning System Agents and students from the University of Niamey under the joint supervision of the consultant and team leader. The field phase took place from June 4 to 22, 2015.

The study is part of a project on **Urban Africa Risk Knowledge (URBAN-ARK)**. This project is an international, interdisciplinary research program implemented in Niger by **Save the Children International (SCI)** in collaboration with the **Faculty of Agriculture (FA) of the University of Niamey**. The funding is provided by the **British Economic and Social Research Council (ESRC) and the Department for International Development (DFID)**. A preliminary study on the risks carried out by the Faculty of Agronomy in the framework of this project has highlighted seven key risks including flood that households in Niamey, and particularly the vulnerable ones, are being exposed to. For the purpose of taking that specificity into account as part of the research-oriented project activities, an adaptation of HEA tools was made. It's our understanding that the information will not only help characterize vulnerable households but also allow to better define the research themes for the remaining life of the project.

So as to meet the objectives of the project, HEA experts will notice that the structure of the report does not correspond to the classic HEA report format. In parallel to this study, another HEA urban profile was set up through another team in 11 other vulnerable areas in the city of Niamey. Funding thereof is provided by the **HEA regional project**. It's highly advisable for readers to also go through this profile dealing with useful additional information not fully addressed within the current report.

## Acknowledgments

The author of this report is highly appreciative of the genuine collaboration of the whole team for the 2015 HEA Urban Baseline data collection in Niamey, and for their having usefully spent about a month in the theoretical training and field data collection. He also expresses his appreciation to the local authorities (mayors and district chiefs), communal technical services and populations of the 11 vulnerable districts at flooding risk that were surveyed in 5 communes of Niamey, with respect to the warm welcome expressed, and their unfailing availability throughout the period covered by the study. Various questions from team members during the field training and data consolidation are sufficient enough to evidence their genuine interest to the HEA Urban approach.

Thanks from the author are especially addressed to King's College London for coordinating the implementation of the Urban Project ARK in different countries of the region, as well as **the British Economic and Social Research Council and the Department for International Development** for securing the necessary funding for the URBAN-ARK project and particularly the Baseline study of the urban HEA in Niamey. For what concerns funding issues and the facilitation and mobilization of workers and students, a special meritorious mention is to be granted to Save the Children International Niger, the Faculty of Agronomy of the University of Niamey, the HEA regional project and the Coordination Unit of the Early Warning System and Disaster Prevention in Niger (SAP/GC).

## List of acronyms and abbreviations

**A:** Affluent

**DFID:** Department For International Development

**ESRC:** Economic and Social Research Council

**FA:** Faculty of Agronomy of University of Niamey

**FEG:** Food Economic Group

**HEA:** Household Economy Approach

**P:** Poor

**VP:** Very Poor

**EWS/DP:** Early Warning System / Disaster Prevention

**SCI:** Save the Children International

**UAM:** Université Abdou Moumouni de Niamey

**URBAN-ARK:** Urban Africa Risk Knowledge Project

**WC:** Water Closet

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## Introduction

Like other cities in sub-Saharan Africa, Niamey is facing increasing disaster risks in many areas of life. Flooding, disease, food insecurity, loss of employment, delinquency, school dropout and conflicts in neighbouring countries are the major risks the population of Niamey city is exposed to (Soumana, 2015). The nature and extent of these risks are complex. Consequently, combined with other factors such as the rapid population growth, rapid and multiform urbanization, they negatively impact on the living conditions of households, mostly the vulnerable ones. As a matter of fact, urban risks limit household access to food, income and basic social services that are necessary for survival. The consequences of these risks result in increasing vulnerability, causing loss of livelihoods, poverty worsening, precariousness and marginalization of affected populations.

Considering this situation, preventing, reducing and managing urban disasters risks have become a high priority issue for the Government of Niger and its development partners. To better focus on that priority, studies are needed to figure out what the sources of urban risks are. To achieve this, several approaches or methodologies may be envisioned. This study uses the HEA approach which has been widely used in rural contexts to assess the wealth criteria definition, households' access to food, income, and to identify impacts and adaptive strategies developed in response to these shocks. A slight adaptation of the tools was made to better meet the objectives of the **URBAN-ARK project** through which the work is being financed. The adaptation of tools allowed for instance to set up a ranking of the identified risks in a preliminary study conducted through the project.

### I. Brief Overview of the city of Niamey

The city of Niamey has been in existence since the late 19<sup>th</sup> century, where the villages of Fulani Koirra, Gaweye, Kalley, Maourey and Zongo were initially located and have now become residential neighbourhoods. The exact origins are uncertain but early livelihoods were fishing for Songhai villages and agro-pastoralism for Zarma, Maouri and Peul populations. These activities still exist today but do not represent full-time ways of living anymore.

The city has dramatically grown due to its status of administrative centre of the territory, then of capital of the colony and finally of capital of the State of Niger. In fifty years, the population of Niamey has been multiplied by 34, from about 30,000 inhabitants in 1960 to over 1,000,000 in 2012 (Source: NSI). Niamey continues to welcome new migrants from rural areas who are looking for better opportunities; a large part of those migrants, determined not to return to their villages of origin, stays in sites where nothing can be built for the long term, exposing them to the risk of flooding – among others.

As a multi-ethnic city from its origins, Niamey's population continues to diversify by integrating all national peoples and also some foreign communities. Among Nigerian communities the Zarma-Sonraï are the most represented ones, followed by the Hausa, Fulani, Tuareg, Kanuri and others. The weight of the Zarma ethnic group can be explained by

the fact that Niamey is located in a region dominated by this ethnic group. The second largest ethno-linguistic group is the Hausa one.

The spatial extension from founding villages followed a certain planning, but because of the rapid expansion of built areas, informal settlements and non-permanent traditional habitats are numerous. Huts made of mud and straw are built next to cement houses across the city. However, large areas of traditional habitats also exist, even within the city.

The majority of households in this area are engaged in economic activities in the informal sector and makes modest gains with very limited public support. Various income-generating activities (IGA) are available in the city, providing goods and services to a large part of local consumers: itinerant vendors of prepared food, small kiosks, food retailers, water vendors, dockworkers and carriers, waste collectors, latrines bouncers, small trades, construction workers, sand carriers, launderers, domestics, coal and wood sellers; there are plenty of options. Access to IGA depends on a number of preconditions: minimum funds, certain skills or access to certain resources (e.g. the possibility to rent a cart to transport goods) and networks (customers, suppliers, etc.). There is not much difference in the types of IGA conducted by P and VP households. However, it remains very clear that it the status of salaried worker that determines the belonging to the wealthier socio-economic groups. One can also find among the wealthiest midsize retailers and wholesalers. Despite the existence of a prosperous local economy, unemployment and lack of stable income sources are problems that affect many households.

The gender distribution of tasks is visible: women and girls often engage in small trades, domestic activities and certain activities in the public service (in positions with generally lower salaries). As for children, women take care of the smaller ones at home. Most of school-age children go to school. However, the completion rate is too low and many young adults are working or looking for work.

Niamey owes a substantial proportion of its population to migrants, especially during the “off season”, i.e. between mid-October and mid-May. They leave their villages at the end of the harvest to come and spend the offseason working and then return often before the first rains. This “floating” population also includes street children. The city also hosts many nationals of neighbouring countries (including Mali, Nigeria and Benin) because of the instability prevailing in some of these countries. However, these two populations, seasonal people and recent migrants, are not implicitly included in this analysis and it is quite possible that the pattern of their livelihoods is different.

