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## Strategies and tools for integrating gender into agriculture and nutrition curriculum: Symposium Report



**Kristal Jones, Pennsylvania State University**

**Maria Elisa Christie, Virginia Tech**

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## Executive Summary

The ‘Strategies and tools for integrating gender in the agriculture and nutrition curriculum’ symposium, held in Mbour, Senegal, on June 17-18, 2014 brought together educators, development practitioners, government agents and members of the private sector for the purpose of sharing opportunities, needs, and challenges for incorporating gender into agricultural and nutrition education and research. There were 39 participants, 23 women and 16 men, including four key speakers. The four key speakers provided a framework for understanding gender analysis and gender issues in agriculture and nutrition and panels of private sector and university experts shared their experiences with gender in their respective fields. Group discussion followed each presentation, allowing participants to clarify and expand upon points made by the key speakers. The main take-away from these presentations and discussions was the need to expand the notion of gender from being equated with ‘women’ to being seen as an analytical tool that can highlight exclusion and marginalization.

Each afternoon, participants engaged in small group work to discuss the meaning of gender integration into curricula and research programs and to identify opportunities for incorporating gender. The final output of the group work included identifying substantive areas and courses in which gender could be integrated, the creation of a class outline for a specific course that could include gender, and the development of examples of case studies that could be included in the class outline. Participants found it easier to identify class topics and outlines that could incorporate gender, than to consider curricular changes as whole, since curricula are set at levels above individual educators. Considering how to incorporate gender into class sessions that educators are already teaching, provided an opportunity to develop more concrete and realistic examples relevant to teaching goals and demands.

This report is a summary of the workshop and the recommendations made during the sessions. The key speaker presentations and group work presentations from this workshop have all been posted on the innovATE Community of Practice (CoP), in a special space designed for symposium participants, many of whom have registered with the CoP (the group space can be found at <https://www.innovate-community.oired.vt.edu/groups/genre>). In addition, key speaker presentations were posted to the French CoP space, under the Gender topic, to support broad engagement with others in the region who are interested in similar topics. Based on the overview and analysis presented in this report, a Good Practice Fact Sheet for incorporating gender into agricultural and nutrition education, will be produced and translated into French for partners in the region.

## List of Acronyms

<b>ANCAR</b>	Agence Nationale du Conseil Agricole et Rural/ National Agency of Agricultural and Rural Counsel
<b>ARD</b>	Agence Regionale de Developpement/ Regional Development Agency
<b>CFPH</b>	Centre de Formation Professionnelle Horticole/ Center for Horticultural Vocational Training
<b>CNFTEFCPN</b>	Centre National de Formation des Techniciens des Eaux, Forets, Chasses Et Parcs Nationaux/ National Training Center for Technicians of Water, Forests, Hunting and National Parks
<b>CNFTEIA</b>	Centre National de Formation des Techniciens en Elevage et Industries Animales/ National Training Center for Technicians of Livestock and Animal Industries
<b>DEFCCS</b>	Direction des Eaux, Forets, Chasse et de la Conservation des Sols/ Directorate of Water, Forests, Hunting and Soil Conservation
<b>ERA</b>	Education et Recherche en Agriculture/ Education and Research in Agriculture
<b>FEPRODES</b>	Federation des Groupements et Associations des Femmes Productrices de la Region de Saint Louis/ Federation of Groups and Associations of Women Producers of the St. Louis Region
<b>GIE</b>	Groupement d'interet Economique/ Economic Interest Group
<b>IPR/IFRA</b>	Rural Polytechnic Institute for Training and Applied Research
<b>ISFAR</b>	Institut Superieur de Formation Agricole et Rurale/ Higher Institute for Agricultural and Rural Training
<b>ISRA</b>	Institut Sengalais de Recherches Agricoles/Senegalese Agricultural Research Institute
<b>ITA</b>	Institut de Technologie Alimentaire/ Institute of Food Technology
<b>LTAEB</b>	Lycee Technique Agricole Emile Badiane/ Emile Badiane Technical and Agricultural Secondary School
<b>UASZ</b>	Universite Assane Seck de Ziguinchor/ Assane Seck University of Ziguinchor
<b>UCAD</b>	Universite Cheikh Anta Diop de Dakar/ Cheikh Anta Diop University of Dakar
<b>UGB</b>	Universite Gaston Berger/ Gaston Berger University
<b>UT</b>	Universite de Thies/ University of Theis
<b>WAAP</b>	West Africa Agricultural Productivity Program
<b>WFP</b>	World Food Program

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## Introduction

In response to the global challenges of agriculture and food security, improvement of agricultural productivity, as well as physical and economic access to healthy food are key areas of interest. Ongoing analyses of the challenges in agricultural production systems often recommend improvements in knowledge and diffusion of new techniques and practices among farmers. To promote the diffusion of scientific and technical knowledge, and to improve farmers' capabilities, agricultural education remains a key leverage point. Agricultural education, research and training institutions must take steps to include awareness of the social and cultural aspects of farming to maximize impact of knowledge sharing. In particular, women, who represent half of agricultural workforce and who are often marginalized in comparison to men, must be included in the process of improving the agricultural sector. Gender can be a barrier to education and training, as well as to agricultural inputs and markets.

Incorporating gender into agricultural education and research requires analysis of the social and structural realities that limit or exclude certain people from the networks and value chains of agricultural production and employment. Women's inclusion as principal actors in the agricultural network is doubly justifiable. In addition to women's role in agricultural production, where their place in the value chain involves application of agricultural research, women are also able to contribute to food security by applying knowledge about nutrition, since women are often in control of household food decisions. Recognizing women's and other marginalized groups' role in the agricultural value chain leads us to highlight and investigate connections among gender, agriculture, and nutrition.

Women, in comparison to men, continue to face enormous difficulties in accessing information, education, land and technical support services. Most women still use traditional technologies that require considerable time and energy, while male producers are often the beneficiaries of improved technology and equipment. A better awareness of the contributions of women to agriculture will help to address the diverse problems hindering the agricultural sector in Senegal and West Africa, and will contribute to development of improved strategies to build sustainable food security.

The USAID/Senegal Education and Research in Agriculture (ERA) project and the Innovation for Agricultural Training and Education (innovATE) project, both work to build capacity in agricultural institutions and to incorporate gender issues into education, research and training. The projects jointly organized a regional symposium entitled 'Strategies and tools for integrating gender in the agriculture and nutrition curriculum,' which was held June 17-18, 2014, in Mbour, Senegal. Of the 39 participants, one-half were teachers in agricultural and nutrition programs at universities and technical schools in Senegal. The rest of the participants were representatives of the private sector, women's groups, public departments, or were development practitioners. The goal of the symposium was to create a space for dialogue between educators in agricultural institutions, and practitioners who work in the agricultural sector, to identify needs and opportunities for incorporating gender into agricultural and nutrition education.

Participating in the two-day workshop were 23 women and 16 men, including three female key speakers and one male key speaker. ERA staff provided logistical support before and during the symposium. Coordination of the symposium schedule and activities was shared by Larry Vaughn, of ERA, and Maria

Elisa Christie, from the innovATE project, with support as well from Kristal Jones and Edin Simms (innovATE). In attendance on day 2 of the symposium was Mike Bertelsen, Executive Director of the Office of International Research, Education, and Development at Virginia Tech, and Guru Ghosh, Associate Vice President of International Affairs at Virginia Tech. Anne Williams, Director of the Office of Economic Growth, USAID/Senegal, and Ronit Gerard, AOR for ERA, were also in attendance for most of day 2.

