



# FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

## Infusing Agricultural Extension with Nutrition and Gender-sensitive Messages

A Needs Assessment Report from a Communications Perspective,  
based on Field Work in Bangladesh from July 29 to August 8, 2015

**Report prepared by Dr. Lulu Rodriguez and Lea Peck**  
University of Illinois at Urbana-Champaign



*HKI displays the wealth of communication materials about good nutrition and health practices it has produced in an expo held at the IFNS, University of Dhaka.*



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## Acronyms

ADB	Asian Development Bank
BARI	Bangladesh Agricultural Research Institute
BAU	Bangladesh Agricultural University
BDT	Bangladesh taka (the local currency)
BIID	Bangladesh Institute of ICT in Development
BIRTAN	Bangladesh Institute for Research and Training on Applied Nutrition
BRAC	Bangladesh Rural Advancement Committee, the world’s largest NGO
CSD [ULAB]	Center for Sustainable Development
DAE [MOA]	Department of Agricultural Extension of the Ministry of Agriculture
DAEE [BAU]	Department of Agricultural Extension Education
DANIDA	Ministry of Foreign Affairs, Denmark
EAS	Extension and advisory services
FAO	Food and Agriculture Organization of the United Nations
FtF [USAID]	Feed the Future
GAIN	Global Alliance for Improved Nutrition
HKI	Helen Keller International
ICT	Information and communication technologies
INGENAES	Integrating Gender and Nutrition within Agricultural Extension Services
INFS	Institute of Nutrition and Food Science, University of Dhaka
IPHN	Institute of Public Health and Nutrition
IRRI	International Rice Research Institute
IT	Information technology
IVR	Interactive voice response
MOA	Ministry of Agriculture
MOHFW	Ministry of Health and Family Welfare
mPower	mPower Social Enterprises, Ltd.
NGO	Non-government organization
OBD	Outbound dialer
PHN	Population, health, and nutrition
PROSHAR	Program for Strengthening Household Access to Resources
SAAO [DAE]	Sub-Assistant Agricultural Officer
SAM	Severe acute malnutrition

SBCC	Social and behavioral change communications
SSG	Super Star Group Limited
TOT	Trainer of trainers
ULAB	University of Liberal Arts Bangladesh
UIUC	University of Illinois at Urbana-Champaign
USAID	United States Agency for International Development
WB	World Bank

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## I. Objectives for the Communications Group - Contributions to INGENAES in Bangladesh

Dr. Lulu Rodriguez and Lea Peck of the University of Illinois’ Agricultural Communications Program were asked to join an interdisciplinary team of students, faculty members and staff of two other universities that visited Bangladesh on behalf of the Integrating Gender and Nutrition within Agricultural Services (INGENAES) project.

INGENAES’ mandate is to assist USAID’s Feed the Future missions to strengthen gender and nutrition integration within agricultural extension and advisory services (EAS). Its stated objectives are (1) to build robust nutrition-oriented institutions, projects and programs capable of assessing and responding to the nutrition needs of farmers and farm families; (2) identify, test the efficacy, and strengthen proven mechanisms for delivering improved EAS to women farmers; (3) disseminate gender-appropriate and nutrition-enhancing technologies and access to inputs to improve women’s agricultural productivity and enhance household nutrition; and (4) apply effective extension approaches and tools to enhance the nutritional status especially of those who reside in rural areas.

For the purposes of this report, we define nutrition-sensitive agriculture as involving the design and implementation of nutrition-based approaches to sustainable farming and cropping systems. In short, it is agriculture with a nutrition lens.

Extension and advisory services (EAS) are often thought of as a mechanism for the improved nutritional health of rural communities because they reach and interact closely with farmers and farm families in a variety of settings. EAS have conventionally been known to function as conduits of crop, livestock, and forestry information. However, the extent to which it can perform the function of delivering nutrition advice and services have been less clear and less evaluated.

The goals for the two communications representatives were as follows:

1. To examine procedures and products of organizations, agencies and entities that have been identified as having the capacity to generate, produce and disseminate communication materials and nutrition messages.
2. To assess available communication materials in terms of format and the quality of message presentation.
3. To assist in the “harmonization” of messages given a variety of information sources.
4. To understand how the variety of actors and agencies involved can be linked for the efficient exchange and sharing of information and communication materials.

The report begins with observation on the communication dimension of integrating nutrition. Next, recommendations for the integration of nutrition messages into extension are provided and recommendations for research are outlined. These recommendations are based on the information gathered while in country. A description of the day-to-day activities and observations follows. Towards the end, participants’ inputs in the message harmonization workshop are summarized.

## II. Observations on the Communication Dimension of Integrating Nutrition into Extension

**The extension model in Bangladesh.** As in many countries, Bangladesh has witnessed an extension mechanism that originally follows a sequential and linear pattern. In this scheme, researchers generate the technology, extension workers communicate research results to farmers and rural communities, and

farmers adopt or reject agricultural technologies and other innovations. Over time, more participatory approaches have emerged that essentially gave farmers a more active and influential role by allowing their needs and perspectives to drive the process. Such an approach, according to the interviews, is what is now in place in Bangladesh although the feedback loop from the farming audience remains weak. A simplified diagram of this approach is shown in Figure 1.

