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Development and Implementation of a Community Early Warning System and Emergency Responses (CEWS-ER) in Niger

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Objectives: The United States Agency for International Development (USAID) Office for Food for Peace now requires that Title II programs include an early warning and response system. However, documentation of the creation and impacts of these systems is limited. This paper describes the process that was used to develop Africare's first community early warning system and emergency responses (CEWS-ER)^{iv} as part of its Title II food security program in the Agadez region of Niger. This particular program was initially developed in collaboration with CARE as part of a consortium that implemented a food security initiative in Niger. The current CEWS-ER has evolved from the initial CARE model to take into account the unique features of the arid Agadez region, including the creation of an innovative community development fund component for emergency response that can be used for short-term relief. The Agadez CEWS-ER is widely regarded as an Africare successful story on early warning and response systems, making it an exemplary system to document and use as a model for the development of future systems.^v In addition to step by step instructions for creating the CEWS-ER (that have benefited from lessons learned over the last four years of using the system in Agadez) this paper also presents recommendations for ways to track the effectiveness and impacts of such systems.

Background:

USAID/FFP Support for Early Warning and Response Systems in Title II Programs. As outlined in Diallo et al. (2008; AFSR No. 17: 1):

Shocks such as major droughts, floods, and earthquakes can destroy years of government and donor investment and development over night. Prior to 2006, most Title II food security projects had only two options for responding to these types of crises. They could divert funds from the development activities to an emergency response and/or seek supplemental funding from another donor. Neither response was entirely satisfactory. First, the response often diverted critical food, investment, and human resources away from activities that the project needed to achieve long-term development goals and objectives (Mathys 2007). In addition, in most cases the system for alerting either the government or external donors to the crisis was managed by outsiders and unlikely to be sustainable once project funding ended. Given the growing body of empirical data that show that this type of crisis-driven response was more the norm than the exception, USAID started requiring new projects to incorporate "early warning and response mechanisms, including trigger indicators" into any Title II-supported multi year assistance program (MYAPs) (Mathys 2007).

To address the gap in guidance on how to develop, implement, and track community based early warning and response systems Africare:

- Commissioned an intensive case study of risk and shock management on two of its older Title II programs (Guinea [FY01-FY04 plus extension] and Uganda [FY07-FY01 and FY02-FY06]) that didn't have formal early warning

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- and response systems, but that had elements and activities that assisted in managing risk and shocks (McMillan 2006; McMillan et al. 2006; Sidibé et al. 2007, AFSR No. 8; Pogba et al. 2007, AFSR No. 7; Tushemerirwe and McMillan 2007, AFSR No. 6) and
- Undertook a review of the early warning and response systems Africare had or was in the process of implementing through staff presentations at two ICB-sponsored workshops in 2007 and 2008 on two programs (Niger [FY02-FY07] and Burkina [FY 05-FY09]) that created formal CEWS-ER as part of their second phase of Title II funding and documentation (through this technical paper) of those experiences and resulting recommendations for future early warning system development.

The Food Security Initiative in Niger (FSIN) in Agadez. Like most of the older Title II programs, the first phase of the Food Security Initiative in Niger (FSIN) at Agadez (FY02-FY07^{vi}) was a classic Title II program focused on improving aggregate food security through targeted interventions to increase food availability, access, and utilization. These activities, as well as the project's monitoring and impact indicators, focused on three strategic objectives (SOs):

- SO1: Increased community capacity to address food security problems,
- SO2: Increased agricultural production and environmental protection, and
- SO3: Improve household nutrition.

The FSIN project was executed as part of a consortium that included CARE, Catholic Relief Services (CRS), and Helen Keller International (HKI), as well as Africare. One unique feature was the decision to create an emergency unit under CARE that programs could use to access a stock of Title II food for emergencies in all five project intervention areas in the consortium. The original proposal anticipated creation of a small emergency fund and an early warning crisis monitoring system based on traditional knowledge and the interpretation of natural and social phenomena. The emergency unit was based in the CARE office at Konni. The training and conceptualization of the program drew heavily from CARE's experiences in other countries.

During the first fiscal year of the grant, CARE conducted a formal five-day training session (July 15-19, 2002) on the early warning and response method for senior staff in the four NGOs responsible for execution of the Food Security Initiative in Niger (CRS, CARE, HKI, and Africare) (Table 1). Each trained member of the consortium (like Africare) then trained their own extension staff and pilot tested the CEWS-ER model in five of its project villages. This initial test helped Africare—and CARE—better understand how the system would need to be adapted to Niger and to the cultural and ecological characteristics of the project intervention areas. In contrast to many other interventions, which often took considerable time to be accepted, the CEWS-ER became one of the few project activities around which all the Africare pilot project villages rallied almost immediately. The test was scaled up to ten villages in 2004. In conjunction with the FY06 one year extension of the FSIN project, Africare extended the system to all 60 of its project villages in Agadez.

In contrast to the first phase of the project when the village-level training to execute the CEWS-ER was added for the non-CARE villages, the new Africare project (the Agadez and Tillabari Food Security Initiative [ATFSI]), which started in FY07, made the CEWS-ER activities a central focus of its SO1 community capacity building efforts by assigning an entire intermediate result (IR) to this system (IR1.2). The current program has evolved from the initial approach to one that takes into account the unique features of the arid Agadez region, including creation of an innovative system of community development funds that can be used for short-term relief. Under the new project, Africare is planning to gradually introduce the improved (based on the pilot experience) CEWS-ER into a new project intervention area further south that includes 40 new villages in three communes in northern Tillaberi. Parallel to this, ATFSI is planning to assist the communal and department level officials in both regions (Agadez and Tillaberi) in development of coordinating committees that are mandated by the Government of Niger's own early warning efforts.^{vii} These committees are composed of representatives of the relevant technical services and communal councils. They are also helping to support creation of the "vulnerability survey observers" who will be part of the national early warning and response

Table 1. Important Actions in Evolution of CEWS-ER in Africare Project Villages in Agadez, Niger

Date	Activities
Aug 2001	Approval of Development Assistance Proposal for the Food Security Initiative in Niger with an Emergency Unit (<i>Unité d'Urgence</i>) at CARE-Konni to cover all other CARE intervention areas in Niger and five intervention areas (in four regions) for FSIN.
Oct 2001 (FY02)	Official start-up of the FSIN (Food Security Initiative in Niger) project including Africare's Title II activities in Agadez.
2001	CARE organizes the first planning workshop for the CEWS-ER in Niger.
Jul 15-19 2002	CARE organizes a five-day workshop to train senior FSIN staff in the CEWS-ER method.
2002	Original credits established by FSIN project to support activities of different socio-professional groups are reorganized into VDFs in order to better manage beneficiary contributions to activities as well reimbursement of credits made by credit recipients following the terms and reimbursement schedule of the different credit programs.
2002	Senior Africare staff (trained by CARE) train FSIN-Agadez extension staff on CEWS-ER.
2003	Choice of five pilot villages for pilot testing the CEWS-ER method in Agadez.
2003	Initial Africare EWR training of local community leaders in the five pilot villages.
2003	Africare manages the crisis that follows flooding in Boughoul (October 2003).
2004	Africare adds five new pilot villages and continues the pilot phase of the CEWS-ER in Agadez in 10 villages.
2004	Africare extends the CEWS-ER system to all 60 of its FSIN project villages in Agadez.
2004	Africare trains new and re-trains existing CEWS-ER committees in all 60 of its FSIN project villages in Agadez.
2004	Africare manages shocks in certain Agadez villages.
2004	Final evaluation of FSIN project being executed by the consortium in the five intervention areas and recommendations made for strengthening project's consideration of risk in next phase of the current project and any new projects developed by the consortium members.
2005	CEWS-ER committees alert Africare project administration to an imminent food security crisis in Agadez
2005	Joint collaboration between Africare and local authorities to develop a regional contingency plan to work with villages in responding to the crisis.
2005	Monitoring vulnerability in the 60 Africare Agadez project villages and distribution activities in a total of 120 Agadez villages (including the 60 Africare project villages).
2005	USAID grants one-year extension of FSIN project to facilitate response to national food crisis.
2005	Africare develops a follow-on proposal for a new project (ATFSI) that focuses on reducing vulnerability in 60 Africare Agadez villages and new villages in Filingué.
2006	End of Phase I funding through the FSIN consortium and final approval of the new Africare MYAP ATFSI.
2007	Activities under the new ATFSI project, selection of new sites, and baseline studies start.
2007	Africare obtains special funding for two emergency projects to help flood victims in Ingall, Dabaga, and Bilma in the Agadez region.
2007	Africare distributes food and agricultural inputs to flood victims in Ingall, Dabaga, and Bilma (in the Agadez region).
2007	New project (ATFSI) adopts new revised version of the FSCCI that monitors community capacity to identify and manage risk.
Aug 2008	Africare ATFSI project staff travel to Madarounfa where CARE project is pilot testing the integration of an early warning and response system into the national policy for preventing and managing disasters under a separate project.
Aug 2008	Africare trains vulnerability monitoring observers (<i>observatoires de suivi de la vulnérabilité ou OSV</i>) in the communes of Dabaga and Ingall and provides them with equipment and motorcycles.

ATFSI= Agadez and Tillabari Food Security Initiative, FSCCI=Food Security Community Capacity Index, FSIN=Food Security Initiative in Niger, MYAP=multi-year assistance program, VDF: Village Development Fund, CEWS-ER=Community Early Warning System and Emergency Response.

system. Under the new national system, the village level committees that are supported by Africare will continue to operate as a complement to the national system.