The remainder of this report details the goals of the symposium, how it was conceptualized and organized, and key insights from presentations and discussions during the symposium. Final sections offer good practices for integrating gender into agricultural and nutrition education, and outline next steps for the innovATE project to incorporate the lessons learned into future work.

## Objectives

- To build capacity in integrating gender into agricultural and nutritional programs in Senegal
- To present, through a participatory process, examples of successful models and approaches to integrate gender in agricultural and nutrition education
- To create a platform for exchanging and sharing experiences of teachers, researchers, practitioners and the private sector in order to build pedagogical capacity that takes into account gender dimensions through the creation of class outlines and case studies
- Contribute regional expertise to USAID/ERA's network of Senegalese institutions through funding participants and speakers from other countries in West Africa
- Contribute a gender expert to work with USAID/ERA's gender coordinator to organize and facilitate the symposium.

## Methodology

Preparations for the symposium began in earnest with a scouting trip by Maria Elisa Christie in February 2014 to meet and work with the ERA team to identify key issues, potential speakers, and participants for the symposium. Coordination with Larry Vaughan and Bineta Guisse of ERA continued throughout the following months, concluding with innovATE's invitation of regional experts. The final three weeks, including a week on the ground in Senegal prior to the symposium and a day at the hotel to make arrangements for meeting room was critical. This included meeting with all four of the key speakers (three in person, one from Cameroon by Skype) to clarify how their presentations fit into the objectives of the symposium, and phone calls to others who played a key role. It also included a planning meeting with the

full ERA staff who were involved in support activities ranging from coordinating transportation to and from the airport for innovATE guests, to preparing innovATE and other materials and making folders to distribute, to printing a banner and inviting the media, to coordinating the financial aspects of reimbursing innovATE participants for travel costs.

The symposium was held in Mbour, about an hour and a half south of Dakar, and all participants stayed at the hotel where the symposium was held. Having the entire group in one place, without the distractions of being in the city and near home, helped people to stay focused and engaged throughout the two days. The symposium started with a participatory icebreaker, wherein participants broke up into groups of four and discussed the question, “Why is blue the best color?” Each group then reported back to the whole group, which got the spirit of discussion and creativity going (as the same response could not be used twice). The exercise aimed to initiate group dynamics and raise awareness of the importance of focusing, working together, and preparing and presenting results within a given timeframe. Participatory methods were used for evaluation throughout the workshop, and the results of a written evaluation at the end of day one then allowed us to adjust the schedule for day two to include more time for group work (results of the evaluation can be found at the end of this report).

The format of each day was then to have key speakers and panel presentations in the morning, group work in middle of the day, and group presentations at the end of the day (a full draft of the symposium agenda can be found at the end of this report). InnovATE invited two key speakers from the West African region, and ERA invited two key speakers from Senegal, one university faculty member and one director from the forestry department of the national government, to contribute to the discussion. In addition, innovATE invited two university faculty from the region (Guinea) and two agricultural researchers at an applied research station (Mali). The four key speakers each gave a 20 to 30 minute presentation on their approaches to incorporating gender into their areas of expertise, followed by a 20 minute discussion, question and answer period. The four regional innovATE experts gave a panel presentation on their experiences, and four ERA invitees, who represented the private sector and women’s entrepreneurial groups, also gave a panel presentation, followed by questions and comments from the group. Each panel was also 20 to 30 minutes, which meant that each individual had less than ten minutes to present. This caused some frustration from panelists who wanted more time to present their experiences, but allowed for a broader range of expertise to be presented.

Day one group work focused on identifying needs and opportunities for incorporating gender into agricultural and nutrition education. Groups were organized ahead of time, with an effort to create a balance between educators, other practitioners, and gender experts, men and women, and to avoid representatives from one institution staying within the same group. There were five groups of between seven to ten members each. The discussion allowed members of each of those groups to learn from one another, and at the end of the group work time, the gender experts convened in their own group to discuss what they had heard from educators and practitioners about the interest in and ability to incorporate gender into agriculture and nutrition education. The presentations of day one group work prompted further conversations about current capacities and future interests in gender integration. Day two group work began with a reorganization of participants based on topics of interest. It allowed participants to create a lesson plan for an agricultural or nutrition class and to identify a case study that could be incorporated into the lesson plan to demonstrate the gender dimensions of the lesson. Class topics or

substantive areas were identified by the symposium planning team after discussions on day one, and were presented to participants as possible areas of common interests around which they might form groups. A resource person from among the non-educator participants was assigned to each topic, to ensure that there would be some outside input about the new material to be incorporated into a class topic already familiar to the educators.

Throughout the course of organizing and executing the symposium, we noted several challenges and complications to a regional event of this nature. Communicating with participants, especially the key speakers and panelists, at times proved difficult and meant that information about their backgrounds and presentation plans was not available for symposium organizers before their arrival at the symposium. For the key speakers and panel participants, it was important to address up front that their travel and symposium costs would be covered, but that no additional financial compensation would be offered. It was also difficult to balance the time constraints of the two-day symposium with the desire to make it 'worth' the regional participants' travel time. These details needed to be discussed ahead of time in a culturally appropriate way, and ERA staff handled these conversations. Once the symposium began, it was important to keep the timing of the schedule as much as possible, and the role of time-keeper was again best played by someone local rather than by the innovATE and ERA foreign staff. Drawing on USAID/ERA's network once again, an effective timekeeper was selected who kept presentations and question answer periods more or less to schedule.

## Key insights from symposium presentations

The following sections summarize each presentation's key points, and the discussion that resulted from each presentation. Each individual or panel presentation is presented here in chronological order, followed by summaries of the presentations of day one and day two group work. Key speakers' full biographies can be found at the end of this report.

### *Batamaka Somé, World Food Programme, West African Region*

Batamaka Somé, of the World Food Programme, opened the first day with a presentation that overviewed the theoretical and analytical concept of gender. Asking questions like, What is gender? Why do we care about gender? How do we use gender in our work? He posed the first question, what is gender, to participants, who responded with their initial impressions: "Complementarity." "Reference to vulnerable people." "Equality." Why do we care? "So that no one is excluded." "It's necessary for equitable development." "To represent women." Batamaka emphasized that the concept of gender is different than sex, and then offered examples of how to use gender as an analytical frame. The main emphasis was on identifying differences among people, and recognizing the specific capabilities, challenges and situations of different social categories. He discussed using a gender analysis to identify the needs of older people, of children, of women, and of those who have a physical disability. To further emphasize that gender is not synonymous with sex, nor with women, Batamaka highlighted that there can be differences among women, using the example of how a project about nutrition must account for different needs among women who are pregnant, breastfeeding, and those with older children. He also used the metaphor of all people being at different heights, and the idea of a gender analysis being to decide what level the table should be at, not assuming that it should always be tall and that short people must be made

taller. He emphasized that for teachers, it's important to incorporate gender into their instructional areas, and also into their pedagogical approach. In other words, gender can be considered within any subject area, and teachers should also be aware of how their classroom setting and style will impact different students and ultimately the communities in which they will work.

