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## **The assessment of food vulnerability in Sahel countries: case of the early alert system of Niger**

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### **Introduction**

The definition of food vulnerability is multidisciplinary and is linked to food security. Many agencies use food vulnerability to select target population of different rural projects. Niger is one on the poorest countries on the World. In Niger, the early alert system and the national statistical institute define the food vulnerability as « the analysis of adaptation mechanisms and reaction faced with a difficult situation. If the mechanisms aren't effective, the household is in a temporary or structural vulnerability situation » (SAP and INS, 2010). In the country, we can observe two types of food insecurity: the structural and the cyclical insecurity. The structural insecurity depends on poverty and climatic hazards. The cyclical insecurity affects a layer of the population each year especially the rural household (CC/SAP, 2008). The early alert system of Niger has existed since 1989. This system analyses the food vulnerability every year and every month in each department. The early alert system characterizes the annual vulnerability for each department and this analysis is made for determine the most vulnerable departments who will receive a monthly monitoring (CC/SAP, 2004). This annual analysis identifies the area and the population most at risk. Initially, the objectives of early alert system are (Republic of the Niger, 2002):

- To treat, to collect and to diffuse the information of the different departments
- To monitor the evolution of the food vulnerability of each departments

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In 2002, the early alert system is integrated to the national system of prevention and handling of crisis. The early alert system is the executive organ of the national system of prevention and handling of crisis (CC/SAP, 2008).

## **Methodology**

This paper and this poster are realized from a revue of the literature and discussions with the members of the early alert system. Discussions took place during two missions in Niger: June-July and October-December in 2010. These researches have been lead within the framework of a research group in support of Belgian policy in food and agriculture in Africa. This group consists of researchers of African universities (University Abdou Moumouni of Niamey and University of Kinshasa) and Belgian universities (University of Liege, Gembloux Agro-Bio Tech, Catholic University of Louvain). This research group formulates the propositions to fight against hunger. The principal objective is to analyze the causes and the consequences of food security in the African countries: case of the Democratic Republic of Congo and the Republic of the Niger. The assessment of the food vulnerability in Niger is very important because it's the principal resource to determine the area of action. The propositions to fight against the food insecurity are formulated for the General Direction of the Belgian Development Cooperation (DGCD) and the Belgian Technical Cooperation (BTC)<sup>2</sup>.

## **Result and discussion**

### **The methodology of the food vulnerability assessment**

Every year, by the end of the agricultural campaign, the monitoring draws up a vulnerability index. This index varies between zero and one hundred. Each department is classified in four classes: famine condition (from 76 to 100); extremely vulnerable (51 to 75); vulnerable (26 to 50); relatively vulnerable (0 to 25). The calculation of this index is realized from data in an identification form. In this form, ten variables are identified: the rainfall situation; the food crop production; the cash crop production; the pastoral situation; the income sources; the market prices; the nutritional and health situation; the alert component; the adjustment capacities; the diagnostic of the previous year. Those data are analyzed with the information of designation form (CC/SAP, 2005). The notation is obtained after application of a weighting on some variables (Table 1).

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<sup>2</sup> For further informations over this research group in support of Belgian policy in food and agriculture in Africa consult the website <http://www.grap3a.be>

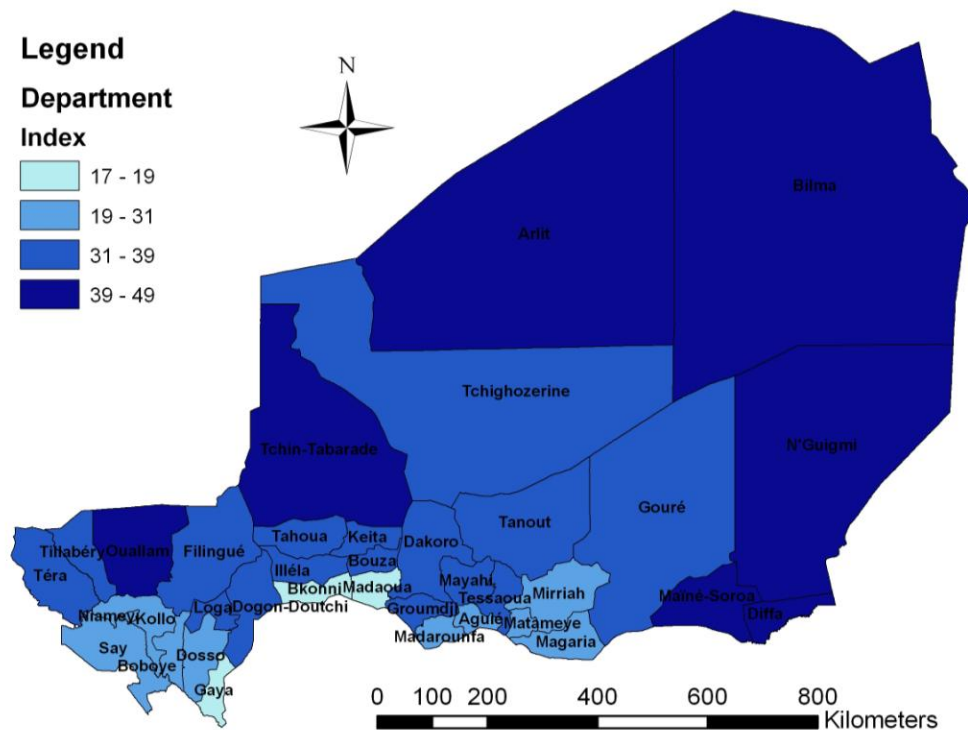
**Table 1 : The ten variables of the food vulnerability index of the early alert system**

Variables	Value
Rainfall status	9
Food crop production	50*balance coefficient
Cash crops production	50*balance coefficient
Pastoral situation	50*balance coefficient
Secondary income resource	50*balance coefficient
State of the market prices	10
Nutritional and health situation	6
Alert element	5
Adjustment capacity	10
Last year diagnostic	10

In November, the group of the national system of prevention and handling of crisis gathers to determine the final index. This meeting examines the final data of the agricultural campaign (the price, the commercialization, the second activities and the adaptation strategy of the household).

### Case of the assessment of the food vulnerability of the population of Niger

In 1992-2007, the index mean of food vulnerability per department of the Republic of the Niger is represented in the Figure 2 (CC/SAP, 2008). This example explains the use of this index. It characterizes each department and defines a risk department classification. The Department of Tchín-Tabarade groups together Abakak and Tchín Tabarade.



**Figure 2: The mean (1992-2007) of the index of the department of the Republic of the Niger<sup>3</sup>**

<sup>3</sup> The classes of this figure aren't those of EAS. They are presented because they are most representative to show the vulnerability of the departments of Niger

This index indicates the departments who should have a monthly monitoring and proposes the actions that decrease the food crisis in these. In this case, the monitoring is called “permanent monitoring”. It estimates more specifically the food vulnerability of these departments. (CC/SAP, 2005; CC/SAP, 2008).

## **Conclusion**

In conclusion, the most vulnerable departments in the Niger during the period 1992-2007 are Ouallam, Arlit, Bilma, N’Guigmi, Diffa, Tchintabaraden, Abalak and Maine Soroa. Any department is not extremely vulnerable but many departments are vulnerable. Between 1992 and 2007, the agro-pastoral and pastoral departments are most vulnerable. These departments are located in North of the Republic of the Niger. In the Niger, for many reasons (cyclical and structural insecurity) the food vulnerability is very difficult to characterize. But this assessment of the early alert system is the only methodology common to all departments of the Republic of Niger. However, this analysis doesn’t consider the economical and physical accessibility.

## **Reference**

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