



## Development of a Nutrition Extension Course: A Step-By-Step Collaborative Process

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*The use of participatory and qualitative information gathering and sharing during the planning grant phase of the Enhancing Child Nutrition through Animal Source Food Management (ENAM) project, allowed for context-specific and multidisciplinary analysis of the constraints to animal source foods (ASF) in children's diets in Ghana. This process led to the development of a demand-driven problem model specifying the causal links to the constraints that limited use of ASF in children's diets and to the interventions to address these constraints. To improve the capacity of future nutrition professionals in the use of extension principles that incorporate the sustainable livelihoods strategy for diagnosing community nutrition problems and designing appropriate interventions, the ENAM project management team proposed that training in nutrition extension should be incorporated into the nutrition curriculum offered through the Department of Nutrition and Food Science at the University of Ghana. A step-by-step process was undertaken, which included consultations with an international nutrition extension specialist, consensus-building discussion sessions, a workshop with stakeholders working in governmental and non-governmental programs and at the university, the development of a course description and outline, and the submission of a course proposal to the University of Ghana Academic Board. This resulted in the approval of an interdisciplinary course entitled "Nutrition, Sustainable Livelihoods and Extension," as a third year undergraduate elective course offered through the Department of Nutrition and Food Science at the University of Ghana. Stakeholder recommendations for the future included the development of a nutrition extension short course to upgrade the skills of current nutrition practitioners.*

### Background

The project to develop a nutrition extension curriculum at the University of Ghana arose from the lessons learned through the methodology employed for data collection and analysis during the planning grant phase of the Enhancing Child Nutrition through Animal Source Food Management (ENAM) project. The planning grant was an exploratory process that involved extension principles of participatory and qualitative information gathering and sharing, which allowed for context-specific and holistic analysis of the constraints to the use of animal source foods (ASF) in children's diets in Ghana. These participatory qualitative methods included community mapping, wealth ranking, focus group discussions, key informant interviews, and ASF tracking from consumer to vendor and producer. The outcome of the planning grant process was a community-driven problem model for the causal links to the constraints to the use of ASF in children's diets in Ghana and intervention priorities to address these constraints. The participatory process reinforced the importance of using a sustainable livelihoods approach in the research to learn from as well as enhance local knowledge, expand leadership capacity, create a sustainable learning strategy, and create community ownership of the program. With these program goals in mind, a key constraint that

emerged from the process was the lack of knowledge of community workers (agriculture extension and nutrition) about how to adequately develop education opportunities for caregivers on nutrition issues within the context of the caregivers' day-to-day realities.

The planning grant exercise demonstrated the value of extension-based exploratory processes that are participatory and are steeped in the sustainable livelihoods strategy for diagnosing community nutrition problems, identifying relevant solutions and implementing appropriate actions or interventions. It also highlighted the need for nutrition practitioners to be equipped with basic concepts of participatory research to adequately work with communities to assess their needs and develop context-specific and holistic services. These findings suggested that skill development in the application of extension principles and sustainable livelihoods strategies in nutrition research and practice should be included in training programs for nutrition professionals.

As part of the capacity building objectives of the ENAM project, we proposed to develop a nutrition extension curriculum for the Department of Nutrition and Food Science at the University of Ghana. This brief provides

a step-by-step account of the process undertaken towards developing the nutrition extension curriculum and the progress in working towards this goal.

### **Step 1: Identify Existing Courses**

The ENAM staff completed an internet search to identify existing university course materials and curricula that could be adopted or adapted at the University of Ghana. The search revealed that, unlike Agricultural Extension, universities did not have Nutrition Extension as a program of study; no university offered an undergraduate degree or coursework in nutrition extension. Nutrition extension existed in universities as outreach programs or services to vulnerable groups. This was exemplified by the Cooperative Extension program, provided through Nutrition or related departments in Land Grant universities in the United States (U.S.). Universities with nutrition outreach programs typically employed an Extension Nutrition Specialist to direct these programs.

### **Step 2-3: Consultations with Nutrition Extension Specialist**

The ENAM management team next met with a U.S. consultant who was a Nutrition Extension Specialist to discuss training of nutrition extension service personnel. During the consultation, a seminar was offered to discuss U.S. experiences in nutrition extension and initiate the discussion about curriculum needs among the local academic and program stakeholders. The seminar was attended by students and lecturers from the department of Nutrition and Food Science and departments in the Faculty of Agriculture, as well as representatives from the Nutrition Division of the Ghana Health Service and Women in Agriculture Development (Ministry of Food and Agriculture). The ENAM project management team then deliberated with the consultant about the development of a nutrition extension curriculum at the University of Ghana. During these discussions the results of the internet search were confirmed: Nutrition Extension was not offered by universities as a program of study; universities provided nutrition extension as evidence-based (through research) outreach services to vulnerable groups. Several pertinent issues to consider in the development of an effective Nutrition Extension program at the university that arose from the discussions, including the need to:

1. Form linkages between academia and governmental and non-governmental organizations, as well as industry, for effective delivery of nutrition extension services;
2. Have consistent funding to sustain the extension outreach program;

3. Develop a system of training paraprofessionals for appropriate delivery of outreach nutrition services.

During the discussions, several issues were raised regarding the practicality for the University of Ghana to use the U.S. nutrition extension model. Some of the concerns that were raised were:

1. The university did not have the infrastructure to adopt the model. Specifically, the kind of network linkages with government and non-government organizations and industry needed were not present at this time;
2. The university played no role in actual delivery of nutrition services to communities and there was no formal link with organizations and institutions outside the university to translate research undertaken at the university to nutrition intervention programs.