Responses to this initial presentation expressed some confusion or frustration about how gender is presented as an analytical concept that is not about sex or just about women, but in development it often becomes synonymous with women. During the discussion following his presentation, Batamaka offered a clarification: "Gender isn't just about women, but there is a historic situation where women are usually behind in many things. So when we talk about gender, we do often talk about women." The discussion included many observations that when the situation of women is discussed in West Africa, there are social and cultural values that define women's (and men's) roles and that can be limiting. As one woman explained, "I think that the problem of our society...is that there are differences between men and women. Women are destined to get married, have a family...men are in front, women are behind...when we talk about gender, we are talking about men and women, the differences between the two. If we talk about women, it's because women are still behind. We need to walk together."

#### *Panel: Private sector and women's group representatives*

Four women who work in the private sector, in input production and food processing, gave a panel presentation about the challenges faced by women in the agricultural value chain. Penda Cissé, of FEPRODES (Women's Federation of Rice Producers), started off talking about the challenges for women in entering into certified rice seed production. Lack of access to land is the biggest challenge, she said, and despite official legislation that guarantees all citizens' right to request land, women continue to be allocated land through their husbands and fathers. Women's land is often further from the village and from water sources than men's, and is also often of lower quality. Access to credit, inputs, and training is also difficult for women, in part because institutions are not interested in the smaller scales at which women often work. Nafy Diagne, of Founty Services, highlighted similar constraints for women's food processing enterprises. Parallel to women in rural areas having difficulties accessing adequate land, she said, women in urban areas interested in processing find it hard to acquire adequate work space for storage and processing equipment. Both Nafy and Siranding Touty Sane, from a women's cooperative that focuses on cereal and fruit processing, discussed the need for high quality primary agricultural products. Ensuring quality requires building connections along the supply chain, which is one place that students and faculty at agricultural universities can support the development of sustainable enterprises. Fatoumata Atchikiti, from Jiribalut, another women's processing cooperative, said that for now, she produced much of her own primary materials for processing, and that she has worked with plant scientists at the University of Ziguinchor to identify appropriate varieties for her needs. However, to continue to expand her primary processing business, she will need to find connections to producers with high quality produce, connections that could be supported by the university. Another element of the value chain that could use strengthening, highlighted by Nafy, is business planning and accounting for food processing enterprises. Here too, students and universities could offer expertise.

During the discussion following their panel, a few men questioned the statement that women cannot or do not own land. One emphasized that land is owned by families, to feed families, and so it's for both men and women. Another asked about women's plots close to the house – don't these count? In

response, Penda explained, “Family land, when it’s planted, it’s to feed the family. But now women have other needs, to earn money, to help their households. We’re talking about having our own land to create an enterprise.” In talking more about the agricultural value chain, especially the connections among production, processing and sales, Nafy emphasized that there is a place for all types of enterprise, and that their organization maintains connections to male and female producers for high-quality primary materials. One constraint to the expansion of processing enterprises identified during the discussion is a lack of awareness and interest by the public in trying new products. One man suggested this as another area that universities could support, by conducting market evaluations both nationally and internationally.

### *Patience Akwen Nambo, Eco-Agricultural Enterprise, Cameroon*

Patience Akwen Nambo, from Eco-Agricultural Enterprise in Cameroon, gave a presentation on the relationship between climate change and agriculture, and then provided a gender analysis of these issues. She emphasized that changes in weather, land cover and quality and other aspects of the natural environment affect men, women, children, and older and younger people differently. After overviewing the key challenges and reasons why climate change is important in agricultural education (for example the majority of people in many sub-Saharan African countries are engaged in agriculture and food production), she offered two approaches for professionals trying to combat the negative effects of climate change on agricultural production systems and populations. Mitigation of climate change as a phenomenon is a global or macro-level goal, Patience explained, and there are agricultural production practices, like the use of fewer synthetic inputs and decreasing deforestation rates, that could contribute to mitigation. At the individual, household, and community scales, however, adaptation is a more realistic, flexible and inclusive response to climate change. She then presented a gender analysis of a hypothetical family’s adaptive responses to changing rainfall patterns to demonstrate why and how these micro-level analyses are important for development practitioners and applied agricultural researchers. She reinforced Batamaka’s argument that gender is about understanding difference and identifying inequalities in systems using an example of a project that sought to increase household income and support agroforestry through the intercropping of green beans and fruit trees. Because green bean cultivation is historically women’s work, Patience explained, the project initially excluded men (on the basis of social roles) and added extra work for women that took them away from other tasks. Once the project participants voiced these concerns, members of the project team developed small technologies that changed the way the green beans were weeded and managed, allowing men to then take on a new social role as operators of these small machines. This change rebalanced the participation and benefits of the project, as well as the time demands for both men and women.

Discussion after the presentation began with some questions, from both men and women participants, about Patience’s micro-level analysis of the differentiated impacts of climate change and the perception that climate change is global and affects everyone. One woman said, “The problem, climate change, is an environment and global problem. I think that if you talk about a socio-economic impact, you have to think of it as affecting everyone.” Patience responded that here, a gender analysis focuses on individuals’ role in the household, and of the different impacts for different individuals of the shared phenomenon of drought. Climate change might be universal, she said, “But to find solutions, we have to be specific.” Other topics that came up in the discussion included wood energy, and how to incorporate alternative energy and the gendered aspects of wood gathering into agricultural education and development work.

### *Panel: Syllabus creation and adaptation*

Tala Gueye, of ENSA (the National School of Agriculture) and the University of Thiès, gave an overview of the pedagogical meaning and technical creation of a class syllabus, a product of extensive work with Dr. Ozzie Abaye of Virginia Tech to build capacity in this area. This presentation introduced the larger structure of a syllabus to frame the case studies and modules that would eventually become part of a course, in recognition of the fact that few of the educators present used syllabi. He emphasized that a curriculum outlines the entire educational process (and is set at a higher level than an individual instructor or institution), and that a syllabus represents the process within one course that helps move students through the entire curriculum. A syllabus is a contract with students, he explained, and offers a clear outline of the goals of the course, the expectations of the instructor in terms of student participation and assessment, and ensures an alignment of teaching objectives, instructional activities and student assessment. Gender can be incorporated into a syllabus by including a module – one to two weeks of classroom activities – on specific gender issues or analysis within a given topic, or gender can be incorporated as an approach to helping students understand the complexity of the topics that they are studying. Tala emphasized the need to use examples that students can relate to, especially when introducing the idea of gender as a concept and analytical tool. This presentation provided the framework for the afternoon group work and discussion about incorporating gender into syllabi.

The discussion returned to themes of the morning, with a few people emphasizing the need to include discussion of both women's and men's roles in whatever specific topic is being discussed in a syllabus, to highlight differences across social roles rather than simply women's limitations. Batamaka used the example of a gender analysis in an agroforestry course, where teachers could ask students to reflect on who has access to the forest and who is excluded. It might be the case that men from certain ethnic groups or castes have less access than women from other groups, and so the emphasis there is on exclusion of men rather than of women. There was also much discussion about women in education, rather than gender in the syllabus. There was much concern about supporting women in higher education, in research and university institutions, and how a syllabus can contribute to those goals.