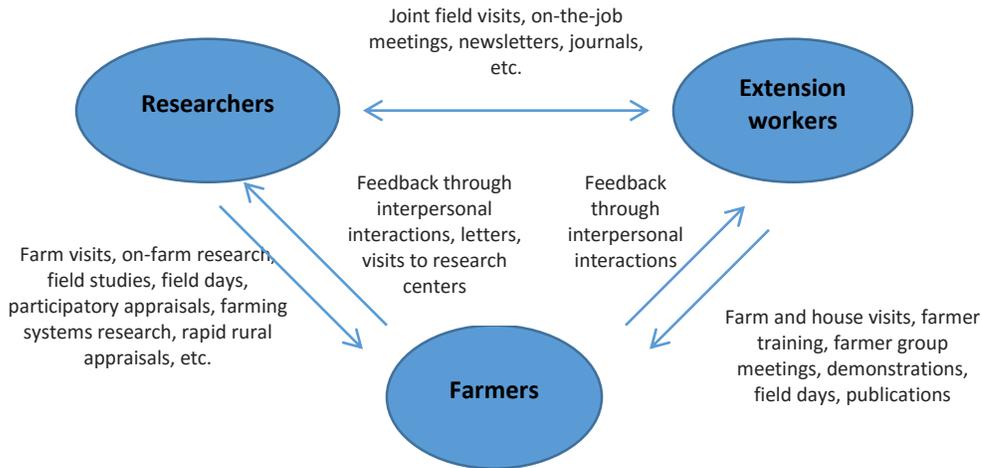


Figure 1. General extension schema as defined in literature related to the Bangladesh extension system

**Information flow.** Based on the interviews we conducted, it appears that the flow of nutrition information, which everyone expects to be additional fodder for conventional extension, follows a very linear, top-down approach. In general, information emanates from content generators and is then passed on to the extension force (or the different partner agencies’ version of extension or advisory services). Some of these make their way to the Bangladesh media, although in increments that are hardly noticed by the general public.

This general current of information movement is understandable, given the stringent approval process that most partner agencies say they need to undergo to push information distribution to the “commercial level.” It is also important to note that research results and scientific principles serve as the bases for these messages. Within the country, the stamp mark of the Ministry of Health and Family Welfare is evident in most nutrition-related recommendations coming from sources that enjoy considerable credibility. Where the partner agencies are international in scope, many abide by the suggestions of world bodies such as the FAO, which typically assemble a panel of international experts to vet content. Thus, it seems that messages typically originate from foundational works that have strong scientific and technical underpinnings.

The nature of nutrition messages is such that they lend themselves well to a stringent approval process that is largely implemented by technocrats. What remains untapped in this schema, however, is the power of the mass media to multiply message reach. A schematic of the prevailing information flow is shown in Figure 2.

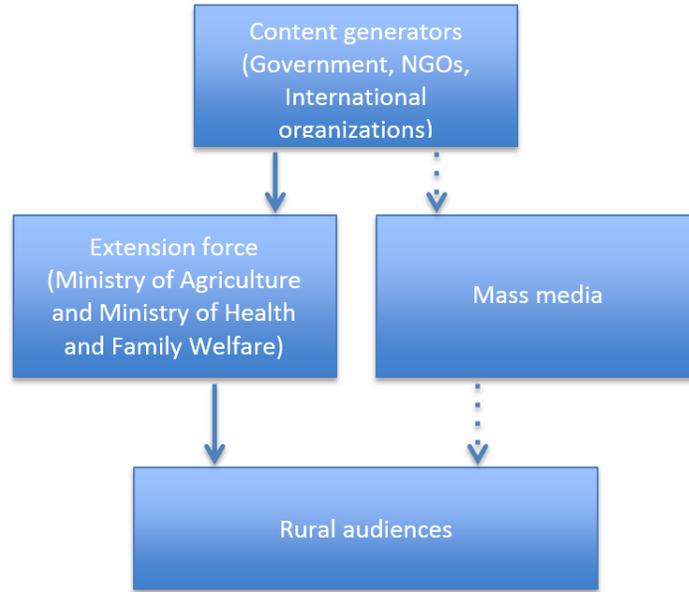


Figure 2. Observed flow of nutrition and related information.

An inventory of available communication materials is an important first step in leveraging the extension system to deploy nutrition messages. It is important to keep in mind, however, that print and other products are essentially supplementary in nature, designed primarily to assist field workers (such as SAAOs) in their predominantly interpersonal communication activities.

Following the tenets of the diffusion of innovations theory (Rogers, 1962), the stages by which a person adopts an innovation, and whereby diffusion is accomplished, include awareness of the need for an innovation, decision to adopt (or reject) the innovation, initial use of the innovation to test it, and continued use of the innovation (Figure 3). Over time, researchers have generalized that mass media channels are relatively more important at the knowledge stage and that interpersonal communication channels are more important at the persuasion stage in the innovation-decision process. Thus, the diffusion of innovations framework supports the use of EAS as the vehicle for nutrition education.

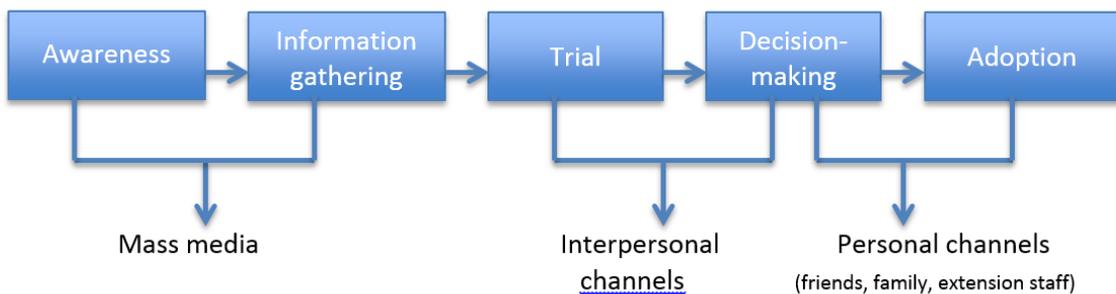


Figure 3. The innovation decision process and the communication channels known to advance the diffusion of an innovation at each stage.