## **II. Methodological Approach**

The HEA baseline study is based on a socio-economic survey whose approach is to collect information on technical services and communities. To do so, a number of steps are required. As part of this work, the main steps involved are explained below.



## ***2.1 Selection of the study area and targeting of sample neighbourhoods***

The first work of the HEA method is to operate a zoning of the various livelihoods which allows to define the areas where people generally share the same type of ways of life, i.e. living in the same agro-ecological environment, sharing the same systems of production and income generation opportunities and also having a similar level of access to the market. In an urban assessment, the zoning exercise is less about defining livelihoods than understanding the configuration of the city, delineating urban neighbourhoods compared to peri-urban neighbourhoods, developing a sampling framework and planning fieldwork.

It is important to clarify what is meant by “urban area”? By definition, urban areas are areas where the majority of households do not have direct access to sources of food and income related to agriculture, livestock or other natural resources exploitation. The characteristics of urban economy vary according to the size and location of the city. For example, in Niamey we can observe the existence of livestock in most districts, but owning cattle is not typical for most households. In the case of Niamey, the urban livelihood zone is made up of households whose food sources are entirely based on the market and income sources depend on selling their workforce and / or trade (purchase and resale of goods or sale of services).

Hence in the development of the zoning map, it is first necessary to understand the differences in the characteristics of livelihoods observed between different areas of a city, e.g. resident areas, industrial zones, the vegetable gardens district, the most recent areas, the green belt, etc. Where there are important distinctions between the livelihoods of these areas, it may be necessary to treat them separately, following the same approach as for rural survey. It is also necessary to divide the urban area into different zones, depending on the economic level, in order to select the sites to be visited.

The zoning exercise should be adapted to local circumstances. Thus, in Niamey, the objective was to determine the urban limits of the city without taking into account the rice-farming and market gardening areas. Similarly, neighbouring areas where people have access to arable land or pastures that are likely to provide an additional source of food and income were also excluded.

The city of Niamey is divided into 99 urban districts and villages, split into 5 arrondissements. The typology of “villages” and “urban hamlets” already marks a clear distinction between urban and peri-urban. However, some peripheral areas also straddle both areas. After having established the limits of the urban area, an economic ranking of the districts (between poor/middle and affluent) was necessary to exclude neighbourhoods with a majority of households having a socio-economic position well above the average for Niamey.

The result of this exercise is presented in this map:

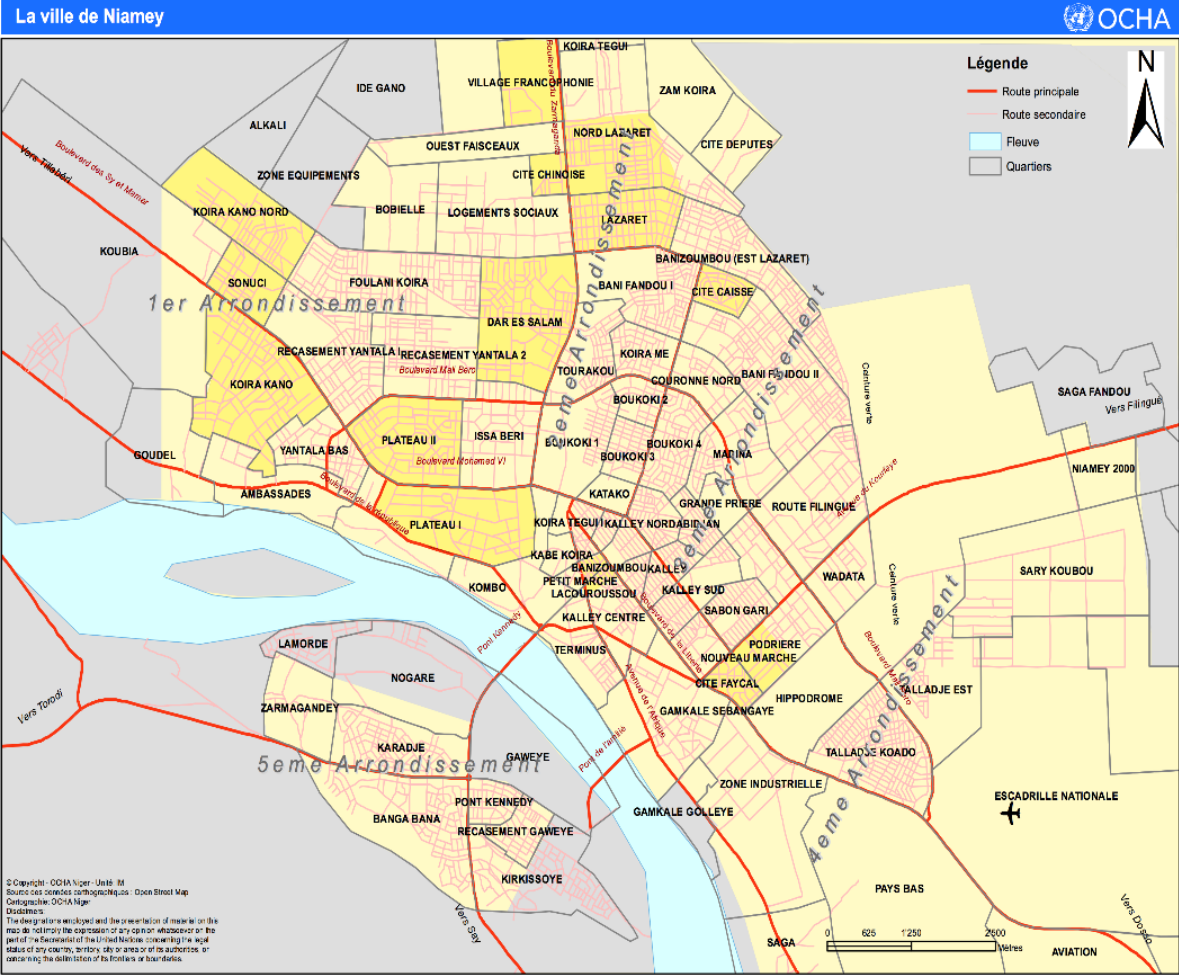


Figure 1: Urban and peri-urban areas in Niamey (based on OCHA plan)

The neighbourhoods located in the “peri-urban” and “urban with incomes above average” areas were excluded from the assessment since they are relatively richer, have a more formal configuration, are better off or have livelihoods similar to those of a rural area. Although the study focuses on urban livelihoods, the reality of affluent neighbourhoods – well-off neighbourhoods, mostly characterized by large cement buildings, served by infrastructure and services well above the average, is not representative of the city. Indeed, the urban plans of the city of Niamey and the level of prices of plots and construction materials already highlight a hierarchy of zones. As a result, poor households are concentrated in the most popular and worst-off neighbourhoods and most vulnerable locations (“urban area”).

Based on the degree of exposure to risks of flooding, neighbourhoods samples were selected among these vulnerable ones. At the end of this process, 11 districts were chosen to collect the data for this study.