### *Maria Elisa Christie, Virginia Tech, USA*

Maria Elisa Christie, Director of Women and Gender in International Development at Virginia Tech, introduced the link between gender, nutrition, and agriculture, and provided two examples of case studies where there is a gender component and gender analysis within a specific agricultural research topic. The main goal was to demonstrate an example of a case study that could be used as part of a module in a class. She emphasized that the examples show how gender is in fact integral to the social aspects of many issues – in these cases, small-holder management of aflatoxins in post-harvest peanut production and the use of *Trichoderma* to control soil borne diseases. In the case of *Trichoderma* cultivation in Bangladesh, the *Trichoderma* spores can be used to suppress harmful soil parasites that would otherwise be managed by men using synthetic pesticides. The case study she provided showed how women could build small businesses producing Trichocompost with the spores, which provided them with extra income and increased confidence, which in turn helped to balance decision making power in the participating households. By supporting and engaging with the Trichocompost production process, men were able to spend less money on pesticides and were exposed to fewer health risks. In the second case study, the peanut value chain was analyzed to understand how best to decrease aflatoxin contamination, and a gender analysis was performed to identify the key groups with whom to work at each step of the value

chain. Women tend to be responsible for much of the post-harvest peanut cleaning and storage, which are key times to reduce the possibility of aflatoxin growth. Once the project identified women's roles in these activities, they used participatory exercises that were appropriate to the low-literacy context, and created a book of visual images that depicted good practices in peanut management to reduce aflatoxins and that allowed women and men farmers to share the information with others that researchers could not reach.

In the discussion, people asked many questions about the combination of a social science analysis and work (participatory activities, community-level training on aflatoxin) with technical, natural science analysis of aflatoxin levels. In particular, the Aflatoxin case study engaged both nutrition and agriculture teachers and researchers in the group. How can you have villagers analyzing something that must be seen with a microscope?, asked one woman. Maria Elisa explained that it was a partnership between a university and local organizations, with university researchers analyzing peanut samples from many different local systems of peanut drying and stocking, in order to identify good practices. These good practices were then presented and discussed locally to identify ways to implement them in the local context, which resulted in suggestions like raised drying beds. Another man questioned the finding of the Trichoderma case study, that women with culturally-restricted mobility working at the household level were empowered as a result of their key role in making Trichoderma in their house-lot gardens and serving as a source of information to neighbors. "My problem is that it's not enough, we need to make money. If in the end, women are just proud, that's not enough." Another woman responded, "Those who have been talking about confidence for women, I think that's the beginning. Because when a woman isn't proud, isn't sure, with her ideas, she can't move forward. When she knows something, when she's capable of producing something...then she will share her ideas, will emerge little by little."

*Salimata Ba, Department of Water, Forests, Hunting and Soil Conservation, Senegal*

Salimata Ba, of the Department of Water, Forests, Hunting and Soil Conservation, gave a presentation on how to incorporate gender into discussions of agriculture and forestry, from the point of view of a government social scientist. She emphasized that forests are often seen as being managed by the state and so outside of the reach of individuals and communities, but in fact forests are integral to community well-being. They are the resource base for agriculture, provide many food and non-food products, and are often a safety net for communities. Because use and management of forest resources is different for different members of a community, it is necessary to integrate gender into methodologies related to forest management. She provided examples of how different people use forests. For men, forests provide raw materials for enterprises like carpentry and, traditional medicine, as well as spaces to graze livestock and grow food. Women tend to use forests for gathering non-timber forest products for home consumption, as well as wood for cooking. Children go to the forest to hunt fruit and small animals, which often supplements their nutritional needs. Forests therefore contribute to the food security and nutrition of households. Gender analysis of changes in forest management can show, for example, who will be affected by the clearing of forest for industrial purposes. Salimata highlighted the lack of awareness and training in gender issues at all levels of forestry education, from technicians through university and government officials—and how all forestry projects (mostly funded by international organizations) required some degree of gender expertise for implementation and reporting. She has worked to incorporate gender and participatory methodologies into the training of forestry officials, but many of

those individuals are soon retiring, she explained, and so as instructors of future forestry department employees, instructors must continue to integrate these methodologies into their courses.

During the discussion, questions about forest management and potential exclusion came up. Salimata emphasized that all types of forests, classified and communal, can be used by local communities, and that management plans take gender and exclusion into account. The needs of different communities - agriculturalists and pastoralists for example - are also important to consider in forest management strategies and offer another, critical type of gender analysis that is not about men and women. Batamaka brought up the question of exclusion from the forest on the basis of caste, which others then argued was not an issue in Senegal. Questions about wood gathering and charcoal came up, with some people talking about how wood lots have helped deal with deforestation and gender equity by freeing women from long walks to gather wood.

### *Panel: Challenges and lessons for integrating gender*

The four speakers on this panel offered examples of case studies and pedagogical approaches to incorporating gender into both agricultural courses and agricultural educational institutions. Lassiné Soumano, from IPR/IFRA (Rural Polytechnical Institute for Training and Applied Research) in Mali, started the panel discussion with a presentation about why we include natural resources in conversations about agriculture, gender and nutrition. He used an example of a mapping exercise with his students to help them understand the gender roles in lowland rice irrigation, where women do more of the work to pull water and maintain fields, illustrating the gender dimensions of water management. Aissatou Bah, of the University of Faranah in Guinea, offered a second example of a case study for a natural resource management course that could incorporate gender. She framed her course outline in terms of taking into account the needs of all learners, both within the classroom and within the context of agricultural production. Ibrahima Barry, from the University of Faranah and Winrock International in Guinea, then described in more detail a program implemented by his institution and designed to adapt their educational approach to the needs of both learners and consumers. They provide mentorship and scholarships for women interested in agricultural sciences, and talked about the importance of including topics related to agriculture, like climate change and sustainable development, into primary and secondary education to get students interested. The last speaker, Assetou Kanoute, of IPR/IFRA, added a case study that incorporated agriculture, nutrition and gender in the example of village cereal banks, and the differences in management practices between men and women. The banks are more fairly managed by women than men, said Assetou, and that in turn has implications for children's and families' nutrition. She also mentioned the need to further study the nutritional benefits of traditional foods and to share the results with women, in order to encourage the use of traditional foods to fight malnutrition.

During the discussion, there were many comments that drew upon earlier conversations and discussions. One person asked about the cultural barriers to increasing women's participation in agriculture and agricultural education, and there was discussion among panelists about the need to start early, and to broaden the way that agriculture and gender are talked about to include nutrition, care for children, and women's economic participation. Everyone agreed that changing attitudes, about gender roles or interest in traditional foods, takes time, and must include everyone. Women might be in charge of many aspects of food preparation, but as one man pointed out, men can and do grow the crops necessary as

nutritionally rich foods. Children must also be included, since “when they have kids, they will again teach those things. And little by little, we will have change.”