The theory suggests that interpersonal communication channels such as extension workers, friends, family members, and opinion leaders hold the greater sway in making people eventually adopt recommended behaviors. What is obviously lacking in Bangladesh, given the persistent findings of diffusion studies, is the systematic deployment of the mass media to enhance awareness and stimulate information gathering.

**The messages and the products.** Rogers (1962) says there are five main factors that influence adoption of an innovation. The extent to which nutrition- and gender-sensitive messages are adopted are a function of the following innovation characteristics:

- (1) relative advantage or the degree to which the innovation is seen as better than the idea, practice, or product it replaces;
- (2) compatibility or the degree to which the recommended practices are consistent with the values, experiences, and needs of potential adopters;
- (3) complexity or how difficult the innovation is to understand and/or use;
- (4) trialability or the extent to which the innovation can be tested or experimented with before a commitment to adopt is made; and
- (5) observability or extent to which the innovation provides tangible results.

The degree to which the recommended nutrition practices exhibit the attributes listed above will explain the speed with which an idea or practice gains momentum and diffuses (or spreads) through a specific population or social system over time. A cursory examination of the nutrition-related agricultural recommendations indicates good marks on 2-4, and possibility on 1.

What is hard to assess, however, is message quality given that a large majority of the materials shown during the August 5 Expo were in the Bangla language. It is easier, nonetheless, to gauge the technical quality of these products. Given the varying capacity of producer agencies, the materials we saw may be rated fair to very good.

### III. Recommendations for the Integration of Nutrition Messages in Agricultural Extension

The following recommendations to integrate nutrition messages in agricultural extension are based on observations made during the visits to different agencies with varying roles to play as INGENEAS partners.

**1.** The most important challenge is to convince the ag extension force to take on the added function of delivering nutrition information. Traditionally, agricultural EAS involved the application of scientific research and new knowledge to agricultural practices through farmer education. These days, EASs are no longer limited to the transfer of technology. Agents now have broader objectives beyond providing technical solutions—they assist farmers in organizing and acting collectively, they address processing and marketing issues, and they partner with other service providers and institutions. Today, EASs are asked to address environmental deterioration, nonfarm rural employment, as well as malnutrition, in addition to agricultural production. Adding nutrition information delivery is likely to tax an already overburdened and underfunded extension service.

These additional goals and responsibilities have created a need for a type of extension agent equipped with a diverse set of capacities to respond effectively. To diminish the potential backlash, education and training, including on-the-job training, are essential to enhance the ability of agricultural extension agents to effectively incorporate technical knowledge about nutrition into their activities and interactions. Among other skills and competencies, they need to understand the basic nutrition characteristics of crops and make the connections between the crops in the field and their nutritional benefits in the household. Even with a heavy focus on increasing the production of staple crops, extension agents must, at minimum, be aware that people need more than staple crops such as maize and rice for good nutrition. In addition, extension agents require ongoing training and refresher courses to instill a professional focus on nutrition and to stay relevant in their messages.

Thus, we strongly recommend that INGENAES address the need to provide incentives to educational institutions so that they are able to incorporate nutrition content in the training of extensionists. This can be done by, for example, helping educational institutions such as the Department of Extension Education at BAU beef up their syllabi to include the role of horticulture, livestock, and other conventional content of extension and advisory systems, in nutrition improvement and the empowerment of women. These extension training grounds should, at the minimum, offer a short course (e.g., Nutrition 101), which will introduce fundamental nutrition messages into the curriculum.

Beyond technical nutrition-specific skills, “soft” skills are also required for the integration of nutrition into the EAS. These skills, which include communication, facilitation, management, and gender sensitivity, are often difficult to acquire because of the traditional emphasis of EAS on delivering standardized information and technologies.

Extension agents also need to be astute about “do no harm” considerations regarding gender. For example, focusing on cash crops that provide income that is not shared with women, or a move to commercialize horticulture crops and transfer control away from women, could trigger negative impacts for women and household nutrition in general.

**2.** Our conversations with BIRTAN officials and the Field Service Wing of the MOA point to the fact that extension is still underfunded although the system has been expanding in terms of facilities and personnel. In Bangladesh, operational and human capacity is limited in what it can provide to millions of farmers, many of whom are in geographically challenging areas, in need of technology and knowledge. Thus, ways by which extension agents can be remunerated for added tasks should be explored.

As a corollary, the expanded roles that extension agents are expected to assume call for clear organizational mandates. The duties and responsibilities of EAS institutions must be explicit on this regard. To institutionalize the nutrition function, job descriptions must specify these aspects in clear terms so that they become integral parts of the employee evaluation and compensation process.

**3.** In-depth interviews with extension agencies reveal low numbers of trained female extension agents. The few who serve in this capacity are given prescribed geographic scopes, often close to extension seats or headquarters, for reasons related to lack of transportation support or women’s inability to operate motor vehicles. This poses a severe constraint on interpersonal communication capacity considering that many nutrition-related topics are linked to good practices that are largely performed by women in the

household. For example, cultural taboos on male-female interaction discourage rural women from asking questions related to breastfeeding from men. Thus, it is important to train more women to join the extension force and provide greater rural access to female extension employees. Toward this goal, educational institutions should actively promote the extension career path among current and potential female college students.