Table 1 presents these neighbourhoods:

Commune	Quartier
Commune 1	Yantala-Bas

	Goudel
Commune 2	Tourakou
	Boukoki 4
Commune 3	Banizombou 2
	Banifandou 2
Commune 4	Kallez Sud
Commune 5	Gaweye
	Karadjé
	Banga Bana
	Zarmagandeye

*Table 1: Distribution of study areas by commune*

## **2.2 Adaptation of forms**

In order to meet the objectives of the URBAN-ARK project, questions related to flooding and other risks affecting households in the city of Niamey were added to the data collection forms. These specific additional questions are:

### **In form 3, conducted at community level**

- Ranking of the seven shortlisted risks by their frequency and impact on the livelihoods of the urban communities of Niamey (form 3 at community level)
- Enumeration and description of the most frequent types of aggression/delinquency and of the victims. Existence of community systems for prevention/reduction of delinquency
- Degree of exposure to the risk of flooding by socioeconomic stratum and main reasons

### **In form 4 conducted at socioeconomic groups representatives level**

- Number of rooms per house
- Type of toilet
- Waste collection system

## **2.3 Training of EWS/DP agents and University students**

To ensure good data collection, EWS agents and students were recruited as investigating officers. They received a training on the basic principles of HEA approach, content of data collection forms, calculations method of kilocalories and maintenance techniques. After the theoretical training, a sample neighbourhood (Kirkisseye in commune V) got visited as a practical case. The training took five days.

## **2.4 Reference year**

The HEA Baseline survey is intended to collect information for an entire consumption year called the reference year. It is a typical average year, which represents the reality of livelihoods of the area. In rural analyses the consumption (and reference) year begins with the month of the main crops. This definition is much more appropriate to the rural context where agricultural production is of great importance and food sources for the year are determined by the results of the agricultural campaign. From the urban understanding, the consumption year concept as a referential year seems irrelevant since the market is the only source of food supply and there is a greater similarity between years in terms of economic activities regardless of the year to consider. It is recommended taking the last 12 months preceding the survey as reference year for an urban baseline profile, namely because it will be easier for the surveyed population to remember. Nevertheless, the reference year should be a year free of extraordinary events which could somehow impact on local livelihoods. The reference year (12 months) is the one having information collected for. For the purpose of this study, the year covers the period from June 2014 to May 2015.

## ***2.5 Data collection in the field***

- **Markets survey**

The HEA approach has a field manual that must be updated for each study area. Therefore, a markets survey was conducted to determine units of local measurements, quantities and prices for the major consumer products. This step allows for the form 2 on procedures, known to be the market form, to be applied.

- **Survey in neighbourhoods samples**

Once the livelihoods area is identified and the 11 representative districts selected, a focus group was conducted within each district to gather general information. The HEA approach uses a variety of tools and methods of data collection which are qualified as participatory approaches and rapid assessment modules in urban areas. These methods allow to collect field data with key informants (card 3) or during groups' discussions (representatives of socio-economic groups) who hold a lot of useful information (form 4). Urban communities are indeed the ones best placed to describe how they cope with survival challenges and to which extend they are being exposed to risks related to food insecurity.

- **Stratification of households by socio-economic categories**

At each neighbourhood level, the community form (F3) was given during a group interview with key opinion leaders from the district (head of neighbourhood, religious chief, sages, and representatives of youth associations). This interview allows the identification of different socio-economic groups, their proportion (proportional bunch) and characteristics (household size, type of activities, daily expenditure, monthly income and assets property). Following this work, five (5) socio-economic groups were identified: the VP (group A), the P (Group B), the lower average (group C), the higher average (Group D) and the A (Group E). In addition to the stratification, information about the area such as economic activities and significant events were also collected.

- **Identification and quantification of food sources, sources of income and households expenditure patterns for the identified socio-economic categories**

Separate interviews were conducted in each sample districts with representatives of four (4) socioeconomic groups among the five (5) duly appointed by the different communities of the neighbourhoods.

The interview allowed to collect a bulk of socio-economic information of a typical household for each of the identified socio-economic groups. These are mainly food sources, income and expenditure items. An analysis of the risks, shocks, resilience of populations to cope with various shocks they face and the adopted strategies has been conducted.

An electronic database (Excel), specially designed for HEA studies, allowed to store the collected data, to perform the necessary monitoring for quality data and to conduct a mid-term and endline analysis of data.

## ***2.6 Difficulties***

Similarly to other urban survey works, this data collection has experienced some difficulties, with the main ones exposed below:

- Difficulties in mobilizing community representatives, namely men, in the targeted neighbourhoods due to their involvement in professional activities. This situation sometimes led the team to spent hours in a neighbourhood before starting the interviews process that were sometimes conducted with women only
- Difficulty in differentiating the VP and P groups during the F4 interviews
- The unavailability of representatives of A groups, which led the team to not interview them despite their existence in the neighbourhoods
- Difficulties in performing the calculations by investigating officers during the early days of data collection
- The F4 questionnaire seems to be too long, resulting in tiredness of the respondents towards the end of the interview

## **III Presentation and analysis of results**

### ***3.1 History of events/risks experienced and provided responses***

Discussions with communities during the first set of group interviews in the visited districts helped to identify the significant events experienced by households in the city of Niamey in the last five years. To tackle these problems, relevant actions were taken to limit the consequential impacts. These events as well as the adequate responses thereto are summarized in table 2.

Year	Performance (1 to 5)	Events	Responses
2015	3	<ul style="list-style-type: none"> <li>- Meningitis</li> <li>- Malaria</li> <li>- Food price increase</li> <li>- Lower turnover in trading</li> <li>- Conflict in Mali and Nigeria</li> <li>- Isolated cases of delinquency</li> </ul>	<ul style="list-style-type: none"> <li>- Vaccination and treatment against meningitis</li> <li>- Treatment against malaria</li> <li>- Invocation to win customers loyalty</li> <li>- Invocation for peace</li> <li>- Police information about delinquency cases non-manageable by communities</li> </ul>
2014	3	<ul style="list-style-type: none"> <li>- Localized Flooding</li> <li>- Malaria</li> <li>- Food price increase</li> <li>- Lower turnover in trading</li> <li>- Conflict in Mali and Nigeria</li> <li>- Isolated cases of delinquency</li> </ul>	<ul style="list-style-type: none"> <li>- Water evacuation</li> <li>- Treatment against malaria</li> <li>- Invocation to win customers loyalty</li> <li>- Invocation for peace</li> <li>- Police information about delinquency cases non-manageable by communities</li> </ul>
2013	3	<ul style="list-style-type: none"> <li>- Localized Flooding</li> <li>- Malaria</li> <li>- Food price increase</li> <li>- Lower turnover in trading</li> <li>- Conflict in Libya</li> <li>- Isolated cases of delinquency</li> </ul>	<ul style="list-style-type: none"> <li>- Water evacuation</li> <li>- Treatment against malaria</li> <li>- Invocation to win customers loyalty</li> <li>- Invocation for peace</li> <li>- Police information about delinquency cases non-manageable by communities</li> </ul>
2012	3	<ul style="list-style-type: none"> <li>- Localized Flooding</li> <li>- Malaria</li> <li>- Food price increase</li> <li>- Lower turnover in trading</li> <li>- Conflict in Libya</li> <li>- Isolated cases of delinquency</li> </ul>	<ul style="list-style-type: none"> <li>- Water evacuation</li> <li>- Treatment against malaria</li> <li>- Invocation to win customers loyalty</li> <li>- Invocation for peace</li> <li>- Police information about delinquency cases non-manageable by communities</li> </ul>
2011	2	<ul style="list-style-type: none"> <li>- Food insecurity at national level (agricultural campaigns failure)</li> <li>- Malaria</li> <li>- Food price increase</li> <li>- Lower turnover in trading</li> <li>- Putsch</li> <li>- Isolated cases of delinquency</li> </ul>	<ul style="list-style-type: none"> <li>- Free distribution of food,</li> <li>- Treatment against malaria</li> <li>- Invocation to win customers loyalty</li> <li>- Invocation for peace</li> <li>- Police information about delinquency cases non-manageable by communities</li> </ul>

Years are sorted out against each other per the following rating scale:

5 = excellent year for the household food security (e.g. low prices, good wages, etc.)