*Salimata Wade, Cheikh Anta Diop University (UCAD), Senegal*

Salimata Wade, from UCAD, spoke about her strategies for supporting gender equity in higher education and specifically in nutrition training. With colleagues, she created an interdisciplinary graduate program on nutrition at the UCAD, with the explicit goal of connecting the natural science and medical communities to social scientists interested in the social aspects of nutrition. She explained that nutrition is universal and that at the same time, food is social – “We don’t eat like the Chinese, and Malians don’t eat the same as Senegalese.” At the beginning there were only a few women in the program, and so they adopted the approach of ‘positive discrimination,’ to ensure that there were equal numbers of women in the course. At this point, there have been more women than men who have completed the program, including at the Master’s and Ph.D. levels. Several of her previous students were among the participants. She discussed in depth the problem of discriminating against pregnant women and new mothers, and made the argument that “there’s no reason to discriminate against women because of their biology, which means that they can keep their roles as mothers. Our strategy is not to make sure that women don’t become mothers, but that they can do something else for work.” She also emphasized that because nutrition is fundamental to human existence and is a key goal of development, all agricultural projects need to integrate questions of nutrition.

At the beginning of the discussion, there were several educators, all men, who raised concerns about pregnant women and new mothers continuing their coursework, especially when fieldwork was required. There is the possibility of complications, and that adds complexity for the faculty managing the students. Women with young children sometimes have to miss class, and that complicates their course work. Other instructors, also men, offered examples of female students they have had who have done fieldwork while pregnant. One offered the suggestion that modifications can be made to the syllabus can be made to take a woman’s specific situation into account, by substituting one activity for another and perhaps postponing fieldwork. One woman made the suggestion that universities need to have daycare for female students and professors, to help them with their child care needs, and Salimata responded that incorporating women’s biology into education “is not unique to Africa, it’s like that in the whole world. What I hear is that women can’t do it, that’s what I hear. Why do we continue that? You have to push people, the strategy is to push that opinion until it disappears. Pregnancy isn’t a sickness, and breastfeeding isn’t a sickness.” There was also discussion of positive discrimination, and whether it is useful or not. Salimata clarified that by positive discrimination, she meant equal opportunity, which might mean emphasizing a group that wouldn’t otherwise have those opportunities.

*Day 1 Group work presentations about gender-sensitive modules and syllabi*

The groups all identified the needs of public and private institutions in terms of training in gender, agriculture and nutrition, as well as the opportunities to address those needs through integrating gender into agricultural and nutrition education.

Needs include:

- Increase the number of women in agricultural fields, through institutional supports like equitable recruitment, increasing female mentors, and creating daycares for students who are mothers

- Make pedagogy gender-sensitive through flexible fieldwork activities and the explicit incorporation of women in local communities into fieldwork
- Gender awareness in public sector technicians and private businesspeople, to adapt institutional approaches to working with women
- The application of gender analysis that is “sexuées et asexuées” – that is, that looks at difference related to sex, and differences related to other social categories

Opportunities for integrating gender into agricultural education include:

- Increased emphasis on gender-specific agricultural technology (appropriate machinery, drip irrigation) to reduce labor
- Use the value chain approach to analyze actors and inequalities in all steps the value chain, and use this analysis to guide research on agricultural value chain development
- Train trainers at different levels to inquire about traditional knowledge that can be evaluated by researchers

Opportunities for integrating gender into nutrition education include:

- Take processing needs into account in varietal selection training
- Identify nutritional needs and options in different contexts, and document nutritional value of local foods
- Make connections between household wellbeing, local knowledge and nutrition decision-making, and social organizations like women’s groups and schools

### *Day 2 Group work presentations of class outlines with a case study to integrate gender*

Groups were formed, based on a common discipline or substantive interest, to create a class outline that included a general overview of the class content and a case study that could illuminate a gender aspect of the subject. The following are summaries of each group’s presentation.

#### **Class: Comparative advantage of women in animal production**

*Background:* There are many simple vaccinations that help livestock production and that can be administered by women. Women also often manage the herd when it is close to the house. Herd health and hygiene can increase milk production, which in turn increases nutrition in the household and revenue from selling excess production.

*Case study:* Because women are integral to livestock herd management, they should be trained in more advanced animal production techniques. One example is training women in how to help avoid mortalities during animal birthing.

#### **Class: The role of women in certified seed production**

*Background:* The class will provide an overview of certified seeds – how they are produced, certified, stored, and marketed. It will include discussion of the national and regional legislation for seed certification and will review the links in the seed value chain.

*Case study:* Based on the overview of seed systems, the case study explores the opportunities and constraints for women to enter production of certified lowland rice seeds. The gender dimensions of access to land, credit and water limit women’s ability to participate, and the limitations require

changes at the national and regional levels of legislation. However, women have an interest in producing and selling seeds of high-quality varieties to increase production and nutrition, and can work together in women's groups to access the necessary inputs at a larger scale.

#### Class: Gender and nutrition in varietal selection and use

*Background:* Plant breeders and post-harvest technology experts have an interest in understanding how the selection and use of certain varieties of staple grains can affect nutritional quality of the food produced. Post-harvest technologies also play a role in maintaining nutritional value, and are not well understood by many processors.

*Case study:* The adoption of biofortified rice varieties (with Vitamin A, for example) could have positive impacts on household nutrition, and will also require the adaptation of post-harvest practices to maximize the nutritional benefits. Education for all members of a household about the benefits of these new varieties will help with their adoption, since men tend to make varietal decisions and women will have opinions about the nutritional content.

#### Class: Peanut production and processing

*Background:* In a course focused on peanut production, it is necessary to think about the entire commodity chain, from inputs to processing and marketing, to make sure that research is useful in the real world. The course will identify the inputs necessary to produce peanuts, to process of storing and processing for home consumption and sale, and marketing of peanut products.

*Case study:* Students will apply a gender analysis of their knowledge of the peanut value chain in order to identify the specific actors in each step of the chain and how to best meet their needs. When tasks are broken down by step and gender – varietal decision making, planting, weeding, harvesting, storing, shelling, winnowing, drying and processing – students will have a guide for how to improve each step in the chain, and will see that men's and women's roles are complimentary.

#### Class: Social elements of agroforestry practices

*Background:* A course on the sociology of agroforestry looks at the natural and social systems that make up agroforestry practices. The course talks about the complexity of these ecosystems, and so much inherently take into account all types of differences – for example, between microclimates, crop species, or community needs.

*Case study:* Students will go to a real-world setting and analyze the complex ecosystem, including the social dimensions. They will do a gender analysis of the agroforestry practices by identifying specific groups of actors and their needs and priorities. Because a gender analysis requires a negotiation of complex differences, the final step will be to analyze each separate group's discussions and identify commonalities across them.

#### Class: Cereal processing

*Background:* Food processing can greatly change the nutritional value and safety of food products, and students in food sciences must learn about the best practices for maintaining both in a range of types of foods. This knowledge is especially underdeveloped in the case of local products that are processed in a traditional fashion.

*Case study:* Students will identify each of the steps necessary to maintain nutritional value and food safety for pearl millet that is being processed for porridge. They will combine their

knowledge of food chemistry with a gender analysis of technologies and processes used in traditional processing, and in newer mechanized processing, to understand how nutritional value and food safety can be improved or lost.

#### Class: Gender aspects of fruit and vegetable preservation

*Background:* In a course on food processing or post-harvest technology, fruit and vegetable drying is a key issue. This is especially true when the goal is to use drying in a rural or small-scale setting. Drying is an important way to guarantee food safety and food security, since it allows for long-term saving of food without spoiling. However, nutritional value can also be lost, and specific techniques must be followed to maximize nutritional value.