**4.** Extension workers need access to the materials needed to carry out their expanded duties. Thus, there is a clear need to establish a knowledge repository that will also serve as a gateway website for all nutrition-related materials that can be readily used for extension purposes. This includes a compendium of communication materials produced by various organizations and projects in which materials can be searched according to (1) topic, (2) originating (or producing) agency, (3) target audience (e.g., extension agents, rural women, general food consumer, trainers). This will also include a list of nutrition and gender experts, their specific areas of specialization, and their contact information. The site can also serve as the interactive interface between and among participating organizations.

**5.** Government agencies will need assistance in determining the cost of additional human resources, training for communication skills as well as logistics and equipment for information collection and dissemination.

**6.** The results of the message harmonization workshop show that participants are worried about varying levels of information quality. Given the array of agencies and institutions that develop content, there is a need for a technical advisory council that can also function as the information clearing house. This council is where materials can be vetted for accuracy and consistency.

**7.** Workshop participants showed mixed reactions to the suggestion that communication materials should be shared upon request by entities that may be in need of such materials. This practical suggestion will substantially reduce pre-production and actual production costs, and will ensure maximum use of existing and available print materials, especially under conditions of limited resources. It is therefore suggested that donor agencies should articulate a clear, standard and liberal copyright policy regarding the dissemination of donor-funded communication materials.

**8.** Nutrition-related extension messages are easily adaptable for mass media dissemination. Radio and TV remain popular in a very visual and oral culture. The mass media can be tapped more to drum up awareness and support for this initiative and elevate people’s knowledge about nutrition messages in the realm of agriculture. Although cellphones are increasingly available in rural communities, radio remains the cheapest and most widespread form of communication technology available to most farmers and continues to enjoy high rural ratings.

**9.** Interpersonal communication channels offer the best push toward the adoption of recommended practices. The project can capitalize on the use of informal information centers (i.e., local gathering places such as communal laundry sites, the local store, Internet hubs) in rural areas to expand the reach of extension workers.

**10.** The concept of a “nutrition club” can be more easily operationalized if nutrition-related functions are incorporated into existing school organizations.

**11.** Beyond the use of the mass media and interpersonal communication channels, a general communication strategy should consider tapping indigenous entertainment modalities (e.g., local plays, dialogues and debates, telenovelas and local cinema) for nutrition and gender education.

**12.** Workshop participants were highly optimistic about the rapidly expanding use of ICT applications to bolster the effectiveness of extension agents and other frontline workers. Beyond mobile phones, however, there are other information and communication technologies that can be deployed to reach rural audiences. Examples of these are mobile vans that show videos to groups, interactive radio (e.g., following the Farm Radio International approach), and “talking” books. Given the popularity of cell phones but the lack of online infrastructure at the village level, strategists can enhance the use of offline mobile phone applications, including the establishment of call centers for instant advice, and the subsidized use of social networking sites such as Facebook for development purposes.

## IV. Recommendations for Research

Conversation with project informants and ULAB’s Dr. Jude Genilo threshed out nagging and potential research topics within the communication domain. The following are research areas the project can explore primarily with ULAB’s CSD and pertinent departments:

- 1.** Understanding the prevailing nutrition extension system in Bangladesh. Subsumed under this category are questions such as: How does the agricultural extension and nutrition extension landscape in Bangladesh look like? Who are the main players? What are their main functions? How do they complement each other’s work? How are extension personnel trained? What resources, rewards and incentives are given to EAS to integrate nutrition activities into their conventional scope of work?
- 2.** As a follow-up to the study of the “lay of the land,” it is important to assess what has already been done along the lines of public nutrition education. Thus, it is important to ask: What are the communication materials on nutrition produced by both nutrition and extension agencies? What nutrition topics do they usually cover? What is the degree of accuracy and consistency of the content of these materials? What channels of communication do they utilize to reach the rural population? Are extension agencies consciously tapped as conduits of nutrition information?
- 3.** After having identified the major actors on the extension communication scene, it is beneficial to analyze the content of existing communication materials. To what extent are nutrition topics present in communication materials that agricultural research agencies produce for extension workers? What is the degree of accuracy and consistency of the content of these materials?
- 4.** So far, content is very much the purview of nutrition experts. Using the mental models approach, determine what audience members need to know when it comes to nutrition information. Ascertaining what has worked so far in terms of (1) what audiences should know, (2) what audiences already know, and (3) what they still need to know or are likely to get wrong unless emphasized, should be able to establish a good foundation for any information intervention.
- 5.** There is a need to do a systematic study of how content-producing agencies disseminate the products they generate. There are video posts on YouTube, for example, but the “hits” are low. Exactly what sort of materials do extension agents receive to serve as references in the field? Communication materials may be present, but exactly how are they being used? As an associated activity, it is pertinent to ask: What are the sources of nutrition information of agricultural extension agencies? What communication

channels do extension workers use to reach farmers? How do these communication channels complement community-based ones? Do they modify the communication materials handed to them to better serve farmers’ needs? If yes, what are these modifications? Do these modifications bear in mind the visual culture of the Bangladesh rural audience? Are these communication materials adapted to the local culture? What roles do opinion leaders play in supporting or opposing nutrition recommendations?

**6.** Bangladesh is definitely a visual culture, but what types of images appeal more to rural audiences — Photos? Illustrations? Moving images? If illustrations, what type is best—Realistic renditions? Outline-based sketches? The results of such studies will be most useful to artists and illustrators who will be asked to supply images.

