To ensure sustainability of the activities that enhance feeding of animal source foods (ASF) to preschool children, it is important that the processes and products of the ENAM project become institutionalized in the relevant government ministries. This research brief provides an analytical description of the collaboration between the ENAM project and relevant government ministries in Ghana and lessons for institutionalization to enhance ASF feeding to preschool children. The findings show that a high level of interactive participatory collaboration has been achieved between the ENAM project and the relevant government ministries at different hierarchies and at multiple stages of the intervention. The initial impact of the intervention is positive with regards to poverty reduction and enhanced ASF consumption, as well as the enthusiasm of the relevant government ministries. However, the collaborations have not yet enabled the ministries to reach a point of self-mobilisation for sustainable institutionalization of the ENAM interventions. We outline further efforts and activities that are required to be undertaken by the ENAM project to enhance its institutionalization in relevant government ministries.

Background

The importance of animal source food (ASF) consumption for child development is widely acknowledged, as it has been positively associated with early childhood growth and cognitive development. Whether considered per unit weight or per unit energy, ASF tends to be a richer source of essential micronutrients, such as iron, zinc, calcium, vitamin A, vitamin B-12, and riboflavin, as compared to plant foods. There is widespread prevalence of multiple micronutrient deficiencies in sub-Saharan African countries, in part attributable to diets low in ASF. The Ghanaian diet, particularly among low income families, consists primarily of starchy staples to which small quantities of sauces, that may or may not contain ASF, are added. The poor dietary quality and low nutrient bioavailability of the typical plant-based diet contributes to childhood malnutrition.

To address this nutritional problem, since October 2003, a team of scientists from Iowa State University and the University of Ghana, Legon have been working together to understand the constraints to the availability, accessibility, and utilization of ASF in children's diets in Ghana, and to identify intervention priorities to overcome these constraints. A qualitative assessment of six rural communities in three agro-ecological zones of Ghana found that 2 to 5 year-old children did not receive a special diet, but shared in meals prepared for the whole family; the children's consumption of ASF was limited in part by the small quantity available in the household pot (Colecraft et al., 2006). General barriers to the inclusion of ASF in children's diets include poverty, lack of knowledge of the benefits of ASF for children, inadequate production systems, poor producer and consumer linkages, lack of processing and storage technologies and facilities, and cultural beliefs and practices related to child feeding.

The Enhancing Child Nutrition through Animal Source Food Management (ENAM) project adopted a microenterprise development strategy to improve caregivers' incomes (poverty reduction) through financial and entrepreneurship educational support for caregivers' income generation activities. This intervention strategy was based on the assumption that improving caregivers' incomes would enhance caregivers' purchasing power for ASF for family meals, and hence, with nutrition education, enhance the ASF quality of children's diets. This assumption is consistent with studies that have reported a positive association between women's economic activities and their children's nutritional status (Lamontagne et al., 1998). The nutrition education component of the interventions is inspired by studies which show that after controlling for factors such as maternal background characteristics, health habits, and household characteristics, an increase in maternal knowledge on health and nutrition leads to better diet quality for preschoolers (Blaylock et al., 1999).

The ENAM project has combined the microfinance and enterprise development training services with nutrition education since July 2005. The project's fundamental
assumption is that the processes, products, and the goals of the ENAM project need to be institutionalized in relevant government ministries and other institutions to ensure sustainability of the research and development activities for enhancing feeding of ASF to preschool children. Therefore, the design and implementation of the project activities have involved collaboration with relevant government ministries.