In addition, to the expansion of the national early warning system within Niger, the Agadez CEWS-ER has provided a model for development of similar systems in Chad and Mali, as well as the system in Burkina Faso (initiated during Phase II of the Title II funded Zondoma Food Security Initiative [ZFSI] FY05-FY09 that is profiled in Diallo et al. (2008; AFSR No. 16)).^{viii}

Methods: Existing project data and observations and experiences of the M&E specialist who oversaw development of the Agadez early warning and response system were used to document and assess the Africare/Niger CEWS-ER set up process, functioning, and impact. The main focus for documenting the set up process is on identifying key actors for the initial development and maintenance of the system, the types of capacity building that were and are needed for these actors, and the process these individuals should go through to establish the CEWS-ER framework. The focus of the assessment of the functioning of the CEWS-ER in Agadez is the effectiveness of the system to identify impending food security crises and the community responses. At times it was possible to compare (qualitatively) the community response to a particular emergency with previous responses to similar crises prior to the implementation of the CEWS-ER. Finally, the assessment of the impact of the CEWS-ER utilized a review of information from project staff. The project data that were used in this review included the type of disaster, number of villages affected, support from Africare, support from other partners, the number of beneficiaries and qualitative reports of impacts of the assistance. Recommendations are made to improve tracking of the impact of these systems.

Results: The CEWS-ER is based on the idea that local communities can anticipate and manage the types of crises and emergencies that can affect their livelihoods, even after Title II programs have ended. The system has two major functions:

- Anticipating risks to food insecurity and
- Managing crises that affect food security.

The results of the review of the Agadez CEWS-ER are organized into three main sections:

- Set up of the CEWS-ER (including different stages that identify key actors, train them on the purpose and workings of the system, and steps used to develop the structure of the system);
- Maintenance or functioning of the CEWS-ER; and
- Tracking systems to determine effectiveness and impacts of the system.

Set Up of the Community Early Warning System and Emergency Responses. The details of a CEWS-ER should vary from place to place based on the specific regional context in which it will be used. The set up description outlined below evolved based on conditions in the Agadez region. Each region will need to critically assess the appropriateness of each step and the need for inclusion of different considerations.

Phase I: Identifying Key Actors and Capacity Building. Before the community early warning system and emergency response framework can be developed a number of actors must be familiarized with the purpose and tasks associated with a functioning CEWS-ER. Key actors can be divided into three categories:

- Project staff who typically introduce the CEWS-ER concept and provide assistance during the project's involvement in the region;
- Community actors within each of the communities who will be responsible for participating in developing, maintaining, and assessing and responding to the trigger indicators; and
- Staff from government agencies (particularly emergency response sectors of the government) and NGOs who may be called upon to assist in the event of a crisis or who would need to be alerted of an impending crisis in order to activate an external (to the community) response.

The capacity building efforts for an effective CEWS-ER should focus on four essential capacities:

1. Generation and documentation of information about and by communities to identify and track risk level (i.e., trigger indicators);
2. Identification of all possible types of crises likely to affect the area;

3. Identification of actions or responses that would avert crises; and
4. Creation of the necessary institutional alliances to effectively respond to detected crises (regional, national and international level alliances, including collaboration between formal emergency relief systems and community structures).

Step I.1: Building Project Staff Capacity to Introduce and Support CEWS-ER. Preparation and set-up for a new CEWS-ER in a new project region requires training senior staff that oversee the system as well as field agents charged with execution in the beginning. In Agadez, senior staff members were trained in a CARE-sponsored workshop, after which they then trained Africare field agents that were charged with initial public awareness-building and execution of the system. In the course of the Africare field agent training, many elements of the core CARE model were adapted to the Agadez context. Based on this example, the actions within this step that other programs need to address include:

- Training project or institution agents charged with introducing and supporting the CEWS-ER,
- Adapting (in the course of the training) the CEWS-ER model to the local context,
- Identifying (in the course of the training) sites where trained staff can pilot test the CEWS-ER methods before scaling it up to the wider intervention area,
- Developing (in the course of the training) an institutional or organizational plan for the local organizational structures (such as the CEWS-ER committees in the Agadez region) charged with developing, executing, and maintaining the systems, and
- Translating into the local language the concepts and terms used in the CEWS-ER model.

Baseline training is not enough. For staff capacity to be sustained it needs to be continuously tracked. Since 2001, Africare has used a staff capacity index—the Food Security Program Capacity Index—to track staff capacity in the key areas they need to design and execute food security programs. Each of the eight

variables of this index includes several indicators that programs use to assess their capacity (Africare 2007; AFSR No. 3). During the first year of the ICB grant (FY04), two new variables were added—the “ability to analyze and manage risk” and the “capacity to identify and address risks associated with HIV/AIDS.” Africare’s programs are supposed to perform this self-assessment exercise each year as part of their annual reporting on their Title II grant. The presence of a strong and established CEWS-ER that integrates outside partnership is a good opportunity to pilot test this index and recommend revisions to the published draft guidance for improving the indicators aimed at tracking and building program capacities related to early warning and response.

Step I.2: Developing Community Capacity and Understanding of the CEWS-ER Model. Once staff members have been trained, the communities must be familiarized with the purpose and workings of the CEWS-ER model so that they can develop the trigger indicators, track changes in food security status and other emergency trigger indicators, alert the proper agencies of any impending crises, initiate a response, and navigate assistance with outside agencies and non-governmental organizations. Often the communities already have community leadership bodies that may play a role in management of the CEWS-ER (in former or current Africare intervention areas this includes Food Security Committees [FSCs]).

Train community leaders in the basic concepts. It is important for project staff introducing a community early warning system to work through local institutions to ensure that they understand the proposed structure and potential uses and results of the CEWS-ER model. In Agadez introducing this system included (Box 1):

- An initial presentation of the method to a general assembly (*Assemblée Générale*) to which all village members were invited, followed by
- More in-depth training of the two most critical community-level project implementation structures--the Food Security Committee (*Comité de Sécurité Alimentaire ou CSA*) and the Village Management Committee (*Comité de Gestion Villageois ou CGV*) that includes the village chief and other village leaders.

Facilitate creation of a CEWS-ER committee or vest an established committee with oversight of the CEWS-ER. Once community leaders have a good basic understanding of the concepts, the project needs to work through them to create a CEWS-ER coordinating committee or train an existing community structure in how to oversee a CEWS-ER. In Agadez, Africare encouraged each village to elect a separate CEWS-ER committee (SCAP/RU committee) that was accountable to the other existing community structures (Box 1). This CEWS-ER committee is charged with collecting and analyzing the data, as well as coordinating the actions needed to mitigate certain risks and maintain the community's contacts with the exterior. Each CEWS-ER committee is composed of an elected president and four elected secretaries (one in charge of each of the risk sectors presented in Table 2). To strengthen the project's ability to track the

effects of general community capacity building efforts, starting in 2007 Africare/Niger planned to use the ten-variable version of the Food Security Community Capacity Index (FSCCI) (Africare 2007, AFSR No. 2) that includes one variable (Variable 7) that tracks community capacity to identify and manage risk (Box 2). This index was to be applied to the CEWS-ER committees. Unfortunately, due to the security issues in the Agadez region resulting from rebel activities and due to the redesign of the project as part of the transition to phase II funding under ATFSI, the project team was unable to track the FSCCI variables. The project plans to do so in 40 of the 60 project villages in Agadez in which they anticipate being able to work in 2009. Once this system is in place, it will provide a better basis for determining the effectiveness of community level training on early warning and response to food security crises.

Box 1. Critical Local Institutions Involved in Development and Execution of the Community Early Warning System and Emergency Responses (CEWS-ER) in Agadez

General Assembly (*Assemblée Générale*): A meeting of the entire village. This is not a formal institution—with a formal mandate and/or elected management structures. It is, however, a culturally recognized institutional model for disseminating information and obtaining consensus in a transparent way.

Community Level Structures: Three community structures are responsible for the day-to-day management of project activities under the previous and current Title II projects.

- The principal coordinating body is the **Food Security Committee** (*Comité de Sécurité Alimentaire ou CSA*), which includes representatives of the different *groupements* that oversee particular activity groups (e.g., water wells and health).
- To minimize social conflict in the Agadez region, Africare reinforced the Phase I FSIN model of Food Security Committees (which all the NGOs in the consortium used to coordinate interventions at the various study sites) by adding a **Village Management Committee** (*Comité de Gestion Villageois ou CGV*) that includes the village chief and other village leaders.
- A third feature that distinguishes the Agadez administrative structure is the election of an independent **Audit Commission** (*commissariat aux comptes*). The Audit Commission is elected by the village general assembly annually to oversee (i.e., audit) different activities executed by the FSC.

CEWS-ER Committee (SCAP/RU Committee): The actual management of the CEWS-ER is done by a separate, specialized committee. The CEWS-ER committee is comprised of a president and four elected secretaries; each secretary is in charge of each of the four risk sectors (*champs d'alerte*). The president and secretaries are elected by the general assembly of the village.

