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## Findings from the Caring International Research Collaborative: Using Caring Science To Assess and Support Food Sustainability Systems for Women Living with HIV/AIDS in a Village in Cameroon

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# FINDINGS FROM THE CARING INTERNATIONAL RESEARCH COLLABORATIVE

## USING CARING SCIENCE TO ASSESS AND SUPPORT FOOD SUSTAINABILITY SYSTEMS FOR WOMEN LIVING WITH HIV/AIDS IN A VILLAGE IN CAMEROON

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### Abstract

This study proposes Caring Science as an innovative way to facilitate food systems sustainability in areas of the world that continue to suffer from food insecurity and food shortages. An interdisciplinary group that included a nurse, an environmentalist, an agronomist, and an analyst collaborated to study food sustainability in a village in Bambui, Cameroon. The village included several women living with HIV/AIDS who were having difficulty meeting the food needs of their children and other dependents within their homes. This interdisciplinary approach not only met the food needs of the women living with HIV/AIDS, but the assessment process identified other needs as well. Watson's Theory of Caring was used as the theoretical framework to innovatively assess food systems. This interdisciplinary approach facilitated holistic assessment of food, finances, personal self-worth, and health.

**Keywords:** Cameroon; Caring Science; food sustainability; food systems; HIV/AIDS; innovation; interdisciplinary; Watson's Theory of Caring

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### Background

For decades, the approach to achieving food security has been to focus on maximizing agricultural yields, often in large monocultures that are extractive and form the basis of food systems that leave nearly a billion people hungry and billions more suffering

from chronic health issues related to nutritional deficiency or obesity. As of 2012, the sub-Saharan portion of Africa had approximately one-fourth of the billion people who are hungry ([www.worldhunger.org/Learn.htm](http://www.worldhunger.org/Learn.htm)). This approach has failed to meet human needs at scale, and has resulted in some of the most threatening health, environmental, and security challenges of our age. This failure is accentuated when considering that malnutrition in sub-Saharan Africa has been increasing concurrently with a global decline in malnutrition (United Nations, 2012).

The current methods of meeting global food needs are falling short, which suggests that new methods are needed. The current predominant method is gap analysis and intervention: places in the world that need food are identified, and food is shipped there for the people to eat. The problem is that the food does not reach the people, for many reasons. One reason is a lack of equipment to transport the food to the villages; thus the food ends up rotting in the port. Another reason is corrupt governments and/or hostile groups that co-opt the food and extort money from the people who need it ([www.worldhunger.org/harmfuleconomicsystems.htm](http://www.worldhunger.org/harmfuleconomicsystems.htm)).

### **Food Science and Caring Science: Making the Connection**

It is well identified that relying on food distribution to countries in need is insufficient, and that effective methods for growing food within communities are needed (Thurow, 2012). Agronomists studying worldwide food systems have reached a consensus that the current paradigms are not working. Dr. Molly Jahn, professor of agronomy at the University of Wisconsin, and an international group of colleagues discussed the known ineffectiveness of sending food. They suspected that some of the failures were due to incomplete understanding of populations and the contexts that drive food systems. Within this suspicion was an intuition that caring about context is at the core of the development of better food systems, and that this is the missing element in food systems success.

Shortly after that discussion, Jahn attended a meeting at which Dr. John Nelson was introduced as a statistical analyst and content expert on Caring Science. Wishing to

honor the intuition of her colleagues, she sought Nelson's expertise in introducing Caring Science into the study of worldwide food needs. He suggested using Jean Watson's Theory of Caring (2008) to assess food systems, beginning with a pilot study in an area of Cameroon where women who live with HIV/AIDS are currently struggling with adequately feeding themselves and the families they care for.

Nelson contacted Relindis Oyebog Moffor, President of Angel of Mercy, a non-profit organization in Bambui, Cameroon, to see if an exploratory study could be conducted using Caring Science to assess food needs of the women of Bambui. Angel of Mercy facilitates a support group for women who live with HIV/AIDS. Food systems sustainability was identified as a challenge for this group, an appropriate sample for studying food systems using Watson's Theory of Caring.