**Method**

The nature of the collaboration between the ENAM project and the government ministries in Ghana (Ministry of Health – Ghana Health Services and the Ministry of Food and Agriculture) was analyzed using Pretty’s Ladder of Participation (Pretty, 1994; Pretty et al., 1995), which identifies seven different types of participation in collaboration. These include passive participation, information-giving participation, participation by consultation, participation for material incentives, functional participation, interactive participation, and self-mobilisation. The final level, self-mobilisation, involves a situation in which people or organizations participate in a collaboration by taking initiatives independent of external institutions to change systems, link up with others for resources and technical advice, and retain control over how resources are used. To obtain sustainability, the ENAM project’s goals, research, and development activities need to be institutionalized in the relevant government ministries. For this to occur, the ministries need to reach a level of collaboration with the ENAM project where they are ready for self-mobilisation with regards to enhancing ASF in diets of preschoolers in Ghana. Therefore, we analyzed the nature of the collaboration of the government ministries during the design and implementation of the ENAM project to categorize the ministries’ level of participation and identify that, which would be required to move it into the stage of self-mobilisation.

The ENAM project design and implementation involved the following steps, during which there has been varying degrees of collaboration: (i) development of the problem model and identification of interventions to reduce the constraints to feeding children ASF, (ii) identification of local best practices for field level nutrition education and micro-enterprise development (microfinance services and entrepreneurship education), (iii) involvement of the ministries, departments and agencies (MDAs) in developing the educational materials and serving as counterparts, and (iv) review of the educational communication products of the project to make recommendations for its revision for continued use by the project and other stakeholder institutions.

**Major Findings**

**Problem model development.** There was no formal Memorandum of Understanding between the project and the Ministries of Health and Agriculture at the stage of developing the problem model on the constraints to feeding children ASF. However, the project informed the ministries of the study in writing and invited them to participate in various roles, including (1) provide additional information from government ministry documents, (2) serve as key informants at the national level, and (3) assist in the development of the conceptual framework. The initial data collection was primarily qualitative and participatory. Once the information was synthesized, a validation workshop, using participatory approaches, such as small group discussions, plenary sessions and consensus building was held with the key informants from the relevant ministries and resource persons from the communities. The workshop was used to prioritize the constraints and mutually arrive at the intervention approaches to address them. This ensured that the focus of the project was on the principal issues and the approaches were relevant to the realities of the beneficiaries and appreciated by the government ministries.

**Best practices.** A range of consultations with the government ministries and non-governmental organization (NGO) databases was used to learn about activities of local organizations and identify their best practices for the development of income-generation activities (IGAs). On completion of the best practices study, a second workshop was held to validate results and design IGA approaches; national and district-level staff from relevant government ministries as well as NGOs attended. The workshop resulted in the identification of a model of enterprise development service delivery which embodied both credit and savings with education. The ENAM project adopted an integrated approach to the intervention in which microfinance services, entrepreneurship education, nutrition education and lessons on suitable ways of preparing animal source foods for preschool children could be delivered to participating caregivers.

**Educational resources.** The best practices study and the validation workshop also provided an opportunity to verify whether there were existing communication products, such as flip charts and training manuals that could be used to teach the benefits of ASF in preschool children’s growth and cognitive development, and enterprise development to low-income, largely illiterate caregivers in rural informal settings. No such educational materials were found. Therefore, the ENAM staff initiated the development of nutrition education flip charts and an enterprise development education manual. The flip-chart is a compilation of lesson plans with associated illustrations covering four topics –
benefits of animal source foods, feeding and making the mealtime happy, the balanced plate and some facts about 2 to 5 year-old children. The entrepreneurial education manual is comprised of modules with three to five associated lesson plans on examining roles and activities as women, marketing and customer care, record keeping, costing and pricing, and financial literacy. A study to assess the effects of the intervention on participants’ enterprise performance, contribution to key household and child-related expenses, as well as their households’ purchases and consumption of ASF was undertaken. The micro-enterprise development coupled with nutrition education interventions given to caregivers was effective in reducing poverty (higher incomes) and improving ASF consumption at the household level (Homia, 2007).

The collaboration with government ministries and other stakeholders at the design and implementation stages involved interactive participation, in which the ministries staff, researchers, and community members participated in joint analysis at different stages. In addition, staff members from Ministry of Agriculture were seconded to the project to directly collaborate in the intervention activities. The collaborative process led to action planning involving interdisciplinary methodologies that sought multiple perspectives and made use of systematic and structured learning processes, resulting in effectiveness of the intervention activities in the project communities.