4 = good year or year above average for the household food security

3 = average year from the food security point of view

2 = year below average for household food security

1 = bad year for the household food security (e.g. high prices, low wages, etc.)

*Table 2: Events/risks and responses made over the 5 past years in Niamey*

It appears from this table that the main events/risks identified are the following: meningitis, malaria, food price increase, lower turnover in trading, food insecurity, conflicts in neighbouring countries and delinquency. The responses to manage these risks were:

vaccination and treatment against diseases, invocations, water evacuation, free food distribution and authorities' information. Some of the responses are brought by communities and others by governmental entities and its partners.

One can notice that, excepted year 2011, the same performance is being observed during all years (score 3). This shows that in a city such as Niamey, livelihoods of the whole population are much more stable than those of rural areas.

**3.2 Seasonality schedule of some elements of the risks**

With the setting of this schedule, the objective is to get a clear understanding of the seasonality of some key elements of the risks being faced by households in Niamey. The seasonality is presented in the below figure 2.

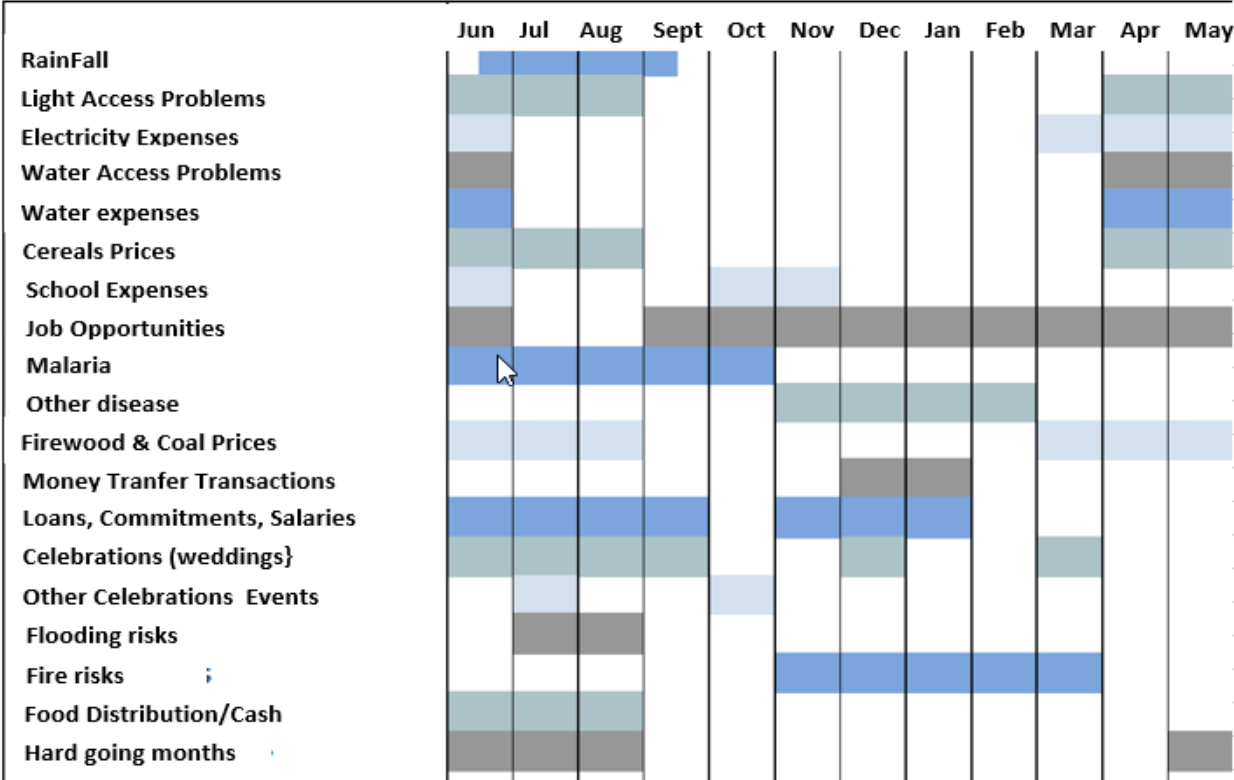


Figure 2: Risk seasonality calendar

In Niamey, the warm period is characterized by electricity and water availability disruption. As a result, people from Niamey are repeatedly exposed to power cuts from April to August. However, expenses for electricity are higher during the period from March to June. Full access to water issue and the peaks of expenses related thereto occurs from April to June. Cereals prices get to the higher level from April to August which corresponds to the hard period commonly known as the lean period in rural areas. It is a period where access to food is difficult especially for the VP and P households not only because of the inadequacy of their buying power but also due to the high cost of food as a result of the decrease of supply. School expenses are more important at the beginning of the school year (October) and the end of year (June).

Malaria is more intensive from June to October because of the rainy season period that is a contributing factor to the proliferation of mosquitoes. Other diseases, namely respiratory, are intense during the cold period ranging from November to February. Wood and coal become more expensive from March to August as a result of their unavailability. Loans for food needs are contracted from June to September by lower average households, including the P and VP. Reimbursements of loans are made from November to January. Weddings celebrations are intensified during the school vacations period (June-September) and during the months of leave (December and March). During the rainy season, the risk of flooding is much more important from July to August. That period is when the overflow of the river intervenes and causes flooding. Some cases of reported fires occur from November to March. Vulnerable households receive official aid from the government and its partners during the difficult period and specifically from June to August.

### 3.3 Socio-economic stratification

To better understand the conditions of living of the households, a typology is needed. Based on possession of wealth and economic activities, surveyed communities categorized households of their neighbourhood into 5 socio-economic groups. These are: very poor (A) which are the most vulnerable in the community, poor (B) which are a bit better-off than very poor but very vulnerable, lower means (M-) moderately vulnerable, higher means (M+) weakly vulnerable and well-off (E) not vulnerable. The distinguishing features that define these different household types are summarized in table 3.