Establish working groups. Once community leaders and staff charged with working with the CEWS-ER had been identified and oriented, Africare/Niger focused on developing the CEWS-ER tools and methods in the communities through a highly participatory approach using community working groups. Semi-structured group interviews with community leaders were used to identify three community working groups that would represent the different levels of vulnerability to food insecurity in the community. The trained Africare extension agents conducted the interviews with village leaders during a general assembly of the village. During the interview, community leaders were asked to sub-divide their village into three groups based on the number of Months of Adequate Household Food Provisioning (MAHFP) and to describe the general characteristics of these three groups. To identify these groups, the extension agents conducted a food security calendar using the Africare MAHFP-PRA guidance (Africare 2007, AFSR No. 1) (Box 3). Using symbols (rocks or straws) to represent meals, each of the working group leaders describe the average household

food consumption patterns for the households that are classified in their food security category during different periods of the year. In addition to establishing the categories of food security in the village, the exercise of completing the food security calendars determines a baseline for the food security status of different types of households in the villages, so that changes can be detected that would indicate a worsening of the food security situation for that category. The characteristics of the households in the different food security categories are also described in this process. Key characteristics that most villages used to describe the food security classifications included small and large livestock holdings, average consumption, irrigated and non-irrigated crop production, and non-agricultural employment patterns (including whether or not members of the households conduct share-roping or immigrate during the hungry season).

Once the village food security classifications were determined, the Africare extension agent supervising the exercise (which was normally the extension agent responsible for the village)

Box 2. Recent Changes in Africare's FSCCI to Better Address Risk

Evolution of the FSCCI: In the late 1990s, Africare started training communities to use the Food Security Community Capacity Index (FSCCI) as a self-assessment tool in the communities where it executes Title II food security programs. The tool helps communities self-assess their capacity on key skills that they need to identify food security constraints and opportunities and develop activities to build their aggregate food security. In 2005, the index was revised to better take into account the special capacities that communities need to cope with cyclical risks and shocks, specifically including HIV/AIDS (Africare 2005). The index now includes 10 variables and 33 indicators; each indicator is ranked one to five— three representing average capacity and five representing the highest capacity. The five indicators associated with Variable 7 focus on the ability to identify and manage risk.

FSCCI Variable 7: Ability to Analyze, Plan, and Manage Risk and Shocks

Indicators (each ranked 1-5)

- Existence of a community-based information and identification system of risk and shocks
- Existence of plans to mitigate risk and shocks
- Capacity of the community to diversify its activities
- Existence of an M&E system of the mitigation plan
- Capacity to request and receive external assistance

Source: Africare (2007, AFSR No. 2:15-16)

Box 3: Africare's Months of Adequate Household Food Provisioning Participatory Rural Appraisal (MAHFP-PRA) Exercise

Africare uses its measure Months of Adequate Household Food Provisioning (MAHFP) to assess the extent of food insecurity in project areas, to develop and initiate intervention strategies, to target vulnerable households, and to assess and track progress made in improving food security throughout the life spans of food security interventions (FSI). Two methods are used to measure MAHFP: the MAHFP-PRA (described below) and the MAHFP average (which is based on household responses in a quantitative survey to month by month food supply questions).

Five steps are used to calculate the MAHFP-PRA indicator. Step 1 is consultation with village leadership to familiarize them with the process and importance of measuring MAHFP. Step 2 addresses preparing for the session (community meeting) during which the village food security calendar will be developed. Step 3 outlines the important elements in conducting the food security calendar development session. Step 4 describes the way the food security calendar can be used to obtain more information about specific diets for the community in general and for individual households. Step 5 explains how to calculate MAHFP-PRA using the food security calendar.

Source: Africare (2007, AFSR No. 1)

worked through local leaders to identify a group of people (that included females and males) from each of the four food security categories. The four resulting groups formed the working groups with which Africare extension agents would develop the village risk trigger indicators. One trained project extension agent was then assigned to each working group to facilitate development of the trigger indicators.

Step I.3: Building Government Agency and External Organization Capacity to Support the CEWS-ER. One of the benefits of having a community early warning system is that larger-scale government and NGO emergency response units can tap into this system to receive up-to-date and reliable data on food security trends that may indicate an impending crisis before it peaks. This relationship and sharing of information has great potential for minimizing the highly negative and widespread impacts of severe drought or political crisis. On the other hand, communities benefit from this relationship when they need to quickly make contacts and requests for outside assistance. The channels of communication are already established. During the first phase of the project, Africare's capacity to build these channels of communication were limited by the fact that the national system did not include any commune level structures (only department-level committees). However, the restructuring and development of a new national emergency response policy and program in 2007 (through the creation of the vulnerability monitoring observers or *observatoires de suivi*

de la vulnérabilité or OSV, see Table 1) has paved the way for promising collaboration under this model of community-based early warning and response that prescribes coordination with outside resources. As this relationship between the CEWS-ER and the national system is built in the future it is important for project staff and community leaders and the CEWS-ER committee to develop indicators and tracking mechanisms that can tell the story of the effectiveness and needs of this collaboration. The FSCCI already includes the indicator, "capacity to request and receive external assistance" that begins to evaluate the effectiveness of the community to navigate a successful relationship with outside agencies. Additional indicators may be essential as a more complete capacity building model for these types of collaboration is refined.

Phase II: Establishing the Detailed Workings of the CEWS-ER: Trigger Indicators, Responses, and Data Collection and Analysis Methods

Step II.1: Drafting Trigger Indicators. Once the working groups were identified, each extension agent worked with one group to develop a list of appropriate trigger indicators. In order to do this they needed to first establish a common understanding of what the project meant by a trigger indicator and how these indicators could be used. USAID provided a basic definition of trigger indicators and threshold for MYAPs that communities used as a starting point for development of the CEWS-ER indicators (Box 4). The extension agents then explained the expectations for the work each group would do

and the anticipated outputs—including identification of the more finalized trigger indicators for the community-based tracking system.

Although the working groups' task is to use their experience with food security threats and past crises to provide a list of trigger indicators, Africare provided four risk sectors they deemed important to frame the trigger indicators. These included food security, health and nutritional security, environment, and social relations/conflict.

One way to begin compiling a list of useful indicators may be to elicit a list of the most frequently occurring crises in the community or the zone. Identify local conditions or consequences that they observe for different types of risk (such as drought and flooding). The indicators are meant to tap into local indigenous knowledge about ecological or climatic indications of an impending natural disaster (e.g., wind characteristics, position of the moon or stars, behavior or migratory patterns of birds, and early or late blossoming of specific plant species). Potential indicators can be brainstormed for each of the four risk sectors. At this time new risk sectors could be added if the working groups feel the basic four are not sufficient. Once the risk sectors and a list of indicators are identified, the groups are asked to record different levels for each indicator that signal normal, alert, alarm, and emergency levels of risk.

Step II.2: Drafting Community Responses to Food Security Risks. During the same working

group session when the initial and extensive list of potential trigger indicators is developed the working group also discusses the possible community responses to each food security crisis or situation presented. This is based on experience both with beneficial responses in the past and areas of identified need based on past experiences. Key questions that should be asked at this point include (for each type of crises encountered in the past):

- How has the community mobilized to meet these crises and
- How could these responses have been improved?

Step II.3: Refining the Indicator List based on Sensitivity and Reliability Analysis. Refinement of the indicators is a process that evolves over several sessions through community-based discussions. The role of the trained extension agent who is leading the process is to walk leaders through the process of answering a series of questions that build on their earlier analyses. Based on the working group sessions for this step, the extension agents develop a matrix that will eventually be known as the Matrix for Analysis of Indicators and Community Responses (*Matrice d'analyse des indicateurs et de réponses communautaires ou MAIRC*) (see summary in Table 2). At this point the matrix has the comprehensive list of trigger indicators and the levels of risk for each of the indicators. The extension agent may have also recorded how much fore-warning specific indicators would give the community.

Box 4. Trigger Indicator Definition for MYAPs

Trigger Indicator: Indicator used to determine the threshold at which MYAPs need to shift activities and/or require additional resources for new activities in response to a slow-onset shock. Such an indicator helps direct program priorities in dynamic and often unpredictable operating environments. For example, in order to be aware of when a population's vulnerability has increased, a MYAP needs to monitor early warning indicators such as prices or coping measures, clearly understanding which coping measures indicate normal times and which indicate that the situation and environment are becoming stressful and hazardous and may require additional Title II resources. The trigger indicator(s) advises that the community is being subjected to unusual stress.

Trigger Threshold: The level of a trigger indicator that, when seen, signals the need for certain actions to be taken (such as needs assessment, contingency and response planning, request for emergency resources for MYAP).

Sources: Sidibé et al. (2007:1-2); FFP FY08 Title II Assistance Proposal Guidelines in Mathys (2007:3).

Table 2: Matrix for Analysis of Indicators and Community Responses (*Matrice d'analyse des indicateurs et de réponses communautaires ou MAIRC*)

Level of Risk (A)	Risk Sectors (Principal risk sectors tracked in Sahelian region of West Africa) (B)	Indicator/Indicators (Description of locally identified indicators that predict/track risk levels) (C)	Estimated Period (estimation of amount of time until a situation reaches next risk level) (D)	Options for Community Response (at current level) (E)
Normal	1. Food Security			
	2. Health Security			
	3. Social Security (including conflict mgt)			
	4. Environment and NRM Security			
Alert	1. Food Security			
	2. Health Security			
	3. Social Security (including conflict mgt.)			
	4. Environmental and NRM Security			
Alarm	1. Food Security			
	2. Health Security			
	3. Social Security (including conflict mgt)			
	4. Environmental and NRM Security			
Urgent /Emergency	1. Food Security			
	2. Health Security			
	3. Social Security (including conflict mgt)			
	4. Environmental and NRM Security			

Source: Annex I.