Watson's 10 Caring Processes (Watson, 2008) were evaluated for their applicability to the assessment of food systems sustainability, and a short-answer questionnaire was developed based on the processes. Six women from the HIV/AIDS support group were identified by Moffor as likely to be open to a conversation about how they farmed, and able to provide adequate responses to the questionnaire. While setting up the study, Angel of Mercy staff reported other needs of the women in Bambui that might be met by the process and associated interventions. Angel of Mercy staff were interested in examining whether the women could build physical strength through farm exercise, improve immune function, build social interaction, increase community trust, and decrease the stigma of living with HIV/AIDS. This proposition was based on the fundamental premise of theories of caring, including Watson's Theory of Caring : If caring occurs, healing follows (Watson, 2008).

## **Theory**

Caring has been described by philosophers as an important dimension of phenomenology (Husserl, 1950; Davis, 1996). Levinas referred to the wisdom of love as an important tool to connect to self and others (Davis, 1996). Nursing has utilized philosophies and theories of caring in proposing that caring is an important tool for

connecting to patients (Swanson, 1999; Watson, 2008; Boykin, Schoenhofer, Smith, St. Jean, & Aleman, 2003). Watson proposes ten specific processes of caring that, if enacted by nurses and other caregivers, will result in healing (Nelson, DiNapoli, Turkel, & Watson, 2012).

1. Cultivating the practice of loving kindness and equanimity toward self and others. Loving kindness includes listening to, respecting, and identifying vulnerabilities in self and others.
2. Being authentically present: Enabling, sustaining, and honoring faith and hope which is future-oriented and includes self-discovery.
3. Cultivating one's own spiritual practices and transpersonal self, going beyond ego-self.
4. Developing and sustaining a helping-trusting caring relationship.
5. Being present to and supportive of expression of positive and negative feelings.
6. Creative use of self and all ways of knowing as part of the caring process; engaging in the artistry of caritas. At the core here is creative problem solving.
7. Engaging in genuine teaching-learning experience that attends to unity of being and subjective meaning: attempting to stay within others' frame. In the context of farming this is knowledge acquisition, both subjective and objective, and is applied at a level the recipient can learn and apply.
8. Creating a healing environment at all levels.
9. Administering sacred acts of caring-healing by tending to basic needs.
10. Opening and attending to spiritual/mysterious and existential unknowns of life-death. This is belief in the impossible (miracles), even when others may assert doubt.

(Nelson et al., 2012, in section titled *The Future of Nursing Knowledge*).

The authors of this report evaluated how Caring Science might be applied to food sustainability. If the processes of caring were applied to farming, needs could possibly be identified that would otherwise go unrecognized.

## **Methods**

In applying Caring Science to the farming community, a questionnaire was developed using each of the ten caring processes to assess the food systems used by the women in Bambui. For example, for the process of healing environment, questions addressed the tools used to farm: Did they have a place to store their tools? Did the environment provide an opportunity to rest and/or have a drink of water? The caring could be enacted toward self, such as taking a rest, or caring for the earth, such as saying a spiritual blessing over the ground before planting. Each question addressed an act of caring within the process of farming that includes both farmer and farm.

## ***Sample***

Women living with HIV/AIDS and responsible for planting and harvesting food for their families in Bambui, Cameroon were the sample of interest. A convenience sample of six women who were deemed likely to respond to questions of caring were selected. Moffor presented the questions in person individually to each of the six women, using an interview format to elicit short answers. Responses were verified by the women as accurately representing their responses to each item. Results were examined for themes in each response for the purpose of developing an action plan for food systems.

## ***Demographics***

Year of diagnosis with HIV/AIDS for the six women ranged from 2002 to 2009. The number of family members within each household, including the respondent to the questionnaire, ranged from 2 to 10.

## **Results**

### ***Loving kindness***

The caring process of *loving kindness* was assessed by the question, “What makes you feel cared for as the team works with you toward a stable food supply?” There were six unique responses, but the theme for 3 of the 6 women was simply: someone asking

them about their farming needs. One woman said, “I feel cared for because you have come up with the idea to help us in our farming.” Another woman reported, “Your concern for my health and feeding ... makes me feel you care for me”.

### ***Relationships***

The concept of *relationships* was assessed by asking the women whom they currently worked with on the farm and if these relationships, or others, were important for them in working together on the farm. All six women said it was important to work together on the farm as a group which included family, children, and friends. It was clear that farming was a community effort, and all in the village needed to be included in the process.