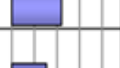

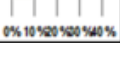
Characteristics of Socioeconomic groups											
		Household size dependent persons	Monthly Expenses CFA francs	AGR Type	Active pers. per househ	Productive assets	House type	Education Level	Toilet type	Access to water	Access to light
A		8 (7 à 9)	88300	Labor domestic work	3 (3 à 4)	none	straw hut	Primary	open latrine	fountain	Battery lamp
B		8 (7 à 10)	118000	domestic work	3 (3 à 4)	Bike	Earth material	Secondaire	open latrine	fountain	Battery lamp
C		11 (10 à 14)	263000	Small business	4 (3 à 6)	Bicke, motoped	Mixed	High	Fake latrine	Home Tap	Electricity
D		12 (10 à 15)	510000	Business, senior official	5 (3 à 6)	Bike, car, motoped, house rent	Cement	High	WC	Home Tap	Electricity
E		14 (13 à 17)	Non déterminé	Business entrepreneur	5 (3 à 6)	Bike, car, motoped, house rent	Cement	High	WC	Home Tap	Electricity

Table 3: Stratification of socio-economic households

So, household size remains the same among VP and P groups but gets increasing from P to A. This difference is due to the conjugal structure of households (typically monogamous among P and VP and polygamous in the middle and affluent classes). The monthly income grows significantly from VP to A. It should be emphasized that this revenue estimation was made



on the basis of the global picture of cumulative revenues. The type of activities and the number of assets are elements explaining the difference in income.

Productive assets are also concentrated in the hands of middle and affluent classes. These assets are constitutive of wealth determination in urban communities in Niamey. The VP and P live in houses made of straw and banco, lower middle classes in mixed material houses (banco and solid materials) and the upper middle classes along with affluent classes in solid-material construction. Should a flooding occur, the VP and P households are the most affected ones because of the weak structure of their houses. Yet the impact of the flooding is worse for these vulnerable households whose house can be quickly destroyed. However, given that households live in the same area, the probability of being hit by floods is not only related to the socioeconomic status of households and the negative effects can affect all the inhabitants of the affected area.

The P and VP only have rudimentary open septic tanks as domestic toilet facility in their houses. A latrine pit is characteristic of the lower middle households while the upper middle households and wealthy ones have modern toilets facilities. To access water, the VP and P households must buy from standpipes installed in the neighbourhood streets while other households (middle and wealthy classes) have running water taps in their houses. Among the VP and P households, access to electricity is only through battery-powered lamps. On the other hand, middle classes and wealthier households have access to electricity through the national electricity network. Finally, the bulk of the wealth is concentrated in the hands of middle and wealthier households.

Generally speaking, the level of education increases with wealth. In group A primary school level is predominant and in group B it is the secondary school level. By contrast, in the majority of average and well-off households at least one person has reached the post-secondary level.

Taking into account these characteristics provided by the communities, the proportion of households of different wealthy groups is 28%, 26%, 22%, 15% and 9% respectively for the VP, P, lower middle classes, upper middle classes, A classes. Accordingly, over 50% of Niamey urban neighbourhoods' population samples are poor.

### ***3.4 Ranking of risks identified***

The seven risks identified in a preliminary study on the risks in Niamey were the subject of a ranking with neighbourhoods' communities of the study. The seven risks were written on seven pieces of paper. During the community interview, populations were asked to rank these seven risks on the basis of their impact on their lives. The ranking in table 4 came out of this exercise.

<b>Ranking number</b>	<b>Risk</b>	<b>Observations</b>
1	Sanitation	Some household members are victims, several cases

		within the year.
2	Food Insecurity	Rarely in the year, people manage to have something to eat. P and VP households are the most exposed to this risk.
3	Flood	This risk occurs every year but it does not prevent people from earning their living. Disaster victims do also receive aids.
4	Employment	The lack of jobs opportunities is the primary cause of poverty affecting many households in Niamey. This risk also entails other risks.
5	Delinquency	One or two household members are victims and that risk occurs rarely in the course of the year.
6	School drop-out	It has long-term impacts on household income.
7	Conflict in neighbouring countries	There are very few persons from Niamey who go in exodus to neighbouring countries. The impact of this risk is negligible over Niamey inhabitants.

*Table 4: Ranking of identified risks*

Damages caused by the risk and its frequency are the criteria that enabled people to set up the classification of the different identified risks. Based on that criteria, the health risk is ranked at the first position level, food insecurity is in second, flooding in third, lack of employment risk in fourth, delinquency in fifth, school dropout in sixth and finally conflict in neighbouring country in seventh position.

The risks of food insecurity, unemployment and school drop-out are specific to VP and P groups because of their low buying power. Health, flood and conflict risks are common to all wealth groups even though the consequences are greater among VP and P. A further study on the impact of different risks at household level would be needed to validate this list, which is based on a fairly subjective understanding of the magnitude of risk impacts (every interviewed household can have its own understanding and give a very different classification depending on what it experienced before and its personal reality).

### ***3.5 Analysis of some elements related to identified risks***

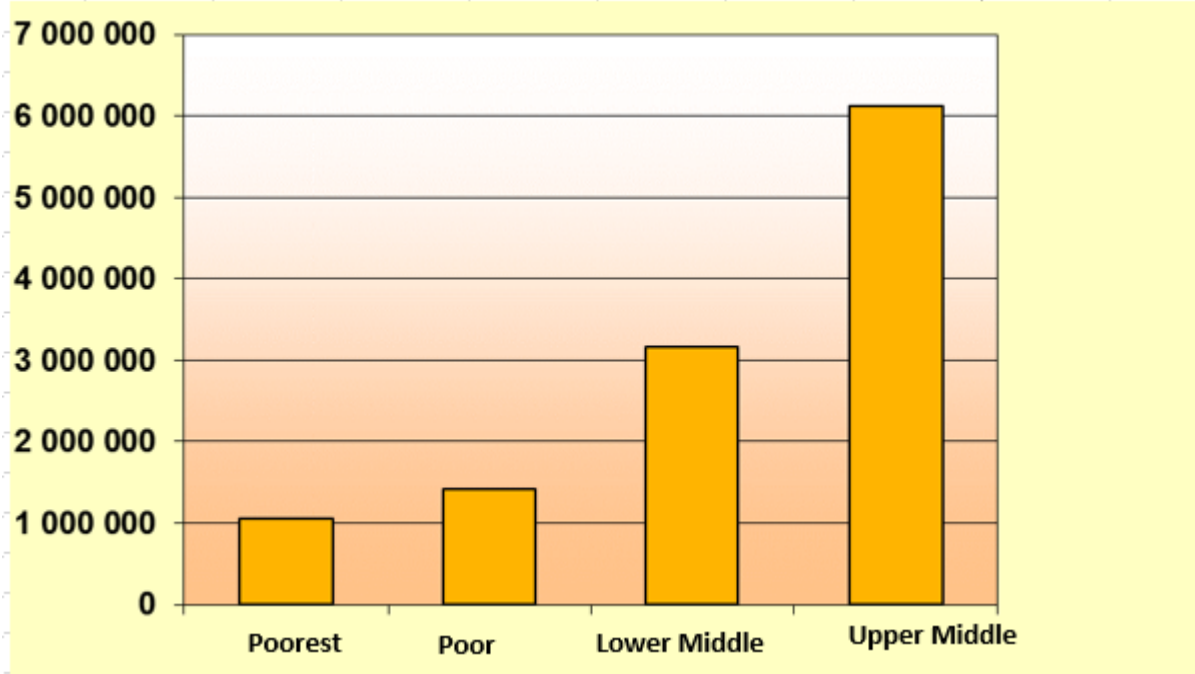
The HEA analysis framework focuses on the understanding of local livelihoods through the quantification of three data types: food sources, expenditure items and income level, the three components being disaggregated by socio-economic stratum.