**7.** Because of the array of products already available, it is necessary to assess their impact on rural audiences’ knowledge, attitudes toward, and behavior or behavioral intentions related to agriculture, gender and nutrition. To assess outcomes, it will be important to ask: What is the impact of a nutrition-fortified and gender-sensitive EAS on the nutrition status of farmers? What is the impact on knowledge, attitude and practices, especially of rural women? Has there been a shift in the paradigm of nutrition practice at the village level – from popular to biomedical, from folk to alternative? How do villages or communities manage nutrition information (e.g., how do they accumulate nutrition information? How is information stored, retrieved and shared?).

**8.** Whether they are individuals, institutions or systems, there is a need to evaluating the perceived credibility of various information sources.

**9.** Assuming an expanded role for SAAOs, it is essential to document the technical nutrition content of extension workers’ formal and informal training and the messages and information they deliver to farmers and other clients.

**10.** Examining the existence and status of nutrition as part of the portfolio of EAS activities in Bangladesh.

**11.** Understanding how extension workers can coordinate and/or complement each other’s work related to nutrition with rural persons from other sectors, such as rural health, goes with the need to formalize the addition of new content. This should be in tandem with an examination of the role of extension *vis-a-vis* other rural workers.

**12.** Incorporating nutrition activities into EAS will require additional resources. Researchers can assist in determining the types of training extension agents need and the kind of incentives that can be easily deployed to compensate them for their compounded functions.

## V. Day-To-Day Activities and Observations

This section is a break-down of the activities conducted during our visit to Bangladesh July 29-August 8.

### July 29

We met with Md Shahid Uddin Akbar, chief executive officer of the Bangladesh Institute of ICT in Development (BIID). BIID is engaged in developing ICT-enabled solutions to support private and public development initiatives. Currently, it works with many sectors primarily in using ICTs to reach customers and partners efficiently. Md Shahid Akbar is particularly excited about the newly-released 500 apps from the government, including one on nutrition. He says he knows of six to seven apps for extension purposes.

Md Shahid Akbar coordinated a schedule and plan of work for us while in Dhaka and surrounding areas. He thinks we can help out the most by (1) identifying the most efficient modes of reaching out to rural women with nutrition-enriched messages tied to agriculture and (2) by helping to “harmonize” messages produced by a broad spectrum of information providers, determining conflicting messages that are likely to confuse audiences.

We prepared for our meeting on July 30 with the extension faculty and personnel of the Bangladesh Agricultural University (BAU) to explore the feasibility of some components of the broader communication strategy. To be able to pursue the INGENAES mandate, it is important for members of the extension force to accept the added responsibility of communicating about nutrition to their usual round of clients. Also on the agenda is the concept of a Nutrition Club or a student organization at the university level dedicated to promoting nutrition and health on campus and in surrounding communities. The Nutrition Club is expected to motivate young people, especially those who are college-age, to be active participants in the dissemination of nutrition messages.

## July 30

We traveled to Mymensingh in the country’s central region, situated on the banks of the Old Brahmaputra. It is home to the Bangladesh Agricultural University (established 1961), the country’s premier institution for agricultural education and research, that is responsible for the southwestern Bangladesh zone of influence. Our team met with Professors Abul Kashem, M. Zulfikar Rahman, other faculty members and graduate students of the Department of Agricultural Extension Education.

Dr. Kashem says the department’s extension staff, students and personnel service around 1,600 farmers, about 50% of whom are women. The department also oversees a tree planting program, especially during the rainy season, that has been going on for 20 years. It has a Women’s Affairs Division with a training institute that has been educating girls since 1999. The department also oversees IT hubs in five separate villages.

In a morning seminar, Andrea Bohn introduced the INGENAES project to a group of about 40 faculty members and students. She emphasized the important synergy between agriculture and nutrition, explaining why nutrition messages need to be integral parts of the extension services. Most seminar participants were receptive to the idea. Indeed, female students said that gender-sensitive extension messages are fast becoming indispensable in the way extension workers conduct their business in rural areas, especially with the wider recognition that extension should be participatory, driven by felt needs and community-based. Faculty and students were aware that the gender gap in agriculture can be narrowed by empowering women while engaging men in family and joint community efforts.

The seminar participants pointed out that extension agents (1) need technical knowledge about nutrition, (2) have to be oriented to gender-sensitive nutrition messages, and (3) require facilitation, management and communication skills. How in-depth is nutrition reflected in the college curricula? Many would like to know more about the semantics of adding nutrition content to the standard extension curriculum.

Later in the day, we met again with Drs. Abul Kashem and Zulfikar Rahman to discuss the possibility of establishing a Nutrition Club at BAU. The goal is to create a national network of recognized nutrition clubs that will inform and engage students and communities in nutrition-smart and healthy practices. Students learn professional skills from such organizations, including how to mobilize rural constituencies. Our BAU counterparts expressed interest in the idea, but would like to know more about how the faculty can continually engage students, how to establish linkages with such clubs in other universities, and how to sustain student and faculty interest.



*The Illinois team met with Dr. Abdul Kashem, other faculty members and students of the Department of Agricultural Extension Education of BAU.*

## July 31

We met with Dr. Lalita Bhattacharjee, nutrition specialist, and Agnieszka Balcerzak, nutrition consultant, in the Food and Agriculture Organization of the United Nations (FAO) offices based in Dhaka. Bangladesh joined FAO in 1973 shortly after gaining independence from Pakistan.

According to its mission statement, FAO Bangladesh aims to “reduce poverty and enhance food security and nutrition; increase agricultural productivity through diversification and/or intensification; sustainably manage natural resources, the use of quality inputs and mechanization; improve market linkages, value addition, and the quality of safety of the food system; facilitate technology generation and adaption through better producer-extension-research linkages; and increase the resilience of communities [so that they are able] to withstand “shocks” such as natural disasters, health threats and other risks to livelihood.”