Since it is difficult to work with as many indicators as are likely to be on the list after the brainstorming session, it is necessary to facilitate a selective choice of only the most appropriate and effective indicators for the final CEWS-ER list. To select the best indicators, the Africare extension agent overseeing the process for that particular village invites the general population to a general assembly in order to assess the indicators that were identified by each of the four working groups for each risk sector. The assembly meeting focuses on comparing each set of two indicators in terms of sensitivity and reliability. This exercise results in only one or two indicators for each risk sector. The second aim of this general assembly meeting is to critically assess (in the same way) each set of two drafted response options in terms of their

perceived effectiveness to alleviate negative consequences of an impending crisis. This results in a refined list of specific response options for each risk sector.

To structure the meeting, the extension agent in charge asks the people in the meeting to compare each set of two indicators in order to rank them compared to each other based on which is most sensitive (or reliable) to food insecurity onset due to an impending crisis. Each comparison is reported on a simple matrix drawn on a large sheet of paper in front of the entire group. Table 3 presents the comparison of each set of two indicators (e.g., Indicator 1 is compared with Indicator 2 in terms of sensitivity). The shaded out cells represent invalid comparisons (i.e., the two indicators cannot be compared). The

indicator number (I1, I2, or I3, in Table 3) is put in the cell to show which of the two indicators the group feels is most valid of the two being compared.

To illustrate, following the rows in order in Table 3 the general assembly determined that:

- *Indicator 1* could not be compared with Indicator 1 (hence the cell is shaded), it was judged superior to Indicator 2 (hence I1 is entered in the second cell), it was judged less appropriate than Indicator 3 (hence I3 is entered into the third cell), and it received a total score of “1” (i.e., in only 1 case was the indicator ranked superior than the other indicator) in this particular aspect (i.e., sensitivity);
- *Indicator 2* was less appropriate than Indicator 1 (hence I1 is entered into the first cell), it could not be compared with itself (hence the second cell is shaded), it was assessed less relevant than I3 (hence I3 is entered into the third cell), and I2 receives a total score of “0” and the ranking of the indicator was 3rd in terms of sensitivity (see column 6); and
- *Indicator 3* was superior to I1 (hence I3 is entered into the first cell); it was assessed as superior to I2 (hence I3 is entered in the second cell), it could not be compared with itself (hence the third cell is shaded), and I3 received a total score is “2” (i.e., there were two cases where it ranked superior to the other indicator), which resulted in the highest ranking based on sensitivity.

Based on these rankings, Indicator 3 (with a total score of 2) was ranked first (as most appropriate in terms of sensitivity), Indicator 1 (with a score of 1) was ranked second, and Indicator 2 (with no case in which it was ranked superior) was ranked third. The process of discussing the relative rankings with the community becomes an important learning experience that also increases local ownership of the system and the data collection process. Note that the same information is presented above the diagonal of shaded cells that is presented below that diagonal in Table 3. In addition, each criteria used for indicator comparisons (e.g., sensitivity versus reliability) should have its own matrix for comparison.

Once the group has completed the exercise comparing all the indicators (based on sensitivity and reliability) a similar process is used to rank response options based on the criteria of effectiveness and whatever other criteria the group feels are important (in the case of Table 4 effectiveness is the basis of comparison). Using the same method, Table 4 shows that the proposed Response2 (R2) was ranked superior when compared with Response 1 (R1) and Response 3 (R3), making it the highest ranking in terms of perceived effectiveness.

Step II.4: Designing the Data Collection and Analysis Plan. It is at this point that the Africare extension agents shifted their focus away from the community at large to the community level early warning and response committee that is responsible for collecting the trigger indicator data, monitoring risk, and activating responses when necessary. The CEWS-ER committee uses the final matrix (with one or two of the best trigger indicators per risk sector) to develop a data collection and analysis plan. Most of the indicators will be calculated from perceptions of the CEWS-ER committee members during a regular meeting place and time and a standardized process for calculating the indicators. A plan for record keeping will need to be established at this time. Some indicators may require that the committee or a representative of the committee develop a working relationship with local agencies such as the livestock services (if one of the indicators in the final list is related to livestock health) or the project growth monitoring and promotion services (if childhood wasting or stunting are finalized trigger indicators).

Step II.5: Tracking the Impact of the CEWS-ER. It is important to address (at the time the CEWS-ER is designed) how to measure the impact of the system on improving the community’s ability to deal with food security risks and shocks. Although this step was not explicit in the set up of the Agadez CEWS-ER (as it should be for future systems), the project did record information that helped illustrate the benefit of the CEWS-ER. This information included the time it took for food aid to arrive, the number of households that received assistance, and the types of external and internal assistance provided. The analysis of this information and

Table 3: Example Table Format for Comparing Community Perceptions about the Sensitivity of Three Indicators

Indicators	Indicator 1 (I1)	Indicator 2 (I2)	Indicator 3 (I3)	Total score	Preferred Ranking
Indicator 1 (I1)		I1	I3	1	2 nd ranking
Indicator 2 (I2)	I1		I3	0	3 rd ranking
Indicator 3 (I3)	I3	I3		2	1 st ranking
Total score	1	0	2		
Preferential Ranking	2 nd ranking	3 rd ranking	1 st ranking		

Table 4: Example Table Format for Comparing Effectiveness of Three Proposed Community Based

Indicators	Response 1 (R1)	Response 2 (R2)	Response 3 (R3)	Total score	Preferential Ranking
Response 1 (R1)		R2	R1	1	2 nd
Response 2 (R2)	R2		R2	2	1 st
Response 3 (R3)	R1	R2		0	3 rd
Total Score	1	2	0		
Total Ranking	2 nd	1 st	3 rd		

the impacts of the CEWS-ER in Agadez have informed the recommendations for standardizing a tracking system for the impact of these systems on community food security. An effective tracking system with a number of simple indicators can be used to raise funds, entice partners to participate in emergency responses, and improve the system over the long run. See the discussion in the recommendations section on the types of impact indicators that might be useful for assessing the impact of the CEWS-ER.

Step II.6: Finalizing and Activating the CEWS-ER. The output of the exercises described above is a document that outlines the indicators, the proposed system for organizing responses to different levels of alert, proposed links with various outside organizations and agencies that can assist in an emergency, and the data collection and analysis plan.

In the absence of a crisis, the village-level CEWS-ER committee completes the basic form (Annex I) with support from the extension staff every month. The project administration produces a regional summary of the forms quarterly. Under the new ATFSI project, Africare aims to:

- Simplify the reporting process by grouping together several villages that have similar trigger indicators and reporting systems and

- Strengthen the Niger government’s efforts to develop strong commune and regional level early warning system structures.

Operational Findings of the Agadez CEWS-ER

Successful Response Mechanisms: Community Development Fund. One “innovative” (Mathys 2007: 4) feature of the Agadez early warning and response system was the incorporation (through project support) of existing community development funds (CDF or *Fonds Communautaire de Développement*) (Box 5). These community development funds pre-date the creation of the formal and complete CEWS-ER, although they can be considered an early attempt to develop a community based emergency response mechanism. They were originally created in response to the dearth of savings and credit institutions in the Agadez region. Due to the lack of such services, villagers had to travel long distances to any sort of recognized savings and credit institution. Since a high percentage of food was purchased through the sale of livestock—and these livestock sales occurred at very specific times of the year—the project needed to create a better (and safer) system for households to bank funds for food purchases. This consisted of negotiating with banks for the actual placement of funds and facilitating the physical transfer of the funds to these banks through the Food Security

Committees. The Title II project community structures (both the Food Security Committee and the Village Management Committee, see Box 1) oversee the funds to ensure transparency and accountability (Figure 1).

Seed funding for the CDFs was provided by the project (Table 2). Specifically, Africare (under FSIN) provided credit to the CDFs (27,250,000 FCFA) to support specific investments such as grinding mills and wells. The groups then oversaw construction and recycled user fees back through the CDF under the supervision of the FSCs. In 2002, the project oversaw the conversion of these community credit programs into a series of Village Development Funds (VDFs) in order to sustain the funds through better management of beneficiaries' reimbursements, as well as new contributions to grow the funds. The name was later changed from VDF to Community Development Funds

(CDFs) to reflect the fact that many communities are agro-pastoral and group several scattered hamlets rather than a settled village. One of the best indirect indicators of the success of the CDFs is that at the time of the design of the new follow-on five year project (2006), not one of the 60 CDFs put in place to manage village investments through the FSC had been mismanaged or depleted. Indeed, over half of the CDFs in the old FSIN project villages in Agadez had holdings over 2,000,000FCFA (\$4,000 based on an average exchange rate of \$1=500 FCFA) (Table 5) in 2009. The villages with weak CDFs are generally in villages with lower levels of project investment (i.e., no Cereal Banks, Animal Feeding Banks, Agriculture Inputs Banks, or Agriculture Inputs Banks) or those where food stocks have been degraded by insects or flooding. The villages with the strongest CDFs tend to be villages with profitable irrigated gardening areas.