Thus, the frame can be used to analyse some of the risks identified referring to these three elements. This analysis therefore relates to risks that HEA data address more directly. Addressed key issues are related to employment, health, food insecurity and school drop-

out. The link between livelihoods and specific economic impacts of flooding, delinquency and crises in neighbouring countries is less clear and collected data on households' economy do not directly address those issues, consequently these three risks are not developed in this report.

**3.5.1 Source of income as a component linked to employment risk**

The analysis of net income sources allows to realize that the majority of the area households depend on the selling of their workforce to have incomes. This income is insufficient for the P and VP groups compared to the middle group. The income for upper middle is more than 5 times higher than that of the VP and more than 4 times that of the P. As a result, over the last 12 months preceding the survey, average incomes are about 1,059,500 FCFA (A), 1,416,000 FCFA, 3,156,000 FCFA and 6 120 000 FCFA respectively in the four groups. Figure 3 below shows the average annual income of the different socio-economic groups.



*Figure 3: Socio-economic groups' income*

Local workforce, domestic work and retail shop (on a very small scale) are the main income activities observed in the P and VP groups. In middle classes however, trade and wage labour are the main activities income. The activities of poor and poorest groups are of hazardous nature, which expose them to more risk of job loss as compared to the middle classes.

**3.5.2 Health expenditure serving as elements related to health risk**

Health expenditures include the purchase of medicines, services, water, hygiene and sanitation as shown in figure 4. The purchase of medicines and services are made through itinerant sellers and public health centres for P and VP households because of their low

buying power. Middle group households can afford to procure medicines in official pharmacies and public/private health centres thanks to their more significant purchasing power.

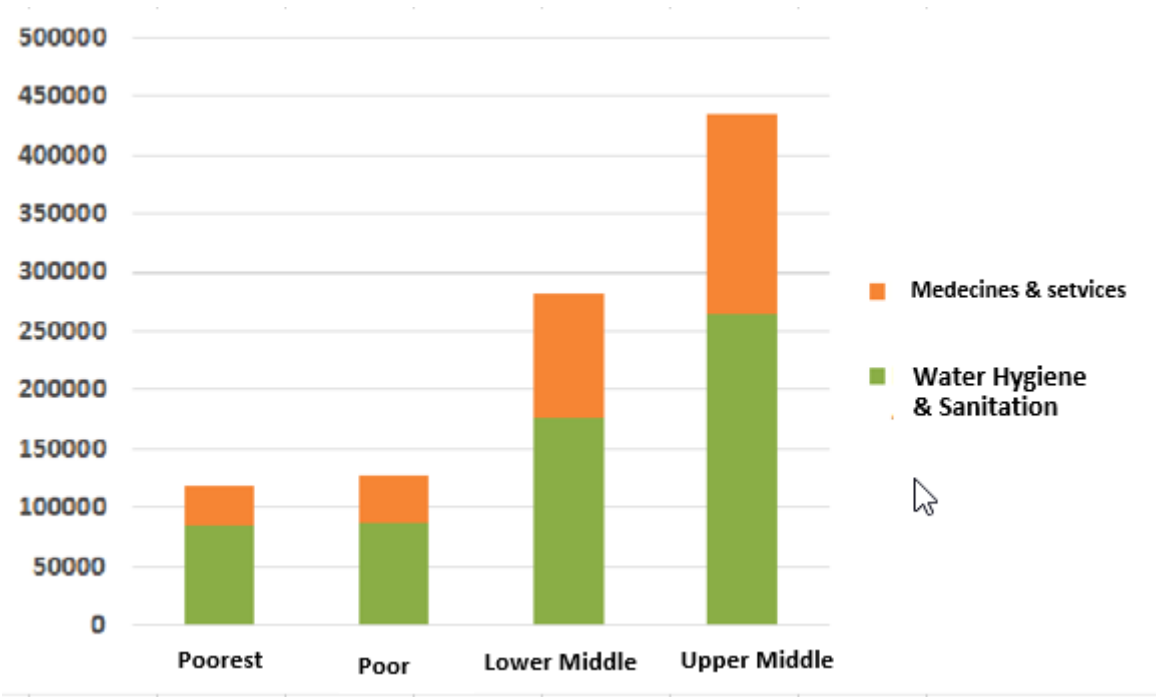


Figure 4: Health expenditures by socio-economic group

During the last 12 months preceding the survey, the average health expenditures are amounting to: 118,750 FCFA, 127,600 FCFA, 281,400 FCFA and 435,000 FCFA respectively for the VP, the P, the lower middle and higher middle groups. Thus, it can be noted that health spending increases from VP to middle groups. These expenses represent of 11% (A), 9% (B), 9% (C) and 7% (D) are respectively representatives of total expenditures figures for the four socio-economic groups.

**3.5.3 Sources and food expenses as factors related to the risk of food insecurity**

Three main food sources allow VP and P households from study neighbourhoods to cover their minimum energy needs. These are: purchase of basic and other various food, gift/zakat and meals in others’ houses. One source (purchase of basic food and other various food) allows households to cover their minimum energy requirements. During the last 12 months prior to data collection, the average coverage for energy minimum requirement is 99%, 102%, 110% and 113%, respectively for the VP, P, lower middle and upper middle typical households. These sources and their contribution to the different socio-economic groups are shown in figure 5.

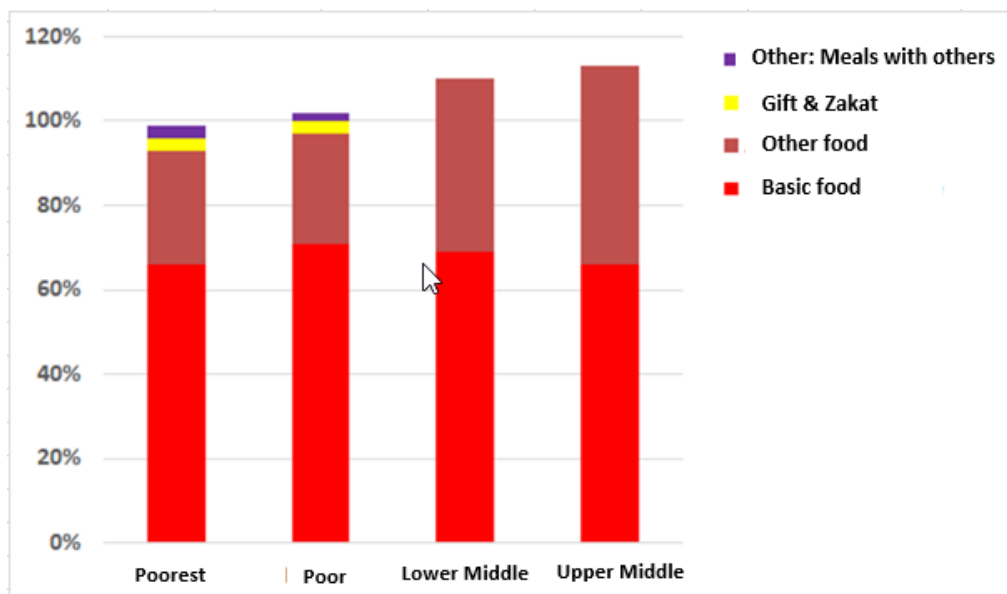
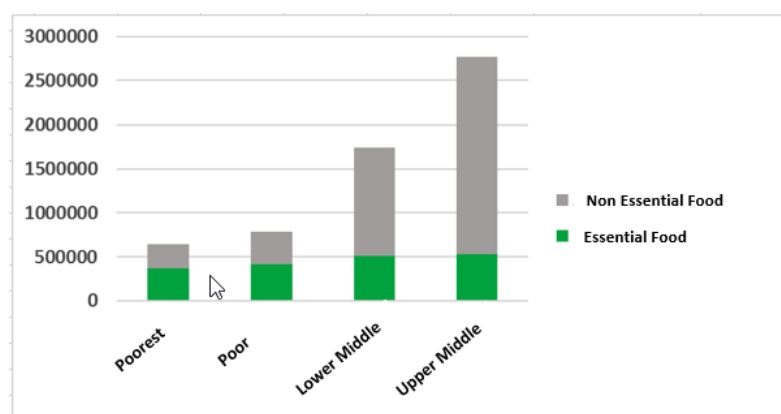