The relationship between the villagers and the researchers who would be working with them to implement a food systems program was assessed. All six women said it was important for this project to be a collaboration between villagers and researchers. Women in the village were accustomed to working with Moffor in Angel of Mercy, but having associate researchers involved was new to them. Due to researchers being new to the women of the village, a blessing was requested from the Fon (the village chief). The women also said it was important to meet with the Fon before implementing any food systems actions, and to communicate with the Fon as the project unfolded. Finally, the women wanted to know from the researchers and Moffor not only findings of the study, but also the resulting plans for the village and how they would impact farming and harvesting crops.

### ***Environment***

Assessment of the *environment* identified the kinds of crops that were grown successfully in this area of Cameroon based on past experience. Four of the women said that beans and corn/maize worked well in the past, and two said that cassava beans and groundnuts grew well in farms of Bambui. In contrast, three of the women reported that yams did not grow well, two reported that groundnuts did not grow well, and one reported that corn and beans did not grow well.

Another question about the environment asked what the women needed to help them farm. All six of the women reported having only a few farm tools, and said that the ones they had were dull. Five of the women reported that there was no place near the field to store their tools, so they dragged the tools a mile to the field every day and a mile back home at the end of the day. Sometimes, after dragging the tools to the farm, the women were too tired to work in the field. A storehouse for tools near the field would address this problem.

Three of the women reported needing rain gear and boots; Bambui can be very rainy, and they need to farm despite rain. Other needed items included hats to protect them from both sun and rain, farm gloves, and food and water while they worked. Five women reported that there was no place to cool off on hot days; one stated that there was a shade tree that helped her cool off. All six reported that there was no cool water near the farm, and no way to keep water cool if they brought it with them to the field.

Women reported that tall, tough grass grows in the field, posing a special challenge because it is too thick and tough for the women to cut or get rid of in order to till the soil in preparation for planting. It should be noted that, according to Moffor, who has lived in Bambui, the local culture categorizes farming as work that is done by women, not men. The men who live in the village work in construction and other jobs, but farming is generally done by women.

The final question about the environment related to the organization of the field. Three of the women said that the planting of crops was organized to minimize the energy they expended while working the farm.

### ***Promoting expression of feelings***

*Promoting expression of feelings* was assessed by inquiring about the biggest frustration or sadness related to getting food every day. Five of the women reported that finances were their biggest frustration; four reported poor health.

### **Basic needs**

Assessment of *basic needs* used four separate questions to explore *physical* needs, *spiritual* needs, *mental/emotional* needs, and needs that did not fit these three processes

Responses to the question about *physical needs* related to the items discussed in the environmental process, such as rain gear and boots. When asked what would *mentally* help them to farm, three women reported more education, and two reported better health. All six women said that prayer helps meet a basic *spiritual* need in farming.

The most interesting response to the question of basic needs related to the stigma of living with HIV/AIDS. The women felt ashamed to go to the farm because they knew they looked sick, and people in the surrounding city and towns would know they were sick with HIV/AIDS, which is still stigmatized in Bambui. The women showed notable distress while discussing this subject with the interviewer.

### **Spirituality**

*Spirituality* was assessed by asking about the women's spiritual needs related to farming. The women said this project and study in farming needed to be blessed by the Fon. All the villagers believe that all important projects or events that take place in the village require a blessing from the Fon. Such blessings are believed to ensure success. Two of the women said it was important to pray for the seeds that are planted in the ground.

Another relevant spiritual aspect identified by three of the women was Country Sunday, the day of the week recognized as a day to take time for spiritual practices and/or beliefs. The specific day varies from village to village; working the farm on Country Sunday is not allowed without the Fon's blessing, so the researchers needed to know when work would not occur on the farm.

### ***Believing in the impossible (miracles)***

*Belief in miracles* was assessed by asking the women if they felt that sustaining food supplies was impossible. Five of the six women felt that sustaining food supplies in the year this study took place would be possible. All six women felt that God helped them make food production and sustainability possible.

### ***Knowledge acquisition***

Assessment of *knowledge acquisition* revealed that only two of the six women had any formal training or experience with actually working on a farm prior to their diagnosis of HIV/AIDS. Two of the women stated they had “some” farming knowledge while four reported “very little” farming knowledge. All six women reported they have more to learn about farming.