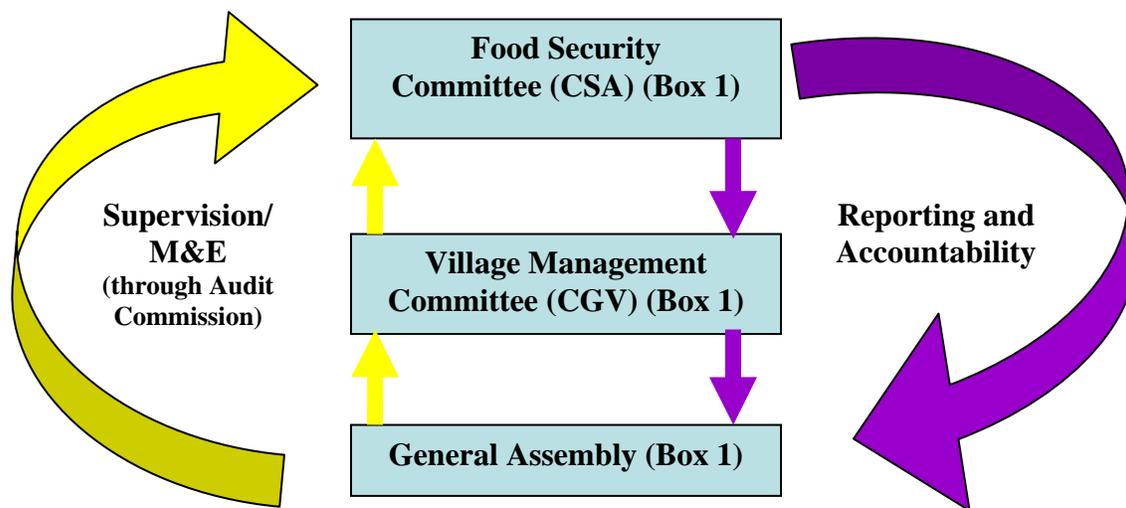


Figure 1. Fund Management Accountability and Oversight of the CEWS-ER in Niger.
 (Source: Rhili 2009)

Table 5. Level of Funding for Community Development Funds (CDF) in January 2009

Level of Funding (FCFA)	Number of CDFs
0-500,000	4
500,000-1,000,000	5
1,000,000-2,000,000	22
2,000,000-4,000,000	33
Plus de 4,000,000	6

Source: Rhili Aboubacar. 2009. *Le Fond Communautaire de Développement (VCD)*. Agadez: Africare

In the past, the CDFs have proven to be an important source for funding short-term responses to smaller emergencies that do not require large-scale outside intervention. In the event of larger-scale responses, these funds may shorten the time vulnerable households must wait to receive emergency assistance by providing a bridge of assistance before larger-scale outside aid can arrive, which prevents additional households from becoming more vulnerable. During non-emergency times, the same funds have been used to finance income generating activities for women's associations in a few project villages.^{ix}

Successful Response Mechanisms: Cereal Banks. A second source of relief for small-scale emergencies is the system of village level cereal banks that Africare helped develop in 35 villages to respond to the severe food shortages they experienced during Phase I. Africare's design of its cereal bank program incorporated many lessons learned from an extensive array of cereal bank programs that had been unsuccessfully tried under other programs in the Agadez region. During Phase I, the project developed and provided seed funding to purchase the initial grain stock and construction materials and villagers contributed the financial equivalent of five percent of the stock and constructed the warehouse. Baseline and ongoing updated training were provided by the individual village-based audit commissions (*commissaires aux comptes*) (Box 1). As of 2007 when the new project started (and before rebel activities blocked field level verification of its operation), all 35 cereal banks created during Phase I were still functioning; not one had needed to be restocked due to depressed prices or poor village decision making and management. Like the Community Development Funds, with the detection of an emergency food security threat these village-based grain stores can be activated more quickly and provide food assistance to vulnerable households while external food aid is being solicited or arranged.

Training. Since Africare's adoption of the CEWS-ER in 2003, the project has sponsored numerous trainings.

- *Senior staff:* Over ten senior project staff members have been trained in early warning and response systems to the level of being able to train other individuals and groups that are interested in developing a CEWS-ER.

- *Field staff:* Approximately one-fourth of the 30 Africare field agents currently active in the Agadez food security program have been trained on CEWS-ER. These agents, in turn, have provided training to 60 community structures in the project intervention area.
- *Community organizations:* A total of 480 community leaders have been trained in the development and management of early warning and response systems, as well as techniques for monitoring and reporting on the early warning indicators using a project manual that is adapted from the original CARE training manual (Africare 2002). All 60 of the Phase I project intervention villages in the Agadez region have operational early warning and response systems.

Under the new project, ATFSI will continue to train and retrain project staff and community leaders both in Agadez, Tahoua, and the Filingue area (in the province of Tillaberi) where the project has added new villages. The project is also planning to help the communal and department level officials develop coordinating committees that are mandated by the Government of Niger's own early warning efforts. Both the party and leaders in the national system feel that there are strong complementarities between the two systems in the production and analysis of information, as well as in execution of appropriate responses to shocks and crisis. This type of community-level collaboration with the regional representatives of this national system is critical to sustainability.



The CEWS-ER was functional almost immediately and shortened the time it took to respond to the 2003 flooding. Photo Credit: Africare/Agadez.

Box 5. Role of Community Development Funds (CDFs) in Africare's Title II Food Security Programming in Agadez

The principal objectives of the CDFs when created were:

- Create conditions for mobilizing financial resources to execute activities in community action plans;
- Ensure sustainability of community development activities and projects; and
- Strengthen the involvement of community members in management of community development activities.

CDFs are supported by:

- Contributions from the Title II funded project for execution of specific project activities through the CDF;
- Physical and financial contributions from beneficiaries to finance specific activities;
- Income generated by certain village level economic activities; and
- Support from other donors.

Project support for CDFs was routed through various activities that included loans to support start up costs of:

- Community boutiques;
- Para-veterinarians kits and supplies;
- Membership cards (for *groupements* and various committees); as well as
- Other types of income generating activities (IGA) including draft animals for mechanical water pumping.

The beneficiaries contributed to the financing of activities through:

- Direct contribution of 5% of the amount of each of the project funded investments;
- Purchasing products from community boutiques;
- Purchasing membership cards;
- Voluntary contributions; and
- Reimbursing the IGA activities including draft animals for mechanical water pumping.

The actual funds are placed in a bank account under the village's name. To access the funds, a community must:

- Have a vote of the general assembly of a village on the activities to finance;
- Determine the amount of money to be withdrawn;
- Present their decision in an official PV (*procès verbal*)—written and signed oral attestation—to the project for their consideration and counsel; and
- Only then is the FSC authorized to withdraw the funds from the bank.

The management structures are the same as those that oversee other activities in the village (Box 1): the General Assembly, the Food Security Committee, the Village Management Committee, and the Audit Commission.

The funds generated by the CDF investments are used to:

- Renew the community boutique stocks;
- Construct or rehabilitation of community infrastructure;
- Extend IGA credits and/or renew the stock of draft animals for water;
- Construct works that protect the environment and renew soils;
- Renew the para-veterinary health kits and veterinary products (e.g., vaccinations, de-worming, vitamins)

The CDF strategy for protecting the funds includes:

- Requiring them to be deposited in an official bank account;
- Involvement and responsibility of multiple persons in fund management;
- Involvement of technical services, elected officials and administrative and customary authorities in monitoring the accounts; and
- Training community structures on fund management and measures to take if irregularities are detected.

Strengths:

- The fund supports community funding of activities envisioned in community action plans and
- It is a means for involving a large number of people in management of a common good.

Weakness:

- For the community based early warning and response to be effective it must be accepted by the national and regional early warning systems and
- System requires community-level expertise that is not always apparent due to community levels of illiteracy.

Source: Rhili (2009).

Emergencies Responded to Under the CEWS-ER.

The CEWS-ER was functional almost from the start and almost immediately it helped shortened the time needed to respond to detected or anticipated crises (Table 8). Two specific crises (flooding in 2003 and a drought/locust infestation in 2004/2005) and the resulting community responses through their CEWS-ER provide insight into the way these systems work and the positive impact they have.

2003 Floods. In October, 2003, one of the communities (Boughoul) that had received CEWS-ER training suffered extensive flooding. Using the training the community had received, the CEWS-ER committee was able to (Table 6):

- Evaluate the level of damage;
- Identify and document the households directly affected;
- Mobilize internal food resources for affected households;
- Immediately track and report on the overall level of vulnerability in the village (in terms of MAHFP), which was a good proxy indicator of the community's capacity to respond with internal resources (i.e., food reserves); and
- Elaborate a longer-term relief plan to give regional and national donors that focused on providing Food for Work to enable affected households to remain at the site. The Food for Work was used to construct a micro-dam to protect the river banks and 1,200 linear meters (ml) of stone dikes (*cordons pierreux*) to protect the village's cultivated areas.

An especially important indication of success was that only three weeks lapsed between the flood and the arrival of outside food assistance. In the past, many villages with similar emergencies could languish for months before any outside food aid or other types of assistance arrived to supplement what communities could do on their own—if indeed that external help ever did arrive.

The comparison of the pre and post-crisis data on MAHFP-PRA values and food insecurity categories shows that the early warning and response system seems to have prevented an increase in the percentage of households classified as most food insecure (Table 6). This sort of crisis—if unassisted—typically results in a substantial short-term (one-two year) increase in vulnerability as households who are already moderately food insecure slip into more severe

food insecurity as they sell or consume household assets to satisfy the short-term food insecurity. It is often difficult for these highly vulnerable households to regain their resource base even after the crisis is over, which in project MAHFP data shows up as a prolonged increase in the percentage of households in the most food insecure category years after the crises has ended.