*Case study:* The students will use the example of needing to prepare training for technicians to use with local populations in rural areas. This means that there will be both men and women, and people of varying levels of literacy. In order to help even the playing field, students will identify the key aspects of fruit and vegetable drying that must be communicated, and will develop illustrations and demonstrations that don't require written words. Analyzing the key information and how it can be transmitted to a diverse audience is one way to incorporate gender into both technological and pedagogical training.

#### Class: An overview of gender issues in agriculture and nutrition

*Background:* For an introductory agricultural course that covers a range of topics, summaries of the case studies presented above and others like them could be used to help students start to understand the role of gender in agriculture and nutrition, as well as how to use a gender analysis. It can also offer examples of research topics for agricultural science students.

*Case studies:* The examples and gender components are below.

- Cereal production and processing – who does the processing and how can nutritional value be maintained
- Pest management – how do white flies in mangos change the nutrition, and who has the motivation to manage the flies
- Animal production – how decisions about herd management will affect the nutritional value of the milk and meat, and who does that impact
- Varietal selection – what are the trait preferences of different people
- Malnutrition – what are the causes and impacts on different people (elderly, children, pregnant women)
- Aflatoxin – who is in charge of post-harvesting steps where aflatoxin can grow

#### *Community of Practice*

Larry Vaughn and Bineta Guisse introduced the innovATE Community of Practice as a professional group of practitioners, field workers, educators and officials, who are interested in agricultural education and training. Larry highlighted that it is a dynamic group that is constantly moving, which is the goal with this type of space that is open to anyone who is interested. He explained that not only are there ongoing conversations, but also the possibility to share resources – documents, photographs, reports, and web links – about common interests. Bineta explained that there is a Francophone space within the CoP, and that we will be creating a gender topic within the French space for further discussions and as a place for resources from this symposium. Kristal then gave a brief demonstration of the website (on the projector)

and offered assistance to anyone who was interested in registering and having a brief tutorial right then. Following that session, we helped 10-12 people enroll, and a few even posted something immediately.

### Good practices for integrating gender into agriculture and nutrition education

Based on the presentations of key speakers, panelists and group work, and the ongoing discussions that occurred after each presentation and throughout the course of the two days, good practices for integrating gender into agricultural and nutrition education are identified below. These points are separated into pedagogical practices and subject areas to reflect the diverse conversations among educators, practitioners and gender experts. Within pedagogy, good practices for teaching gender as a methodological approach and for incorporating the gender approach into institutional and classroom structures are highlighted. Additionally, specific agricultural and nutrition subject areas where there is an applied need to increase gender awareness and equity and within which educators and students can identify gender aspects are identified. At the end of this section, we also offer lessons learned about organizing a regional symposium of this type based on our own observations and participants' evaluations.

#### *Good practices: Pedagogy*

- There is a need to distinguish between 'gender' as an analytical approach and clarify that 'gender' is not a synonym for 'women.'
- Gender analysis can be presented as: identifying the differences among individuals in terms of needs and capacities; characterizing social categories and social roles (in the household, community, or society); or highlighting inclusion and exclusion in a given activity, system or opportunity.
- Students need examples that are familiar to them and that go beyond the categories of 'men' and 'women.' Examples include: discussing differences in nutritional needs of pregnant women, breastfeeding women and women with older children; identifying who is included and excluded from the use of communal forests on the basis of caste or family name; and framing conflicts among farmers and herders as privileging certain types of production systems over others depending on where they are.
- Discussions of structural or macro-level phenomena, like national legislation or climate change, that can create inclusion and exclusion can discourage students from trying to understand how they can make an individual difference. Presenting gender analysis as a micro-level approach that can identify context-specific needs and opportunities provides students with a framework to understand how their work in agriculture and nutrition could make a difference at a local scale.
- It is important to challenge students' conceptions of social concepts. One example offered by a female teacher is to discuss the benefits of polygamy for reducing women's work, for agricultural production and family nutrition, as a way to demonstrate that categories are contextual.
- Educators should be up front with students about how their education and research will impact the real world. As one man said, "Techniques aren't neutral. They don't just fall from the sky."

#### *Good practices: Subject areas*

- Using a value chain approach to analyzing ways to improve the agricultural sector allows gender to be incorporated into broader conversations about actors, linkages, and specific opportunities and constraints.

- Courses on post-harvest processing and the nutritional value of food processing techniques provide key examples of women's often overlooked role in agriculture as it relates to provisioning of nutrition for the household.
- Training for public administrators and officials in natural resource management and agricultural land management can include discussion about exclusion, privilege and process, which helps to highlight marginalized groups.
- Integrated pest management courses take into account the agricultural landscape and therefore must identify otherwise invisible production spaces like home gardens and forests, which are often organized and managed by women.
- Courses on agricultural machinery and post-harvest machinery have the potential to affect different individuals differently, and can make a big difference for women in terms of freeing up time for other types of work. Identifying the needs and appropriate scale of machinery for women can help students understand these differences.

### *Lessons learned: Methodology of organizing a regional workshop*

- Incorporate gender principles into workshop organization. For example, one participant brought her young, breastfeeding child with her to the symposium, which allowed her to participate. USAID/ERA made special arrangements to accommodate her needs.
- Ensure that there is adequate time for group work, especially when the goal is for participants to identify common areas of interest in order to generate a final product that is relevant to all of them. Getting to know one another takes time, as does group work.
- For a workshop that focuses on course development, distinctions need to be made between curricula, syllabi and class outlines. This is especially important in many countries where curricula are set at the national level and are not flexible. Focusing on syllabi as being more tailored by an educator, and on class outlines as the space in which there is room to include cross-cutting issues like gender, helps distinguish between levels at which educators can and cannot make changes.
- Collaboration at a regional level and between projects requires additional time for communication and translation and agreement on guidelines and outputs early on, as well as a clear definition of the role of each pre, during, and post workshop
- Investment in such a workshop or symposium should be seen as one step in an ongoing effort in order to build on participant interest and build a CoP with material and facilitation in the appropriate language

### Next steps

This report provides content and analysis that will be built upon in several ways by innovATE project members and partner organizations. The good practices overviewed above will be compiled, along with other key insights overviewed in this report, into a two-page innovATE Good Practices Fact Sheet, focused on ways to incorporate gender into agricultural and nutrition education. This Fact Sheet will be published and posted in both English and French, to ensure that it is accessible to the participants who helped to generate the information, and also to expand the reach of innovATE documentation. A second follow-up activity will be to expand and organize the French language section of the Community of Practice, so that

participants can share resources and can start conversations with the broader French-speaking community. This will require creating subject discussion groups, identifying moderators, and identifying key innovATE documents that should be translated into French.

Over the longer term, the analysis presented here will be used to develop both training modules and an in-person regional workshop. Training modules that could incorporate the outcomes of this workshop include gender and agricultural education, gender and nutrition education, and incorporating critical methodologies into the classroom. These modules could combine the outcomes from this workshop with those from the innovATE side event at RUFORUM in July 2014 and other future innovATE activities. The regional workshop being proposed for South and Southeast Asia, to be held in early 2015, would focus on a different subject area, commercial horticulture, but can take a similar format to this symposium. This workshop can draw on organizational and coordination lessons learned as well as insights about focusing on pedagogy as a means to incorporating a specific thematic area into educational and research institutions.