Figure 5: Sources of food by socio-economic group

Whatever the socio-economic group being considered, basic food is the primary source of food, then comes other various foods. In VP and P households, the market provides 93% and 98% of their energy minimum requirement coverage. As for middle income households (lower and upper) all consumed food comes from the market. These data indicate that all households are closely bound to the market for procuring their food, which is thereby an evidence of their vulnerability to risks associated with possible market disruption. Should that risk arise, the VP and P households are the most affected because their annual budget flexibility is very limited. The food circuit seems kind of simple in Niamey. As a matter of fact, the VP and P households buy in detail from neighbourhood shopkeepers while the middle groups usually stock up on food in wholesale market and bigger city markets. Shopkeepers buy from wholesalers located in small and super markets. These wholesalers buy mainly from surrounding countries (Nigeria, Ivory Coast, Algeria and Libya).

Average annual food expenditures are 643,770 FCFA (A), 781,805 FCFA (B), 1,745,290 FCFA (C) and 2,765,525 FCFA (D) respectively for VP, P, lower middle and upper middle groups. These figures represent 61% (A), 56% (B), 58% (C) and 45% (D) of total household expenditures in the four socio-economic groups. Figure 6 shows the food expenditures in the four groups.

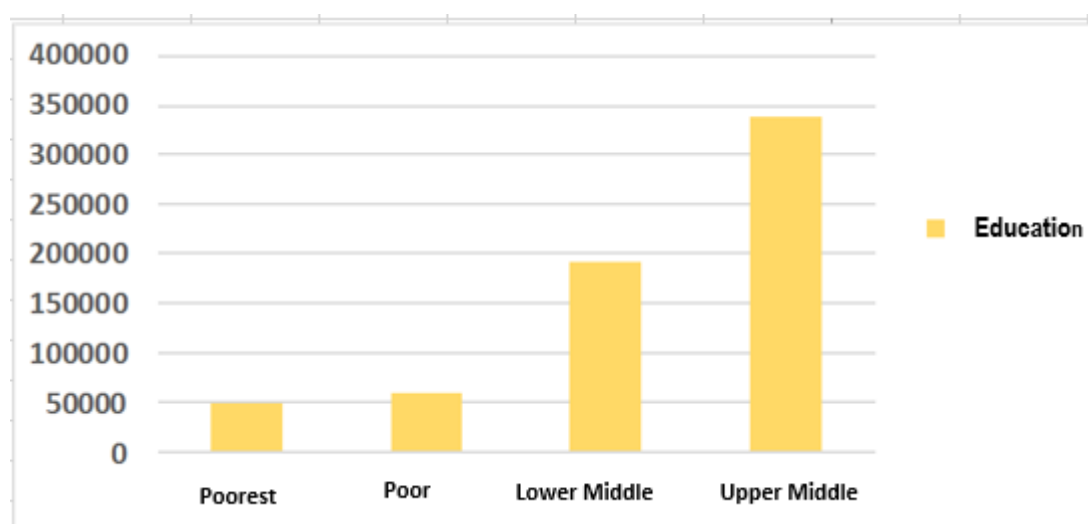


*Figure 6: Food expenditures by socio-economic group*

The figure shows that food expenditures increase from the VP to upper middle groups. Potential reasons for this are the number of persons in charge and the richer and more diversified diet in the better-off households, linked to their buying power.

### **3.5.4 Educational expenditure as factor related to the risk of school dropout**

Education is also an important expenditure item for all socio-economic groups as shown in figure 7. The various items of expenditure related to education include school supplies, uniforms, pocket money and contributions. The average number of students by wealth group is 3 (A), 3 (B), 4(C) and 5 (D). During the 9 months of the school year, students' average spending is 49,525 FCFA (A), 60,125 FCFA (B), 191,250 FCFA (C) and 338,800 FCFA (D). These figures represent 5% (A), 4% (B), 6% (C) and 6% (D) of households' cumulative expenditures.



*Figure 7: Educational expenditure by wealth group*

Expenditures in education increase from VP to upper middle groups. This can be explained by the number of children going to school, the purchasing power and on the fact that they are going to a public or private school. This partly explains the low level of education in these vulnerable households. This category of households does not have the adequate purchasing power to enrol their children in private schools if they are excluded from public ones or to give additional educational support (e.g. remedial classes).

### **3.6 Other expenditure items**

Other expenses are as diverse as possible and are necessary for the survival or the protection of households' livelihoods. For the 12 months preceding the survey, these various expenses are 242,850 FCFA (A), 419,850 FCFA (B), 781,400 FCFA (C) and 2,554,050 FCFA (D) in average. These expenses account for 23% (A), 31% (B), 27% (C) and 42% (D) of total spending in the four groups. Figure 8 shows other households expenditures by socioeconomic group.