2005 Drought and Locust Infestation. In 2005, the FSIN/Africare project and other regional and national partners involved in the Agadez region were alerted to a large impending slow-onset food security crisis by the indicators in the CEWS-ER tracking system of the 10 pilot villages. The crisis was caused by a combination of rainfall shortages and a massive locust infestation (between August and October 2004) (Rhili 2005). In Agadez the situation was made worse by a price collapse of the major irrigated vegetable crops—onions and tomatoes—during the dry season, which dangerously reduced local peoples' buying power (Rhili 2005). The CEWS-ER was so effective that this warning predicted the crisis five months before it hit. Once the alert was sounded, the project worked with local communities in the entire area (not just the 10 pilot villages) to develop ten new cereal banks, banks for animal feed and agricultural inputs, and 1500 tons of wheat for Food for Work (FFW) projects. Given the massive need (Box 6) and the aim of avoiding widespread displacement to the villages in which Africare worked, the Food for Work component of the



The General Assembly estimated a total of 1,473 head of livestock died due to the 2005 crisis in Gofat (Box 6). Photo Credit: Africare/Agadez.

Table 6. Case Study of CEWS-ER Diagnostic and Coordination of Response to Flooding in the Village of Boughoul in 2003

Early Warning and Response Elements	Activities
Summary Description of the Risk	
Period	October 2003
Damages	32 gardens damaged; 13 wells filled with sand, 75 households affected 8 ha of irrigated garden areas destroyed, 40 goats drowned
Community Actions Mobilized to Obtain Assistance	
Assess effects of crisis	Community-level organization and damage assessment by the CEWS-ER committee and local population
Community outreach for assistance	The committee prepares a letter describing the damages and requesting support from local authorities, Africare, and other partners
Community proposals for dealing with the crisis	-Support for food through FFW to stabilize the negatively affected households -Use of FFW to construct a small dam for protection of the river banks and creation of stone dikes (<i>cordons pierreux</i>) to protect the cultivated areas
Responses provided to the community by the Africare Food Security Initiative in Niger (FSIN)/Agadez	-Project team visits the flooded site to assess damage -Mobilization of key partners to provide assistance including the emergency unit of CARE-Konni and the World Food Programme (WFP)
Responses provided to the community from other outside partners	-WFP gift of 28 tons of food (millet, beans, and oil) through the Agadez Food Security Initiative (AFSI) (3 weeks after floods) Gift of food from FSIN Emergency Unit sheltered by CARE Konni) -Gift of gasoline from a local business (SONICHAR) and several immigrants from the affected villages in Agadez
Number of people or households who received food as an impact of these activities	200 HH (1,300 people)
Evidence of longer term impact of the relief effort on vulnerability and average food security	<u>Pre-CEWS-ER Relief Intervention: Vulnerability Profile of the Village:</u> --Most Food Insecure: 60% (<5 mo. MAHFP) --Moderately Food Insecure: 33% (5-6 mo. MAHFP) --Least Food Insecure: 7% (>6 mo. MAHFP) <u>Post-CEWS-ER Relief Interventions: Vulnerability Profile of the Village^x:</u> --Most Food Insecure: 40% (5.67 months) --Moderately Food Insecure: 35% (5-6 months) --Least Food Insecure: 25% (9.5 months)

Source: Africare (2004 and 2005) based on the reanalysis of FSIN/Agadez baseline survey data set (October 2002) and KAP survey data set (2003).

Table 7. Leading Indicators for Food Security and Health in the FSIN in Agadez Prior to and After the Large Humanitarian Response Effort in 2005

Sample FSIN Monitoring and Impact Indicators	Baseline FY01	FY03	FY04	FY05 Extension	FY06 Extension
Dates		Oct. 1, 2002-Sept. 30, 2003	Oct. 1, 2003-Sept. 30, 2004	Oct. 1, 2004-Sept. 30, 2005	Oct. 1, 2005-Sept. 30, 2006
Community Capacity (FSCCI) (x=% of possible points)	27%	54.3%	49.8%	56.36%	59.3%
% of Children aged 24-29 months stunted (height/age <=2 /s/d)	35.3%	33.1%	38.33	30.9%	29.6%
Months of Adequate Household Food Provisioning (MAHFP) from all sources	6.0 mo.	6.0 mo	6.4 mo	5.81 mo	6.0 mo
Average MAHFP for HH in the most food insecure category and % of HH in this category	5.27 months 70% of HHs	5.19 months 57.6% of HHs	4.91 months 55.2% of HHs	Not calculated during extension	Not calculated during extension
Volume (kg) of agricultural production of selected crops by participating farmers (kg/HH)	406 kg	419.3 kg	427.0 kg	653.19 kg	650.11 kg

Sources: Africare 2003, 2004, 2005, 2006.

relief effort was expanded to 180 villages, only 60 of which were Africare villages. This massive gear up of support—well before the crisis became serious—helped shield the 60 Africare villages from the worst effects of the food crisis. One of the best indicators of how this type of coordinated early warning and response protected the villages is that the Knowledge,

Attitudes and Practices (KAP) survey conducted in 2005 as part of the final evaluation showed that the project’s performance indicators, such as those measuring infant malnutrition, were about the same as the year before the crisis (Table 7). Average MAHFP actually improved from 5.81 to 6.0 months (FY05 to FY06, respectively) and agricultural production only decreased slightly (Table 7).

Box 6. Verbal Testament of the General Assembly of the Village of Gofat, January 24, 2006

Objective: Analyze the socio-economic situation of the village and request external support.

On the 24th of January 2006, a general assembly of the community was organized under the leadership of Monsieur Dindine Ahmedou, the village chief. As soon as the assembly was officially opened, the chief asked the participants to provide him with a concrete picture of the livelihood systems in his village. Using the agricultural map of the village as a backdrop, they described the following.

- Total number of gardens: 145
- Total surface cultivated: 210 hectares
- Number of gardens started during 2005-2006 irrigated campaign with higher (than average) needs for regular irrigation water: 36
- Number of gardens that have been abandoned (January 2006) because of inadequate water: 12
- Number of gardens where the work has slowed down (due to insufficient water in the wells): 13
- Number of gardens with insufficient water (January 2006) to continue to be exploited normally: 11
- Surface actually being exploited: 10ha

As a solution, the population asked to benefit from Food for Work activities between February and August 2006 in order to construct clay water infiltration ridges, dams, and stone dikes in the low lying water runoff areas and creek basins to facilitate running water infiltration into the soil. These infrastructure projects would permit replenishment of the water table as well as provide water for vegetables and herbaceous species.

A summary of the situation for livestock is presented in the following table. Here again, the explanation given for the situation was poor rainfall and inadequate pasture in the village grazing areas, which cover more than 600 hectares. The solution recommended by the general assembly was for Food for Work to help them construct stone dikes that could help restore this environment.

Animal Species	Estimated Number of Animals before September 2005	Estimated Number of Animals Deaths September 2005 to January 2006	Estimated Livestock Holdings as of January 2006
Goats	3257	1020	2237
Sheep	1136	378	758
Cattle	54	19	35
Camels	125	56	69

Summary: As of December 2005, the village of Gofat included 150 households (approximately 180 people total). If the trends hold, this population is expected to experience very difficult conditions between March and September 2006 if external assistance does not intervene in a timely manner. Approximately 35 households in the village no longer have any goats. Most livestock is without pasture. The village has no backup livestock feed. To avoid losing their animals, the herders are selling their animals at very low prices in Agadez and Tchirozerone. The 25 gardens that are actually under production are anticipating a meager harvest of around 30-40 sacks of tomatoes on average, which is very inadequate when confronted with the needs of the families that exploit these areas. Another 120 former gardeners have lost all hope of production due to the lack of water. Unless immediate action is taken, the village may lose most of its population. People are likely to regress to the earlier practices of over cutting wood (in an already degraded environment). The insecurity is especially great amongst the more marginal social groups such as female-headed households and children.

Recommendations:

1. The population of Gofat calls upon the elected authorities, administrative authorities at departmental and regional levels, and other development partners to avoid the worst case scenario before it occurs.
2. The population asks the communal government to transmit this verbal testament to the appropriate persons who will diffuse it most widely.
3. The population of Gofat requests that development partners speed up their interventions in order to avoid deterioration of the situation.