Next Steps Toward Institutionalization

For widespread impact, there will need to be additional efforts to institutionalize the project in the appropriate government ministries that have mandates and resources to achieve this. A key aspect of any institutionalization will be the incorporation of the goal of feeding ASF to preschool children into the policy and intervention of the government ministries. Among others it is expected that the institutionalization will include out-scaling and up-scaling of the use of the nutrition flip-chart and the micro-enterprise development education manual. With this purpose in mind, a two-day work group meeting, attended by representatives from the Ghana Health Services, the Ministry of Food and Agriculture, the University of Ghana and national and local NGOs, was organized to obtain stakeholder input to revise the two educational products and to enhance their utility beyond the ENAM project interventions.

Key recommendations for improving the content of the nutrition education flip-chart included listing objectives for each lesson plan in the flip-chart, using real pictures (instead of drawings) for illustrations and mainstreaming gender issues in the lessons and illustrations. To enhance utility of the flip-chart beyond the ENAM project interventions, the stakeholders recommended that topics should be expanded to include discussion of immunization, vitamin A supplementation, and use of iodated salt and bed nets. To improve the entrepreneurial education manual, suggestions included: restructuring the objectives for each lesson to improve clarity, providing guidelines on what should be emphasized in the examples given for role playing activities, and ending each lesson with a succinct take-home message. To enhance the utility of the entrepreneurial education manual beyond the ENAM project interventions, stakeholders recommended that topics on value-addition, such as processing and packaging, should be included in the manual, and that the modules should be generalized to cover other businesses besides trading. There were also recommendations to improve the methods and media delivery of the education activities. In addition to the group-based participatory facilitation used in the ENAM project, the government ministry staff advocated for the use of peer education and mass media, such as local radio and television, to multiply the outreach of the educational materials.

Other activities are required to ensure institutionalization of the research and development activities embodied in the ENAM project. These include explicit advocacy for inclusion of the importance of ASF for preschoolers in the policy of Ministry of Health and the incorporation of the educational materials into the available communication products of the relevant government ministries. It was further recommended that to institutionalize these interventions, national and regional workshops should be organized for policy makers and key staff of the relevant government ministries to disseminate information on the importance of ASF, the interventions developed by the ENAM project and the evidence of their impact, the communication products and processes, and the methods to undertake relevant impact assessments. In addition, it was recommended that Training of Trainers workshops be organized for the staff of the relevant government ministries and selected key community members (e.g., peer educators) at the district and community levels.

Practical Implications

Preliminary studies have shown that the ENAM project’s intervention involving micro-enterprise development and nutrition education has impacted positively on ASF consumption by caregiver households and their preschool children. This has been achieved through poverty reduction by engendering more effective management of income-generatin activities. It therefore will be important for the ENAM project’s interventions to be institutionalized in the government ministries to enhance an out-scaling and up-scaling.

The interactive participation between the ENAM project and relevant government ministries (Ministry of Health
and Ministry of Food and Agriculture) and other stakeholders has been important for ensuring identification of key relevant constraints and workable approaches to addressing them.

The communication products and processes, such as the flip chart and training manuals, offer opportunity for consistent content and procedures, which will guide field implementation of the development activities the ENAM project and beyond. The recommendation by the government ministries’ staff to broaden the scope of the communication material is based on the need to have material which covers the mandate of the organizations. The implications are that, even though a research and development endeavour, such as the ENAM project, which may have a narrow focus (ASF in preschool children), institutionalization must occur within the context of the institutional mandates of the government ministries. Therefore, some of the existing communication tools of the ministries and the tools developed for ASF promotion can be joined together through the same highly effective interactive participatory collaboration that has characterized the ENAM project.

Institutionalization will not take place on its own. Concrete efforts and resources will be needed to build capacity in the Ministry of Health and the Ministry of Food and Agriculture to multiply media products, diversify communication formats, and to carry out the field application.

**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.

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 East Africa, Central Asia and Latin America.

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