## Conclusion

At the close of the symposium, three representatives of the group offered closing words. Coumba Thiam, of a women's group in Senegal, voiced her appreciation for the symposium drawing connections among agriculture, nutrition, education and household well-being. Dr. Thiam had been approached by the organizers in early February to seek a potential role for her in the workshop. She highlighted the need to incorporate awareness of and interest in agriculture into education across all levels, to build future food security and management of natural resources. Batamaka Somé followed up with a reminder for everyone at the symposium, regardless of profession, that "we can talk about gender just to impress a listener. But we need to analyze its effects in reality. What are the opportunities of those who are involved, what are the specific constraints, and who will benefit?" Larry Vaughn, of ERA Senegal, offered closing remarks that echoed these sentiments and many others over the course of the two days, that gender is not a static category but is an analytical tool that can be used across subject areas and levels of education and implementation, in order to make research and development more equitable.

The goal of the ERA Senegal/innovATE symposium was to bring together educators, researchers, development practitioners and gender experts to discuss the opportunities and challenges for incorporating gender into agricultural and nutrition education. The immediate results of the symposium were two days of stimulating and challenging conversation about the meaning of gender and gender analysis, the need and potential for incorporating gender into technical agricultural courses, and the possibility of adapting class outlines to specific examples that involve gender. The example class outlines and case studies could be easily developed into full-blown modules for a specific technical area that use a case study relevant to the region in which the course is being taught. The presentations and discussions held throughout the two days also provide a starting point for further articulating the connections among agriculture, nutrition and gender, which will be continually important and useful to incorporate into capacity building for agricultural education and training institutions.

## Symposium agenda

### ***Strategies and tools for integrating gender in the agriculture and nutrition curriculum***

USAID/ERA-innovATE Symposium

Royal Decameron Hotel, Mbour, Senegal

June 17 and 18, 2014

#### **Monday, June 16**

Pre-registration at the hotel desk: please collect your folder

#### **Day 1: Tuesday, June 17**

- 8:00-8:30 Registration and pick up nametags
- 8:30-9:00 Opening and introductions
- Larry Vaughan, USAID/ERA
- 9:00-9:30 Icebreaker: participatory exercise
- 9:30-9:50 Presentation: Integrating gender into the agriculture and nutrition curriculum
- Batamaka Somé, World Food Program
- 9:50-10:15 Discussions: Comments and questions from participants
- 10:15-10:30 Coffee/tea break
- 10:30-11:00 Panel: Private sector. Issues faced by women in the agricultural value chain and challenges and opportunities for training, educational and agricultural research institutions
- Penda Cissé, FEPRODES women's federation of rice producers, St. Louis
  - Nafy G. Diagne, POPAS/Founty Services, Dakar
  - Siranding Touty Sane, Jehito Dimalaguene, fruits, cereal, fruits and vegetable processing women's association, Ziguinchor
  - Fatoumata Atchikiti, Jiribalut women's cereal, fruits and vegetable processing association, Ziguinchor
- 11:00-11:30 Discussion: Comments and questions from participants
- 11:30-12:10 Presentation: Climate change impact on agriculture and gender relations
- Patience Akwen Nambo, Business Eco-Agricole for Climat Change Adaptation, Cameroon

Discussion and questions welcomed throughout the presentation

- 12:10-12:40 Panel: Creating syllabi to respond to challenges in agriculture
- Ozzie Abaye, Virginia Tech
  - Tala Gueye, ENSA/University of Thiés
  - Khady Mbaye, Master's in Value Chains, ENSA/University of Thiés
  - Mamadou Thiam Diop, ENSA/University of Thiés
- 12:40-1:00 Discussion: Comments and questions from participants
- 1:00-3:00 Lunch
- 3:00-3:20 Agricultural development that is sensitive to gender: A case study
- Maria Elisa Christie, Virginia Tech
- 3:20-3:30 Instructions for group work
- 3:30-4:45 Breakout groups: Creating gender-sensitive modules and syllabi to respond to challenges in agriculture
- 4:45-5:15 Coffee/tea break
- 5:15-5:45 Group presentations and discussion: Creating gender-sensitive modules and syllabi to respond to challenges in agriculture
- 5:45-6:00 Communities of Practice
- Bineta Guisse
- 6:00-6:15 Evaluation
- Wrap-up for the day
- 6:30-7:30 Communities of Practice (staff and computers available for demonstrations)
- 7:30-9:00 Dinner at hotel restaurant

**Day 2: Wednesday, June 18**

- 8:00-8:30 Sign-in
- 8:30-9:00 Introduce the day's agenda and expected outcomes
- Introduce special guests
- 9:00-9:20 Presentation: Gender, agriculture, and forest products: social aspects in technical courses
- Salimata Ba, BIFS/DEFCCS/MEDD, Department of Water, Forests and Hunting, and Soil Conservation

- 9:20-9:40 Discussion: Comments and questions from participants
- 9:40-10:10 Panel: Integrating gender: challenges and lessons learned
- Lassiné Soumano, Director of Intellectual Property Studies, IPR/IFRA Katibougou, (Institut Polytechnique Rural de formation et de Recherche Appliquée) Mali
  - Assetou Kanouté, Continuing Education Program Director, IPR/IFRA Katibougou, (Institut Polytechnique Rural de formation et de Recherche Appliquée) Mali
  - Ibrahima Barry, University of Faranah, Farmer-to-Farmer Program Coordinator, Winrock International, Guinee
  - Aissatou Lamarana Bah, University of Faranah, Guinee
- 10:10-10:40 Discussion: Comments and questions from participants
- 10:40-11:00 Coffee/tea break
- 11:00-11:20 Integrating gender in human nutrition at UCAD (Université Cheikh Anta Diop/Dakar)
- Salimata Wade, UCAD, (Université Cheikh Anta Diop/Dakar)
- 11:20-11:50 Discussion: Comments and questions from participants
- 11:50-1:00 Breakout groups: prepare modules for presentation
- 1:00-3:00 Lunch
- 3:00-3:30 Group presentations and discussion: present modules
- 3:30-4:00 Evaluation
- Next steps
- Closing words
- 4:00-4:15 Coffee/tea and depart from hotel

## Biographies of key speakers

### *Dr. Batamaka Somé*

Batamaka Somé is an Anthropologist and a Gender Specialist. He worked as a consultant for various international organizations, including the Bill & Melinda Gates Foundation, where he worked in the Access and Markets Systems of the Agricultural Development Program on gender and sociocultural issues. He currently works as Senior Regional Gender Advisor at the United Nations' World Food Programme (WFP) for the West and Central Africa Region. Prior to this position, he was Gender Advisor with the organization in Rome. While in Rome, Batamaka led the implementation of the gender strategy of WFP's flagship initiative, the Purchase for Progress, mostly known as P4P, a pilot initiative that builds on WFP's purchasing power and partners' technical expertise to strengthen smallholder farmers' capacity and integrate them in markets. P4P that covers 20 countries in three continents, including 15 countries of Sub-Saharan Africa, focuses specifically on women's inclusion agricultural production and markets, and economic empowerment.