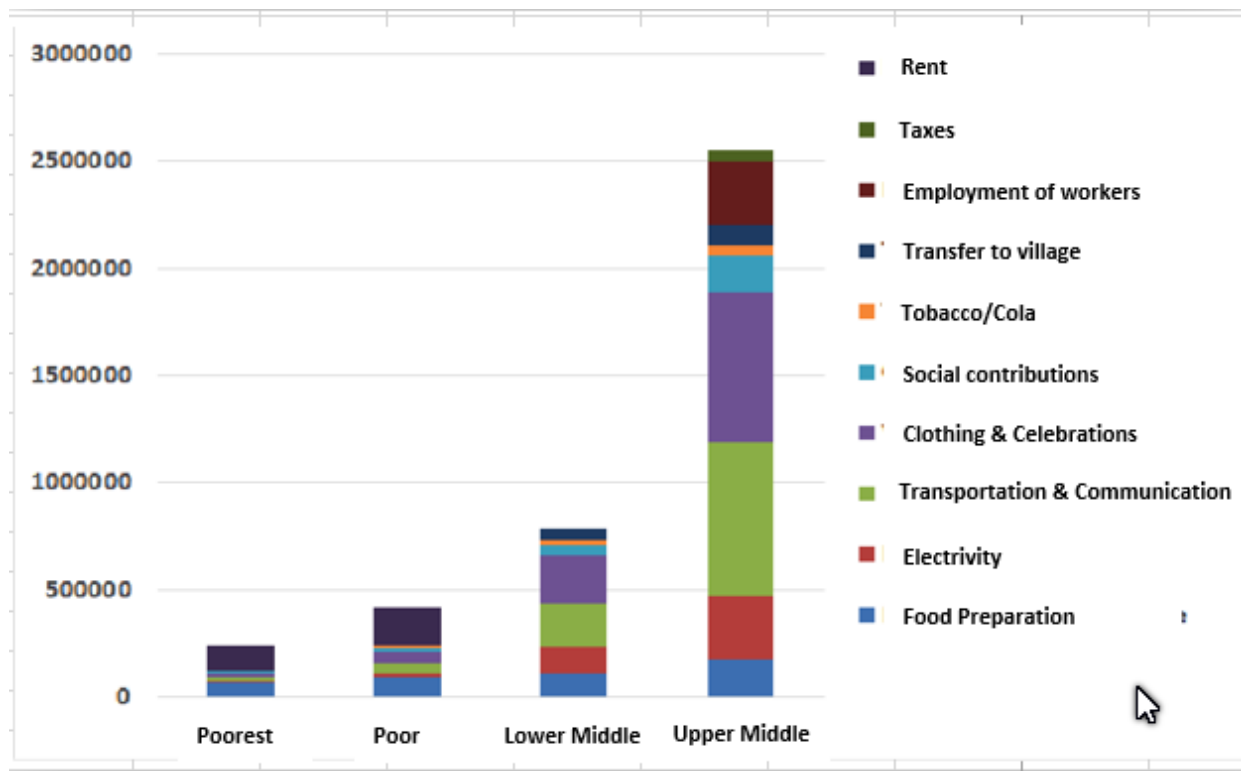


Figure 8: Other expenditure by socio-economic group

House rent, food preparing costs and clothing/celebrations events are the main three other expenditures in VP and P households. Transport/communication, clothing/celebrations events and food preparing costs are the three main other expenses in lower middle households. Transport/communication, clothing/celebrations events and electricity/employment charges are the three main other expenses in higher middle households.

### 3.7 Coping Strategies

Coping strategies of urban households in Niamey can be classified into 2 big groups: those which consist in increasing income and food sources and those leading to reducing sources of food and other household expenses.

The first group includes:

- Increase of donations in kind and money lending and credit purchase of food in the VP and P households
- Intensification of small businesses in the lower and upper middle households

Strategies on reduction of sources of foods and other expenses include:

- Decrease of 50% in non-food expenses like tea or condiments
- Decrease of 25% to 50% in cereals quantities such as millet, rice and pasta in VP, P and lower middle households
- Decrease of 25% to 75% of leguminous plants such as cowpeas and groundnuts

- 50% reduction in prepared foods

Some of these coping strategies have negative impact on the survival and others on the livelihoods protection of VP, P and even lower middle households. It is therefore crucial that the public power and its development partners put in place measures in order to prevent households from putting into practice those strategies that harm their livelihoods.

## **Conclusion and Recommendations**

The economy of people in vulnerable neighbourhoods and at risk of flooding in the city of Niamey is heavily dependent on the labour market. The VP and P households depend on the workforce to eat while the economy of middle and upper households is based on trade and employment in the private and public sectors. The market is the main source of food regardless of the socio-economic group considered. Despite this dependence, all wealth groups covered their minimum food needs during the last 12 months preceding the survey.

Ranked by order of importance of negative impact, the most significant risks for vulnerable populations in Niamey are: health risk, food insecurity, flooding, risk of unemployment, delinquency, school drop-out and conflict in neighbouring countries. All these risks result in loss of livelihoods for these people.

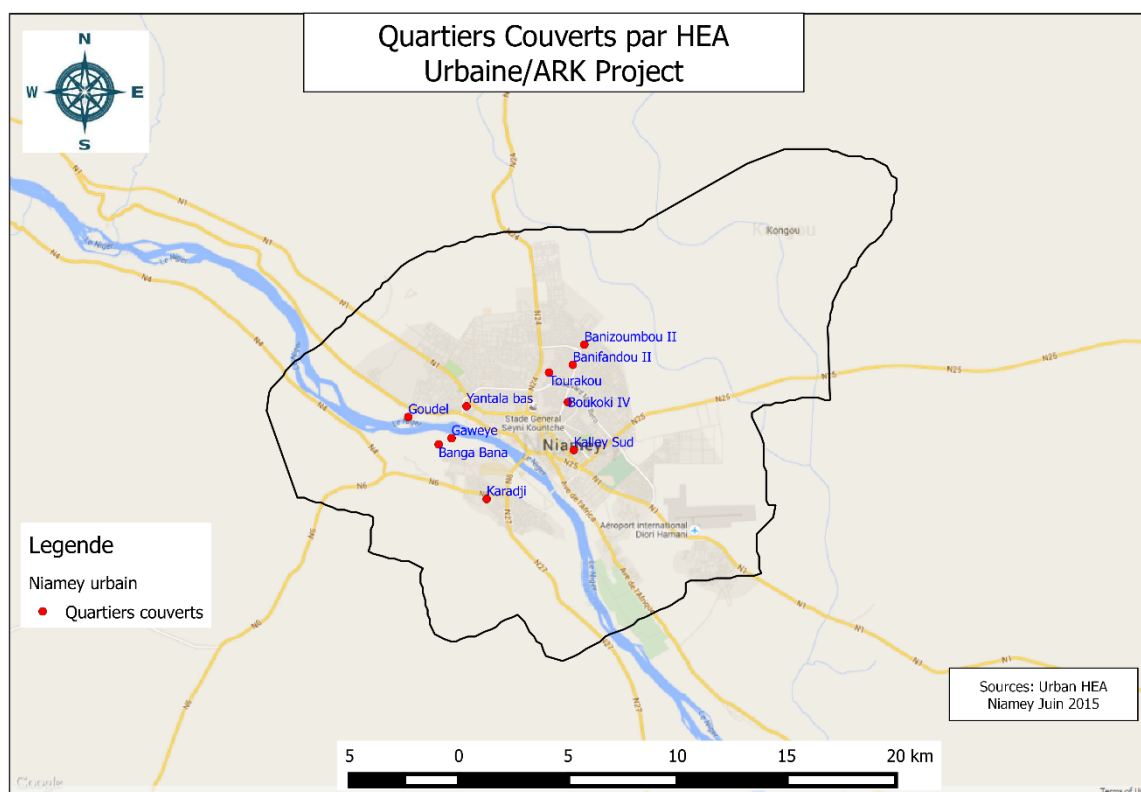
In case of bad year, households develop coping strategies. Some of these strategies affect the survival and others the protection of livelihoods. These coping strategies of urban households are divided into two groups: those which consist in increasing income sources and those leading in reducing sources of food and other household expenses.

The information from this study can help identify the most vulnerable groups in Niamey in order to conduct the research activities of the URBAN ARK project. Women and children samples must be identified at the VP and P households' levels to conduct studies on socio-economic impacts of unemployment, health, delinquency, school drop-out and flooding risks.



## Appendixes

### Appendix 1: Sampling Map



### Appendix 2: Team

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