It was concluded that, while it may be possible to pursue the extension model presented in the future, it could not be accomplished within the time frame of the ENAM project. A compromise to attaining the ideal of developing a nutrition extension program was to incorporate extension and livelihoods principles in the existing nutrition curricula taught at the Department of Nutrition and Food Science to develop future professionals in the area of nutrition extension. This would be achieved through the development of a course that would introduce students to basic principles of extension and participatory strategies and their relevance to nutrition. It was deemed necessary to interact with current nutrition extension practitioners and community-based and other stakeholders to obtain their input on what the course should look like given the realities in the field.

### **Step 4: Nutrition Extension Course Development Workgroup Meeting**

A two-day workshop was held in July 2006 to obtain wide stakeholder input in the designing of an overview course that would introduce students with professional interest in community nutrition or nutrition extension to key concepts and methods in Nutrition Extension. The meeting was attended by 23 participants from the University of Ghana (Departments of Agricultural Extension, Nutrition and Food Science, Home Science, Public Health, and Animal Science), governmental organizations (Ghana Health Services, Ministry of Food and Agriculture, and Rural Health Training School) and non-governmental organizations (Adventist Relief Agency, Plan-Ghana, Freedom from Hunger, World Vision, and Christian Rural Action Network). The participants were enthusiastic about the planned course and there was consensus that the course would be a valuable addition to

student training. However, concern was expressed that the course would be out of reach for current practitioners. The participants urged that the course should eventually evolve into a short course or sandwich program that could serve to upgrade the skills of current practitioners. The outcome of the workgroup meeting was a list of recommended topics that should be covered in the course.

### **Step 5: Consensus Building**

The ENAM project management team convened a series of staff meetings to synthesize the information obtained from the workgroup meeting and to develop a conceptual framework for the nutrition extension course. There was consensus that since nutrition problems are multifaceted and do not occur in isolation of people's living situations, the course should be presented within a livelihoods framework.

### **Step 6: Course Description and Outline**

The course topics recommended by the workgroup participants were organized within the context of the sustainable livelihoods framework. A course description was developed which reads:

*The course will discuss the interactions between nutrition and livelihoods by exploring the interrelations between the sustainable livelihoods framework and the malnutrition framework developed by UNICEF. Students will be provided with an overview of extension methods and their application to assessing nutrition issues within the sustainable livelihoods framework. Students will learn from real life examples of nutrition intervention programs that have ensued from the application of extension principles and methodologies.*

The broad topic areas described in the course outline are: basic concepts in nutrition (including foods and their food values, food hygiene and preservation, nutrition and the life cycle); nutrition and livelihoods; malnutrition, food insecurity and livelihoods; role of extension in nutrition; qualitative assessment tools for understanding nutrition and food insecurity issues within the sustainable livelihoods framework; and improving nutrition through behavior change. The course outline includes field trips and the use of the ENAM project as a case study for student learning.

### **Step 7: University of Ghana Course Approval**

A proposal for the course was developed, which included justification for the course, course objectives, course description, course outline, expected outcomes and

references/recommended readings. This proposal was first circulated among faculty members of the Department of Nutrition and Food Science for their review and was subsequently discussed during a departmental meeting. Following this, the course proposal was presented at the Faculty of Science Board meeting. The Faculty of Science Board was comprised of the Dean of Science and all heads of the 11 departments of the Faculty of Science with their representatives. To approve a course, the Faculty Board reviews the proposal for the course with respect to relevance of the course to the program of study, appropriateness of the number of credits assigned to the course and availability of competent instructors to teach the course. After the Faculty Board approved the course, the course proposal was submitted to the University Academic Board for final approval. The University Academic Board is the highest decision-making body on academic matters at the university. The Board is chaired by the Vice-Chancellor and its membership includes all heads of departments, faculties, schools and colleges and University of Ghana-affiliated research institutes/centers and their representatives. The Academic Board checks that the proposed course is not a duplication of an existing course. The Academic Board's approval of a course gives formal approval to the Department, through which the course will be offered, to advertise and offer the course to students in the semester specified. In March 2007, the Academic Board approved the Nutrition Sustainable Livelihoods and Extension course as a level 300 (for third year undergraduate students), two-credit course to be offered through the Department of Nutrition and Food Science.

### **Practical Implications**

The course will introduce students to qualitative assessment techniques and frameworks, which thus far have not been offered in the nutrition undergraduate program. Additionally, the course will provide students with the opportunity to integrate nutrition information with other disciplines in addressing community issues and therefore provide more holistic solutions. Students will be introduced to the sustainable livelihoods framework and will receive skill training in extension principles to enhance their abilities to effectively address nutrition issues.

## Further Reading

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The GL-CRSP Enhancing Child Nutrition through Animal Source Food Management (ENAM) project was established in 2003 and, through research, training and outreach, monitors the multiple pathways that might increase availability, accessibility and utilization of animal source foods in the targeted communities of Ghana. The project is led by Dr. Grace Marquis, Iowa State University and McGill University. Email contact: [grace.marquis@mcgill.ca](mailto:grace.marquis@mcgill.ca).



The Global Livestock CRSP is comprised of multidisciplinary, collaborative projects focused on human nutrition, economic growth, environment and policy related to animal agriculture and linked by a global theme of risk in a changing environment. The program is active in West and East Africa, Central Asia and Latin America.

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