On the nutrition front, FAO Bangladesh combats severe acute malnutrition (SAM) as part of its country investment plan. It also has been instrumental in establishing the Farmers’ Field School with a curriculum that helps to train crop producers, livestock growers and fisheries folks.

Dr. Bhattacharjee thinks that core nutrition messages, especially about food-based nutrition, still need to be broken down into manageable and understandable chunks that people will find easy and within their means to apply. Ms. Balcerzak explained that FAO would like women to develop the ability to classify food into those that build the body, strengthen the brain, and fortify the bones. Extension messages should include examples of food items that fit each category. She has observed that these categories are easy for rural women to comprehend and retain in memory. FAO also wants women to diversify their daily diet by going beyond rice. Farmers, however, are not too concerned with growing an array of foods and tend to stick to a few traditional crops. “You can’t diversity consumption if you don’t diversify production,” Dr. Bhattacharjee says.



*Dr. Lalita Bhattacharjee and Agnieszka Balcerzak discuss nutrition education and FAO initiatives in Bangladesh.*

## August 1

We met with Mr. Monirul Ahsan, chairman and CEO, and Mr. Jyotish Talukdar, managing director of Brandvent, a full-service communication company. They explained the range of activities they offer, including “cutting edge communication strategy formation, creative ideas generation, business planning, audio-visual production, visual design, outdoor advertising and event management,” among other services.

One of their clients, they report, is working with a leading plate manufacturing company in the country and has expressed its interest to be the production firm for the Shikra-designed “My Plate.” Mr. Talukdar sees the plate, however, as potentially coming in a series of varying designs (with alternate food items to serve as sources of carbohydrates, protein and other nutrients). As a marketing strategy, he proposes the plates to be packaged together as gift items traditionally given during wedding ceremonies and to expecting women. This suggestion appears as a way by which private partnerships, especially in the commercialization of communication materials, can be enhanced.

Mr. Talukdar says that rural Bangladesh generally prefers listening to the radio, watching TV, and reading the local newspapers, in that order. However, he thinks that social networking through Facebook has gained a strong following in the past two years. Videos are accessed as a “pay per view” service. ICT applications such as voice-to-voice systems and interactive voice response (IVR) are feasible, he thinks, although mobile phones are now used primarily for incoming and outbound calls. People also can be connected to call centers with outbound dialer (OBD) capability that will direct them to pre-recorded messages and to appropriate experts.

He relates a success story in which their agency was commissioned to pump up the demand for plastic crates for the postharvest handling of fruits and vegetables. For this assignment, they signed up a popular movie star to drum up interest through personal appearance in demonstration and/or exhibit sites.

Mr. Aftab Mohmud Khurshid, chief marketing officer and business development head of the Superstar Group (SSG), later joined the meeting. An itinerant songwriter, he now finds himself in the thick of development-related activities in response mainly to government requests.

He thinks that for the pictorially-inclined Bangladeshis, billboards are the way to go, despite the cost. They can be substituted in the rural areas, however, with low-cost posters plastered in strategic gathering places.

Mr. Khurshid boasts of years of experience in fielding the major celebrities in the popular culture to endorse development messages. He is an advocate of full-blown, entertainment-oriented media blitzes to distribute messages, having witnessed their success in efforts to eradicate polio and the use of oral rehydration salts to curb diarrhea. Because of the popularity of TV, he thinks that information-rich programs can feature the following most potent endorsers of nutrition and health practices: Siddika Kabir, an actress, and model Sharmaine Lake, both cooking gurus and certified nutritionists, and Dr. Rubaba Dowla, a feminist activist with clout throughout the sub-continent. He also thinks cricket players will make for good endorsers, given the popularity of the sport in the country. Also on his list are novelist Selina Hossain, folk singer and member of the Parliament Momtaz Begum, and young movie stars Ononto and Borsha.

## August 2

Our team visited a government agency today. We met with S.M. Shibly Nazir, project director for infrastructure development and strengthening, as well as the senior science officers of the Bangladesh Institute for Research and Training on Applied Nutrition (BIRTAN). The institute was established in 2012 with the primary goal of “imparting training and conducting field research on applied nutrition, especially food-based nutrition, to make Bangladesh a self-reliant, prosperous, poverty free and skilled human resourceful country.” It prides itself as having contributed substantially to changing the status of Bangladesh as a country in constant famine to the food exporter it is today.

As part of its action agenda, BIRTAN trains extension workers, also called Sub-Assistant Agriculture Officers or SAAOs, and supplies them with information materials as reference guides. BIRTAN is undergoing massive expansion as buildings and facilities are currently being built in eight regions throughout the country. It expects to recruit 257 trainers, researchers and nutritionists by December 2015.

Over the past six years, BIRTAN has seen improved emphasis on nutrition in agricultural research, which is attributed to the Prime Minister who has espoused that nutrition knowledge should be made available to the public.

Director Nazir explains that extension workers often supplement their work with CDs, brochures, pamphlets and other print products distributed to farmers so that they can use them for future reference. These materials, however, have yet to be evaluated for usability and impact. It is apparent that BIRTAN has to strengthen the monitoring and evaluation of its work as those in command found it difficult to give us some indication of the impact of the strategies and techniques they have employed to reach out to the grassroots.

BIRTAN officials feel strongly about the importance of incorporating more women into their extension efforts. They are upbeat about expanding their reach through the use of smart phones. They say their goal is to make 50% of their farmer-clients or program participants composed of women. To do so, however, they need to develop stronger ties with universities and other institutions that conduct nutrition research, such as INFS and the Institute of Public Health and Nutrition, which conducts the annual Nutritional Surveillance Project.