Table 8. Crises Managed by the Africare CEWS-ER in Agadez

Year	Type of Disaster	Number of Villages Affected	Support from the FSIN	Support from Other Partners	Number of Beneficiaries ^{xi}
2003	Inundation	1 village (Boughoul) (Table 3)	--Elaboration of the relief and rehabilitation plan --Conceptualization and supervision of FFW activities --30 tons of wheat from the Emergency Unit at CARE/Konni --28 tons of food from WFP (World Food Programme)	-Truck for transporting assistance provided by CARITAS (local Catholic NGO) -Fuel for truck provided by SONICHAR (local gasoline company) & donations from immigrants from village in Agadez	250 HHs
2004	Locust Infestation & Drought	15 villages	153 tons of wheat for Food for Work (FFW)	-Anti-locust treatments by government technical services -Miscellaneous medical support from other projects and institutions	1275 HHs (approximately 7650 persons)
2005	Inundation	12 villages	85 tons of wheat	Assistance with food distribution	1200 HHs in pastoral zone of Tadress (approx. 7200 persons)
	Price collapse (sale at a loss of major cash crops)	28 villages with irrigated vegetable gardens	Seed, 50 tons of fertilizer, 20 tons of cereal crop seeds, 52.6 kg of gardening seed, Cultivation equipment (611 hoes, 445 rakes)	Miscellaneous support from other partners for seed, fertilizer, and pest control	1120 HHs (approx. 6720 persons)
	Drought	120 villages	--FFW --Distribution of food provided by CCA/WFP	Commodities for FFW provided by CCA (<i>Cellule de Crise Alimentaire</i>), World Food Programme (WFP), and others	12,500 HHs
2007/ 2008	-Flooding -Population displacement linked to the armed conflict	46 villages and <i>quartiers</i> (neighborhoods) in 6 communes	-Evaluation of the damage -Elaboration of the global relief and rehabilitation plan (based on input from villages) -676 tons of food distributed -Distribution of agricultural inputs at Dabag, Ingall and Bilma -Rehabilitation of 7 classrooms in Bilma --Support to the health center (CS or <i>Centre de Sante</i>) of Bilma (220 mattresses) -Train 27 extension agents of the Sub Regional Early Warning Committee (CS/SAP/GC) in Arlit, Bilma, Tchirozerine) on CEWS-ER	Commodities for distribution and assistance with distribution provided by many actors including CARITAS, the Red Cross, the World Food Programme and CCA	4500 HHs (approx. 27,000 persons)

Lessons Learned and Recommendations:

Based on the review of the first four years of implementing and backstopping the community early warning systems and emergency responses in Niger, a number of lessons learned have been identified.

1. *Community Participation and Ownership is Effective.* Community ownership and participation is critical to the successful implementation of a CEWS-ER. Community support for these systems is built through a series of steps that assist representatives of the community in choosing effective trigger indicators and developing a plan for monitoring them over time. One important consideration (once a system is established) is the need to re-assess the trigger indicators on a regular basis. As conditions in communities change over the years, it may be necessary to adapt the CEWS-ER trigger indicators and data collection plans to reflect these changes. For example, if a new livestock veterinary program is established in a community where there had previously been none, the CEWS-ER committee may wish to consider adding a trigger indicator that would report on animal disease frequency that could be based on data gathered from the livestock veterinary service. A review and potential revision schedule of the trigger indicators and data sources may be needed every five years or after major relevant changes are detected in the community conditions.
2. *Qualitative Evidence that the Community Systems Provide More Efficient Early Warning to Regional and National Authorities and Assistance Bodies.* One of the chief advantages of the creation of a CEWS-ER is the increased efficiency and speed with which information on disasters can be transmitted to the relevant regional and national authorities. In addition to improving the local response to the crisis, these systems also appear to:
 - Increase efficiency of communicating information about the local situation to relevant regional and national authorities (based on the fact that these authorities can learn about and take action before a crisis reaches full impact due to the use of trigger indicators and established channels of communication);

- Reduce the amount of time between the detection of the crisis and mobilization of outside relief efforts;
 - Improve the relevance, efficiency, and accuracy of the responses when a crisis occurs;
 - Provide information about vulnerable groups within the context of the crisis (through the MAHFP-PRA food security calendar tool); and
 - Reduce the total cost of collecting early warning data and delivering support due to participation of multiple community, regional, and departmental actors, as well as key national actors such as the government and WFP.
3. *Community Early Warning Systems and Planned Emergency Responses Improve the Effectiveness of Responding to Crises.* More effective planning for emergencies is another apparent benefit of having an operational CEWS-ER. Prior to development of the CEWS-ER, most villages waited until an emergency occurred to determine what they would do. The process of preparing the CEWS-ER framework and forms provides communities the opportunity to review past experiences and brainstorm options that might have been more effective, but that were not apparent in the midst of the crisis, and enables them to prepare in order to make more effective responses possible when a crisis is detected. This thoughtful and unrushed planning process allows them to anticipate the partnerships they are likely to need before they need them. The anecdotal evidence indicates that all of this reduces the likelihood that a crisis event—such as drought—will have a long term negative impact on a local population and it also prevents years of recovery. The same planning helps communities—and projects—anticipate the need to strengthen programs that help local populations better manage crises when they do occur.
 4. *Positive Impact of NGOs Developing the CEWS-ER as a Consortium.* One major factor that contributed to the successful development of the CEWS-ER in various villages in Agadez was that its initial development and pilot testing was conducted by CARE as part of a consortium that covered five very distinct areas all over

the country. This consortium model had several advantages.

- It provided a solid institutional framework for collaborative training;
- The institutional framework made it easy for the different partners to update one another annually and to exchange information on best practices;
- Having four NGOs working as a consortium in five widely disparate regions seems to have made it easier for the Niger government to facilitate their collaboration and support within the context of the emerging national disaster early warning and management systems;
- The same consortium structure facilitated communication with major donors, such as the World Food Programme, both prior to and during crises and provided high visibility to the need for and work being done on early warning and response at the community level.

5. *Need for Complementary Support to the Emerging Regional and Department Level Structures.* The design of the CEWS-ER incorporates cooperation and partnership with outside government agencies and NGOs. These relationships between the community and the outside actors are symbiotic. The community system can serve as the on-the-ground eyes and ears that efficiently feeds into a national emergency response system with up-to-date information on vulnerability status of villages. Sharing information with the national agencies who are involved in emergency tracking and response can be beneficial to the community as well by facilitating the delivery of necessary resources and aid when a crisis hits or is about to hit. With this partnership comes the need to build the capacity of these outside actors (e.g., government emergency response units, health and nutrition agencies, and health or food security NGOs) to recognize the importance and purpose of the relationship and exchange of information, what the trigger indicators are and what they can tell them, and how to provide timely responses to communities' requests for assistance. Recent changes in the national EWR system in Niger—most notably the creation of the vulnerability monitoring observers (*observatoires de suivi de la*

vulnérabilité ou OSV) in the communes in 2007—is facilitating this type of training under the new Title II project (ATFSI). A more detailed description of the options for nurturing the collaborative relationship with outside actors may be needed. These might include inviting outside actors to the general assembly, holding a workshop on CEWS-ER development or once it is developed on the types of data that it produces or the impact it has had.

6. *Need for More Effective M&E of Community Capacity Related to CEWS-ER.* While many new Title II programs have early warning systems, there has been very little attempt to monitor the routine operation and impact of these systems. Africare's decision to introduce the new variable (and five indicators) in its FSCCI (Variable 7, Box 2 above) to track the evolution of the critical capacities that communities need to operate these systems is a step in the right direction. The focus of Variables 7 in terms of interactions with outside actors is the assessment of the "capacity to request and receive external assistance." It is clear that although there is evidence of the success of the Niger CEWS-ER in various communities, attention is needed to further develop a standardized and quantitative impact assessment strategy that includes emergency response times and impacts in villages with established CEWS-ERs, as well as compared to villages without these systems, useful exchanges of information and resources from communities to outside agencies (in addition to tracking external assistance received). Table 9 provides a suggested format for collecting and tracking impact indicators for community early warning systems and emergency responses that programs and communities should consider using.
7. *Need for Further Development of M&E of the Effectiveness and Impacts of the CEWS-ER.* During the set up and implementation phase of an early warning and response system, it is important to consider how the project and village will track effectiveness of the CEWS-ER and its impact on food insecurity relative to detected crises and shocks. The Agadez project did anticipate this need by planning on tracking FSCCI (including the new variables focused on risk

that were discussed above), the fore-warning that the system gave communities prior to full blown crises, MAHFP, as well as the types of aid received, the outside agencies or NGOs that provided assistance, and the speed with which assistance arrived. Other potential M&E indicators to track CEWS-ER impact and effectiveness may include:

- FSCCI (total index score and just Variable 7 scores),
- Annual MAHFP-PRA for villages with and without CEWS-ER,
- Month by month household food security levels as determined by the CEWS-ER through the food security calendar exercise used in MAHFP-PRA calculation,
- Percentage of households in the most food insecure category based on MAHFP,
- Quantity of food aid received for each crisis,
- Number and percentage of needy households receiving food aid due to crisis,
- Number and percentage staff and community members trained in CEWS-ER,
- Qualitative description of community responses to crisis,
- Timeframe of responses (compared anecdotally or quantitatively, if possible, to previous crisis responses without CEWS-ER in place),
- Outside organizations contacted and involved in response,
- Regular reporting of indicator values to outside agencies (particularly to national agencies with emergency response programs), and
- Types of outside assistance provided.

In addition to the standard practice of assessing each indicator independently to see if there are changes over time, more sophisticated analysis can be conducted if there is a trained statistician on the assessment team for the project or on the qualitative evaluation team charged with a mid-term or final evaluation of the project. Africare projects can use MAHFP (either PRA or average if using quantitative survey data) as an outcome variable and can select any number of input variables to explore the connection. The most obvious being whether

there is a CEWS-ER present in the community or not (a binary variable). Other input variables could be used in this analysis including receipt of outside assistance, FSCCI scores or just scores on Variable 7, use of the community fund, use of the cereal bank, and/or types of outside assistance received (see Table 9).

8. *Project Use of the Food Security Program Capacity Index (FSPCI)*. Africare has developed a draft guidance for the Food Security Program Capacity Index (FSPCI) to measure and track project staff capacities in food security initiatives. This index needs to be pilot tested using the guidance (Africare 2007, AFSR No. 3). Using the index in the context of creating and backstopping CEWS-ER is an excellent opportunity to test and report on the two newest variables in the index that address risk.