### ***Faith and hope***

Assessment of *faith and hope* was conducted using two questions; most responses were unique, with no patterns noted. Two women reported that their own hard work and working with other village members gave them hope that food would always be there. Five of the six women felt confident that they would not run out of food for the rest of the year.

### ***Creative problem solving***

For *creative problem solving*, we asked the women to provide their own suggestions for successful farming. They each suggested ideas, including having talks on farming, getting medications for HIV/AIDS so that they would feel better and could farm better, and more tools. One woman stated that the project “lifts my spirit so we are ready to work harder.”

During the interviews, the interviewer noted how the women described feeling shame when going out in public because they felt that they looked like HIV/AIDS patients. The interviewer validated with the women that her understanding was correct: that they felt shame when walking out in public because they felt people knew they were

living with HIV/AIDS. After validating this understanding, the interviewer asked if wearing wigs would make them feel better about themselves. All six women agreed that this was a good idea and wanted to try wearing wigs when out in public.

## **Discussion**

Based on the analysis of the findings, specific actions were identified to develop a food systems program that could be implemented in phases as funds and resources allowed. Process objectives that were completed included:

- Informed the Fon of the project and asked for his blessing.
- Purchased specific seeds for crops that were successful in the past.
- Prayed over the seeds before planting.
- Evaluated the soil for nutrients and, where soil was poor, added fertilizer to enhance plant growth.
- Purchased new rakes, hoes, and other tools.
- Purchased two wheelbarrows.
- Worked in groups throughout the planting, growing, and harvesting of crops.
- Purchased wigs for the women to wear when traveling to and from the farm as well as when walking around the village.
- Men from the village were hired by Angel of Mercy to cut the tough grass before the women worked the farm land. After the tough grass was cut, the women were able to till the ground and prepare for planting.
- Angel of Mercy provided funds to pay members of the women's households to help with the farming. Helpers were paid daily for the work performed.
- Meals were provided for the women after each day of working the farm land.
- Women were allowed to take some of the harvest home with them to their respective households, which was a change in the village rules.

Actions that will be implemented, pending additional funds:

- Purchase a small tractor or two for the women to travel to and from the farm and to haul equipment or crops as needed.
- Purchase or build a shed to store all the farm equipment close to the farming field.
- Provide a refrigerator or other method to keep drinking water cool while farming.
- Provide a place of shade to cool off during the hot day, possibly an overhang on the shed built for the tools and tractor.
- Evaluate education tools available (e.g. online videos or films) to help women understand how best to raise crops in this part of Africa. Include the entire village in the educational process.

Results of the initial plan of action have provided a good harvest for the first year. The women reported that the food yield was better, and that the interventions noted above helped them build and conserve energy to work the farm more effectively.

Specifically, working in groups helped lighten the workload. Paying family members to work in these groups also brought money into the households, which alleviated financial worries. Hiring the men to clear the tough grass prior to tilling the soil with the new farm tools was also helpful. Having meals provided after the work day helped the women walk back to their homes after a day in the field and tend to the needs of their family in the evening. Women reported that this new system of farming made them look forward to farming, knowing they would be working with family and friends, working with good tools, and having food and drink to replenish their strength.

What was most fascinating and least anticipated for the researchers was how much the wigs helped the women get out to farm as well as walk around in the village

without feeling stigmatized. Feeling stigmatized due to looking ill was a significant barrier to going out in public and to sustained self-esteem.

Comprehensive assessment of food systems, including tools, environment, and relationships, made the women feel cared for. Some of the women in the study used the words, “It made me feel loved”, when describing how this study made them feel. Traditional methods of assessing food system sustainability would have overlooked many of the needs for holistic health that were identified using this new method of assessment. Use of Watson’s Theory of Caring and associated 10 processes was an innovative and effective way to produce an abundant crop for the village in a way that not only met food needs, but enhanced relationships, feelings of self-worth, and a sense of caring, as initially proposed by Dr. Jahn and her colleagues.

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[Editor's Note: The Caring International Research Collaborative (CIRC) is a consortium of several interdisciplinary research groups (known as "sharing groups"), sponsored and supported by Sigma Theta Tau International, the international nursing honor society. Each sharing group is a collection of scientists, direct care providers, educators, and administrators who focus on a specific aspect of Caring Science. For more information about CIRC, go to <http://circ.nursingsociety.org/home>

Findings from CIRC participants will be a regular feature of the *Interdisciplinary Journal of Partnership Studies*.]