*Director Shibly Nazir and several senior scientists explain BIRTAN's growing need to establish stronger linkages with institutions that conduct nutrition research.*

## August 3

Today, we visited a private institution of higher learning, the University of Liberal Arts Bangladesh (ULAB). We met with Juditha Ohlmacher, communication and student affairs advisor; Hamidul Huq, professor and director of the Center for Sustainable Development (CSD); Jude William R. Genilo, professor and head of the Department of Media Studies and Journalism; and Shahana Afrose Chowdhury, associate professor and researcher also at the CSD.

ULAB was founded in 2004 with the mission to “create knowledge and pass it out to the world.” Their four pillars are liberal education, sustainability, ethics and integrity. All of ULAB’s income comes from student tuition. Ranked third in the country, ULAB is a research-intensive university that spends about 30 million takas (BDT) a year in the conduct of interdisciplinary research. A little more than 70% of their 4,300 students in 2014 received scholarships, of which 10% went to female students. Half of the student population came from outside Dhaka. ULAB is aiming for a 7,000 strong student body.

The CSD in ULAB’s flagship research center that conducts studies related to sustainable livelihood, climate change and adaptation, the renewal of coastal areas, and food security. Eleven of its current projects serve to advocate for small- and medium-scale farmers, including the landless.

ULAB does not have a strong focus on agriculture, but places strong emphasis on sustainability, which they consider to be closely linked with proper nutrition. Because ULAB currently has 14 student clubs, each with a faculty advisor, the officers think that the functions of a Nutrition Club could be easily embedded within the line-up of activities of already existing clubs.

ULAB proclaims knowledge generation as one of its major missions. Thus, it is very interested in doing INGENEAS-related research and has asked the Center for Sustainable Development and the Department of Media Studies and Journalism to explore research INGENAES-related possibilities within ongoing research agendas.

Afterwards, we met with Dr. Nazma Shaheen, professor and director, and Dr. Nizamul Hoque Bhuiyan, another professor, at the Institute of Nutrition and Food Science (INFS) at University of Dhaka. The Institute frequently partners with FAO and the Bangladesh Agricultural Research Institute (BARI) in the conduct of collaborative research. Recently, INFS launched an updated food composition table for

Bangladesh after working with nutrition experts for five years. This revised version came 27 years after the release of the first edition. The new composition table is featured in three manuals each intended for different audience groups: nutrition experts, trainer of the trainers (TOTs), and extension workers. The manuals parse the nutrient composition of 20 key and popular food items in the country. They are available online and in hard copy. INFS strongly thinks that agricultural extension should pay attention to the nutrition requirements of the population. The Institute sees the food composition table as the fundamental basis for most nutrition recommendations emanating from the battery of organizations that are producing nutrition-related materials for different audience segments.

As the country’s vanguard of food safety, INFS closely monitors the presence of heavy metals in the food chain (e.g., arsenic in tilapia, lead in mangoes, chromium in chicken meat), and dyes and additives in food items. It also issues warnings about the heavy use of pesticides in agriculture and teaches citizens about food preservation techniques.



*Team members meet with Drs. Nazma Shaheen and Nizamul Hoque Bhuiyan of the Institute of Nutrition and Food Science (INFS) at Dhaka University.*

## August 4

We took advantage of the afternoon to visit the offices of Helen Keller International (HKI), which produces what are decidedly the most solid and research-based communication materials about nutrition and health practices in Bangladesh. We were oriented to the functions and products of the agency by Jillian L. Waid, manager of research learning and evaluation, and Sharmin Akter, senior nutrition training officer. HKI Bangladesh, established in 1978, works “to help families grow better food, improve maternal and child nutrition, and treat malnourished children.” It has developed a Nurturing Connections curriculum to complement its nutrition education and homestead food production programs. The number of participating households has continuously increased by 10% each year.

Among the items we reviewed with the staff are a *ludu* game focused on nutrition and health in the home. (*Ludu* is a board game in which two to four players race their four tokens from start to finish according to die rolls.) We also looked at a calendar that pregnant women can easily follow to determine the status of the baby over time, what they should eat each month, when to see a doctor, a check list for prenatal health practices, and stickers to check off recommended actions. These are typically found hanging in

verandahs and on eaves at the front of houses. HKI also has produced posters that display, for example, a plate that exemplifies a well-balanced meal. Another poster counsels mothers and family members on proper health and maternal practices, with the correct recommendation indicated at back. There are also accordion-like brochures containing health facts, a manual and workbook for TOTs, and food cards to get the discussion rolling with rural women about proper nutrition and child-rearing practices. The Institute also issues food stickers, usually placed on walls, to remind women of essential nutrition actions. These stickers also have the contact information of field workers. Local midwives also are offered training pamphlets.

Another program HKI implements in the villages teaches mothers, fathers, and mothers-in-law about gender roles within and outside the family. Participants typically attend ten sessions, once every two weeks, spread out over four months. Although most sessions have all family members in attendance, break out sessions focus on individual and gender roles. The goal is to inculcate a deeper understanding of the importance of each individual in the family and in society so that people develop a more positive attitude toward gender parity.

HKI would need financial support to evaluate the communication materials, especially the ludu game, it has produced so far.



*Sharmin Akter and Jillian L. Waid explain the functions and activities of HKI Bangladesh.*

## August 5

This is a landmark day that saw the “semi-official” inauguration of INGENAES in Bangladesh with a seminar attended by faculty, students and staff of Dhaka University as well as representatives from a host of INGENAES partner institutions in the private and public sectors. The highlight of the day is an expo of nutrition and related communication materials produced by an array of development organizations. These materials were displayed and exhibited in booths and information kiosks that were arrayed in the lobby of the INFS building in the University of Dhaka. Among those that exhibited their products were: World Fish, HKI, INFS, Caritas Bangladesh.