Conclusions: Early warning and response systems are a priority in the current MYAP guidance and USAID/FFP policy paper. This review of the older (four years in the running) CEWS-ER in communities in Agadez has demonstrated the potential for community early warning and response systems to prevent increases in food insecurity when a crisis hits. It has also provided an opportunity to strengthen and develop effective models for monitoring and evaluating community early warning systems that can be applied to the roll out of these systems in other areas.

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Annex I: CEWS-ER Data Collection Form from Agadez

Village:

Zone:.....

AFRICARE NIGER

Food Security Initiative Niger (FSIN)

SYSTEME COMMUNAUTAIRE D'ALERTE
PRECOCE/ REPNSES AUX URGENCES
(SCAP/RU)

Community Early Warning/Emergency Response
System (CEW/ER System)

CEWS-ER Data Collection Form

Instructions: This form should be completed every month by the CEWS-ER committee with the support of extension staff. **Level of Risk:** A check in the box in the second column indicates that the village is at this level of risk (normal, alert, etc.) based on the indicators in the third column. **Indicator/Indicators:** Description of locally identified indicators that predict/track risk at this level. **Estimated Period:** Length of time expected before next level of alert is attained. **Options for Community Response:** At current levels of alert.

First and Last Name of the General Secretary of the Committee:..... Month: Year:

Risk Sector	Level of Risk/Alert	Indicator/Indicators	Estimated Period (until next level of risk reached)	Options for Community Response
Food Security <i>Tineflit</i> <i>N'Sudar</i>	Normal <i>Cilwit*</i> <input type="checkbox"/>			
	Alert <i>Taf-riyt</i> <input type="checkbox"/>			

Risk Sector	Level of Risk/Alert	Indicator/Indicators	Estimated Period (until next level of risk reached)	Options for Community Response
	Alarm <i>Tiremikh</i> <input type="checkbox"/>			
	Urgent/Emergency <i>Tudugust</i> <input type="checkbox"/>			
Health Security <i>Issakhat</i> <i>N'taghissa</i>	Normal <i>Cilwit</i> <input type="checkbox"/>			
	Alert <i>Taf-riyt</i> <input type="checkbox"/>			
	Alarm <i>Tiremikh</i> <input type="checkbox"/>			

Risk Sector	Level of Risk/Alert	Indicator/Indicators	Estimated Period (until next level of risk reached)	Options for Community Response
	Urgent/Emergency <i>Tudugust</i> <input type="checkbox"/>			
Social Relations Security	Normal <i>Cilwit</i> <input type="checkbox"/>			
<i>Tassaqh</i>	Alert <i>Taf-riyt</i> <input type="checkbox"/>			
	Alarm <i>Tiremikh</i> <input type="checkbox"/>			

Risk Sector	Level of Risk/Alert	Indicator/Indicators	Estimated Period (until next level of risk reached)	Options for Community Response
	Urgent/Emergency <i>Tudugust</i> <input type="checkbox"/>			
Environment Security <i>Izihar</i> <i>N'amadal</i>	Normal <i>Cilwit</i> <input type="checkbox"/>			
	Alert <i>Taf-riyt</i> <input type="checkbox"/>			
	Alarm <i>Tiremikh</i> <input type="checkbox"/>			

Risk Sector	Level of Risk/Alert	Indicator/Indicators	Estimated Period (until next level of risk reached)	Options for Community Response
	Urgent/Emergency <i>Tudugust</i> <input type="checkbox"/>			

Committees Observation:

Approval/Validation by the General Assembly:

Annex II: CEWS-ER Data Collection Form Completed as Example

Village: *Téghazart*

Zone: *Aï*

AFRICARE NIGER

Food Security Initiative Niger (FSIN)

SYSTEME COMMUNAUTAIRE D'ALERTE
PRECOCE/ REPONSES AUX URGENCES
(SCAP/RU)

Community Early Warning/Emergency Response
System (CEW/ER System)

CEWS-ER Data Collection Form

Instructions: This form should be completed every month by the CEW/ER committee with the support of extension staff. **Level of Risk:** A check in the box in the second column indicates that the village is at this level of risk (normal, alert, etc.) based on the indicators in the third column. **Indicator/Indicators:** Description of locally identified indicators that predict/track risk at this level. **Estimated Period:** Length of time expected before next level of alert is attained. **Options for Community Response:** At current levels of alert.

First and Last Name of the General Secretary of the Committee: *Ghabdouane Mohamed*

Month: *September* Year: *2004*

Risk Sector	Level of Risk/Alert	Indicator/Indicators	Estimated Period (till next level)	Options for Community Response
Food Security <i>Tineflit</i> <i>N'Sudar</i>	Normal <i>Cilwit*</i> <input type="checkbox"/>			
	Alert <i>Taf-riyt</i> <input checked="" type="checkbox"/>	<ol style="list-style-type: none"> 1. High price of cereals 2. Bad rainy season production in the southern region of Agadez 3. Locust infestation in the southern region of Agadez 	1 month (September)	--Sacrifices (given as alms and charity) --Read the Koran --Plant cereals
	Alarm <i>Tiremikh</i> <input type="checkbox"/>			

Risk Sector	Level of Risk/Alert	Indicator/Indicators	Estimated Period (till next level)	Options for Community Response
	Urgent/Emergency <i>Tudugust</i> <input type="checkbox"/>			
Health Security <i>Issakhat N'taghissa</i>	Normal <i>Cilwit</i> <input type="checkbox"/>			
	Alert <i>Taf-riyt</i> <input checked="" type="checkbox"/>	1. Case of a very contagious eye disease reported in the village of Tchintaborak 15 km away	2 weeks	--Avoid contact with the village of Tchintaborak --Encourage proper eye hygiene especially with children
	Alarm <i>Tiremikh</i> <input type="checkbox"/>			
	Urgent/Emergency <i>Tudugust</i> <input type="checkbox"/>			

Risk Sector	Level of Risk/Alert	Indicator/Indicators	Estimated Period (till next level)	Options for Community Response
Social Relations Security <i>Tassaqh</i>	Normal Cilwit <input checked="" type="checkbox"/>	1. No conflicts 2. Visits between households and villages are occurring normally 3. Good attendance at community meetings 4. Tranquil	2 months	--Community meetings --Traditional ceremonies
	Alert Taf-riyt <input type="checkbox"/>			
	Alarm Tiremikh <input type="checkbox"/>			

Risk Sector	Level of Risk/Alert	Indicator/Indicators	Estimated Period (till next level)	Options for Community Response
	Urgent/Emergency <i>Tudugust</i> <input type="checkbox"/>			
Environment Security <i>Izihar</i> <i>N'amadal</i>	Normal <i>Cilwit</i> <input checked="" type="checkbox"/>	1. Good rainfall 2. Abundant pasture 3. No transhumant (migratory) movement 4. Few environmental enemies (insects or other)	3 months	Fight illegal wood cutting
	Alert <i>Taf-riyt</i> <input type="checkbox"/>			
	Alarm <i>Tiremikh</i> <input type="checkbox"/>			

Risk Sector	Level of Risk/Alert	Indicator/Indicators	Estimated Period (till next level)	Options for Community Response
	Urgent/Emergency <i>Tudugust</i> <input type="checkbox"/>			

Committees Observation: *Nothing special to note*

Approval/Validation by the General Assembly: *Yes*

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ⁱⁱ Della McMillan was team leader of the mid-term evaluation of the Food Security Initiative in Niger (FSIN) in 2003 and team leader of the design team that created the new Agadez-Tillaberi Food Security Project in 2005.

ⁱⁱⁱ Leah A.J. Cohen is a geographer who has conducted research on HIV/AIDS in farming and fishing households in East Africa. She is currently managing editor of the Africare Food Security Review paper series.

^{iv} In Niger and other French-speaking regions this system is referred to as *Le Système Communautaire d'Alerte Précoce et de Réponses aux Urgences* (SCAP/RU).

^v Africare's EWR system in Agadez was one of the few Title II community based systems profiled in Mathys (2007:4).

^{vi} Five year project with a one year extension.

^{vii} In order to facilitate the consideration of the data collected by the CEWS-ER (SCAP/RU) by the National Crisis Management Agency (*Dispositif National de Gestion de Crise*) of which the Regional and Departmental Committees are the decentralized representatives, the new ATFSI project is supporting the Decentralized Committees of the National Crisis Management Agency.

^{viii} This paper also provides additional detail on the emerging interest of the USAID/FFP office in the design and execution of early warning and response systems.

^{ix} The project credit program is designed to restructure the existing Community Development Fund credit mechanism and builds on lessons learned from experiences in Niger and other West African countries, as well as in Africare's other Title II programs such as Mali. During the next five years, ATFSI's credit activities will focus on supporting the development of village level credit activities, mainly through women's groups. Raising village savings to support the project credit scheme will reinforce ownership by village associations and guarantee the continuation of the scheme. By the second year, ATFSI will begin working with the groups to develop a plan for sustaining their activities once the project ends through (a) pooling resources between groups, (b) developing stronger linkages between credit groups through the creation of formal Village Savings and Credit Funds (VSCF), (c) establishing Savings and Loan facilities in a department center, and (d) contributing the creation of a VSCF Union, which will be completely independent of the project (Africare/Niger 2006).

^x Source: Reanalysis of the FSIN/Agadez quantitative survey data set (2004).

^{xi} Calculations based on an estimated average of six persons per household as recommended by the Government of Niger (GON) early warning system at the departmental level.

^{xii} Define values for these categories.