Abu Ahsan Mohammad Shamsul Arefin Siddique, Vice Chancellor of the university and an expert in interpersonal and instructional communication himself, delivered the seminar’s keynote address in a packed conference hall. FAO nutrition specialist Dr. Lalita Bhattacharjee, INFS director Dr. Nazma

Shaheen, Andrea Bohn, and Md Shahid Uddin Akbar all spoke about the importance of integrating nutrition in agricultural extension.

After perusing the exhibits, the attendees broke into two workshops. The first focused on the harmonization of nutrition messages, the other on the dynamics of the proposed Nutrition Club. Each workshop enjoyed an astounding turnout.

We then proceeded to see the Department of Agricultural Extension (DAE) of the Ministry of Agriculture whose newly appointed director of the Field Services Wing, Sk. Hemayet Hossain, discussed the department’s ongoing training efforts. He explains that the DAE currently has 14,000 trained SAAOs in the field and that 30% of these extension agents are women. Although women extensionists have the same assignments as their male counterparts, their roles are still circumscribed by Bangladeshi tradition. For example, it is harder for them to do fieldwork because many do not drive.

One of the projects the DAE is currently working on focuses on vegetable gardening in the field, urging farmers to grow vegetables, not just rice. “In order to consume a variety, we have to grow a variety,” he stressed.

He characterizes Bangladeshi farmers as very receptive to training, willing to participate in sessions that are even three days long. Extension workers now are equipped with Android smart phones with built-in training manuals for ready access in the field. This technology, Mr. Hossain says, has greatly improved the relationship between the extension workers and the farmers they serve.



*Dr. Shamsul Arefin Siddique, Vice Chancellor of Dhaka University, delivers the seminar’s keynote address.*

## August 6

The Bangladesh Knowledge Management Initiative (BKMI) seeks “to strengthen sustainable knowledge management and communication initiatives through innovation, strong partnerships, capacity building, and appropriate technology within the population, health, and nutrition (PHN) areas.” We met today with its project director, Rebecca Arnold, who also is affiliated with the Bloomberg School of Public Health Center for Communication Programs at the Johns Hopkins University. She explains that the BKMI program aims to facilitate knowledge capture, synthesis, and sharing among key stakeholders, including healthcare providers, health program managers and behavior change agents. BKMI collaborates with multiple tiers of the Bangladesh Ministry of Health and Family Welfare (MOHFW) to increase access, comprehension,

and application of PHN behavior change communication knowledge and resources. Ms. Arnold says the projects works at the individual, organizational, and system level within the MOHFW to enhance the ministry’s capacity to respond to challenges.

BKMI also implements the Health Communication Capacity Collaborative (HC3), a five-year, global project funded by USAID designed to strengthen developing country capacity to implement state-of-the-art social and behavior change communication (SBCC) programs, which ends in 2017. She has supervised 25 projects that involved the training of health assistants and family welfare aides within the ministry.

She reports that she recently set up a digital archive so that BKMI personnel can access and organize their works projects and the data derived from them. Her project supplies eToolkits to those who manage and plan SBCC initiatives within the MOHFW. She shared her insights regarding how to bring together ministry officials who work in the same building, but often find it difficult to be aware of what each unit is doing.

## VI. Summary of Participants’ Inputs in the Message Harmonization Workshop

Twenty participants attended the message harmonization workshop, representing government agencies (BIRTAN, MOA), international development organizations (FAO, Global Alliance for Improved Nutrition or GAIN, Oxfam, the Program for Strengthening Household Access to Resources or PROSHAR, FHI 360, HKI, Harvest Plus of the International Rice Research Institute, World Fish), local NGOs (mPower), and educational institution (INFS)

Participants agreed that it was important to share information between and among partner organizations, discuss critical and consistent messages that need to be disseminated, and to find new ways to collaborate so that agricultural extension will be armed by nutrition-relevant information. According to them, the biggest problem, they face is their lack of access to already produced materials. Thus, they have to do research and “re-invent the wheel all over again.”

Asked if they think that nutrition and related messages from a variety of organizations are conflicting and, thus, confusing, the answer was a unanimous “yes.” To fix this, participants thought it is important to test the messages on the end-users.

Many pointed to the need for technical accuracy and accessibility. Some expressed the concern that others may just copy the materials their organizations produced without proper attribution. The participants agreed that such communication materials do not have to reproduced verbatim, but may, in fact, be revised to some degree to cater to local needs. For example, HKI generally cite fish of any kind as a common source of protein. This can be substituted with the small Mola fish that World Fish has been promoting.

Some were highly optimistic about disseminating information through ICTs, citing the sale of roughly a million mobile phone units per month in the country. Others, however, were skeptical about the accessibility of such phones to rural women.

The attendees also discussed issues related to customization vs. standardization of communication materials. MOA officials said the ministry is willing to distribute materials as long as they are tailored to farmers’ needs.

Everyone seemed receptive to the idea of an online repository of available communication materials that partner organizations may access. Some said they already have such materials online.

To further enhance accuracy and therefore streamline messages from a host of potential sources, the participants suggested:

- (1) prioritizing nutritional messages,
- (2) keeping core messages constant throughout each sector,
- (3) frequent inter-agency communication,
- (4) adopting a standard and liberal copyright policy, especially by entities receiving US government support, and
- (5) the use of digital platforms to expand reach.