Batamaka, who mostly sees himself as a teacher, boasts 15 years of teaching, both in high-school and university, in Burkina Faso and the USA. He holds a BA in English and a Master's degree in African literature from the University of Ouagadougou (Burkina Faso), a Master's degree and a PhD in Anthropology, and a Master's Certificate in Gender Relations in International Development from the University of Illinois (USA). Mr. Somé's doctoral dissertation and research focus on intra-household dynamics in smallholder farming. Dr. Somé who participated in dozens of international conferences, published articles, book chapters and encyclopedia entries on various topics. His most recent academic publication is entitled "*Hot Money: Gender and the Politics of Negotiation and Control over Income in West African Smallholder Households*", in the journal *Africa*, 83.2, 2013, pp. 251-269. His work at P4P has been synthesized in a report '*P4P's Women's Empowerment Pathways: Roadblocks and Successes*' accessible at <http://www.wfp.org/content/p4p%E2%80%99s-women%E2%80%99s-empowerment-pathways-roadblocks-and-successes>.

### *Dr. Patience Akwen*

Some key areas of interest include agro-forestry, development of the non-timber forest product sector and regional fresh fruits exports. I have worked with international development and private sector organizations and enjoy making contributions to topics that relate to climate change, gender and green supply chains through seminars, article publications, social activism and volunteerism. Currently working on my PhD research in Management at the University of Neuchatel, focusing on agrifood supply chains for small holders in Africa (Cameroon).

### *Salimata Ba, M.S.*

Mrs. Salimata Ba, Advanced Studies at the Graduate School of Applied Economies, Dakar, in the Applied Development Program, since 1987. Mrs. Ba has worked in: Active Research Methods and Participatory Planning (MARRP) with the International Institute for the Environment and Development; Advanced Participatory Methods (MAP) with USAID; Strategic Environmental Analysis (ASE) with Wageningen University; and Gender and the Management of Natural Resources and Energy with the Food and Agricultural Organization.

Mrs. Ba has more the 25 years in the areas of community organizing, gender equity, training and communications for natural resource management, the environment and domestic energy, and decentralization. She has experience work in the public sector (for the Senegalese government), for NGOs and for projects financed by USAID, the World Bank, and the United Nations system.

### *Dr. Salimata Wade*

Mrs. Salimata Wade is a graduate professor of an upper level program in physiology and human nutrition in the science and technology faculty at the University Cheikh Anta Diop in Dakar. She was head of the Department of Animal biology in the faculty from 2004 to 2006 and she now hold the position of director of the nutrition laboratory in the faculty. Born in Medina, Dakar, in 1951, Mrs. Wade passed her primary studies in Dakar and high school at the School for Young Women, Carnot High School (which later became John F. Kennedy High School). She received her baccalaureate in 1972. She then continued her studies at the University of Paris with a specialization in physiology and general human biology, focusing on nutrition and dietetics. In 1986, Mrs. Wade submitted her dissertation with the title "Transthyretine and Thymuline in protein-caloric malnutrition" with honorable mention. She then held numerous positions in laboratories, including the Dunn Laboratory of the Medical Research Council. In 1987, she decided to return to serve her country. Upon her return to Senegal, Mrs. Wade took a job at the Food Technology Institute in Dakar as a researcher. Two years later, in 1898, she joined the faculty of science and technology at UCAD, because she was convinced that to improve the malnutrition needs in Africa, you first have to have quality human resources.

She then created within the faculty at UCAD a training in human nutrition (Master's program), the first of its kind in Francophone Africa. Today there are almost 40 master's students and ten Ph.D.s in the program, of which 50% are women. Her work in research has allowed her to publish 85 articles in different scientific outlets and to present at many international conferences. Faced with scare national resources dedicated to research, she has proven exceptional capacity to mobilized funds for research and for training in human nutrition thanks to numerous contracts and competitive research projects that allowed her to create the Nutrition Laboratory at UCAD. Mrs. Wade has received numerous awards for her work, at the national, regional and international levels. For example, upon returning to the university in 2008-9, she was given the International prize by the World Nuclear Association for peaceful utilization of stable isotopes, the second Prize of the President of the Republic for the sciences, and a prize from the CEDEAO and the African Union for Women Scientists.

## List of Participants

N°	Nom	Prénom	M/F	Institution/Lieu	Domaine d'intervention
1	AKWEN NAMBO	Patience	F	Université de Neuchatel	Changement climatique
2	ATCHIKITI	Fatoumata	F	JIRIBALUT/Ziguinchor	Secteur privé/Transformation
3	BA	Salimata	F	DEFCCS/Dakar	Eaux et forêts/Genre
4	BAH	Aissatou L.	F	Université de Faranah, Guinée	Enseignement/Genre
5	CAMARA	Astou Diao	F	ISRA/Dakar	Sociologie/Genre
6	CISSE	Peinda Gueye	F	FEPRODES/Saint Louis	Secteur privé/Productrice
7	DIAGNE	Thiané	F	ARD/Ziguinchor	Secteur public/Genre
8	DIATTA	Néné Sané	F	LTAEB/Bignona	Enseignement/Genre
9	DIEDHIOU	Siré	F	UASZ/Ziguinchor	Enseignement
10	DIENG	Ndeye Mama Touré	F	Winrock/Dakar	Genre
11	DIOUSS	Fatma	F	GIE JAAMBARS/Méouane	Secteur privé/Producteur
12	GADJI	Fama Koundoul	F	CFPH/Dakar	Enseignement/Genre
13	GUEYE	Fatou Bintou Gaye	F	UGB/Saint Louis	Sociologie/Genre
14	GUEYE	Nafy Diagne	F	FOUNTY/SERVICE/Dakar	Secteur privé/Transformation
15	KANE	Aminata Sow	F	WAAPP/Dakar	Genre
16	KANOUTE	Assetou	F	IPR/IFRA Katibougou/Mali	Genre
17	LEITE	Nadina	F	UCAD/Dakar	Enseignement
18	MBENGUE	Bineta Dieye	F	ANCAR/Thiès	Secteur public/Vulgarisation

19	SANE	Siranding	F	Djihito Dimalaguene	Secteur privé/Transformation
20	SOW	Fatou Ka	F	CNFTEIA/Saint Louis	Enseignement
21	SY	Assaitou Bocar	F	CFPH/Dakar	Enseignement
22	THIAM	Coumba	F	Consultante/Dakar	Genre
23	WADE	Salimata	F	UCAD	Enseignement
24	BAL	Amadou Bocar	M	UGB/Saint Louis	Enseignement
25	BARRY	Ibrahima	M	Université de Faranah/Guinée	Enseignement - Recherche
26	CAMARA	Mouhamed	M	ISFAR/Bambey	Enseignement
27	DIEDHIOU	Pape Madiallacke	M	UGB/Saint Louis	Enseignement
28	DIOP	Papa Sher	M	CNFTEIA/Saint Louis	Enseignement
29	DIOUF	Ibrahima	M	GIE JAAMBARS/Méouane	Secteur privé/Producteur
30	FALL	Abdou Khadre	M	ISFAR/Bambey	Enseignement
31	GOMIS	Ousmane	M	CNFTEFCPN/Ziguinchor	Enseignement
32	GUEYE	Tala	M	UT/Thiès	Enseignement
33	MBAYE	Abdoulaye	M	ITA/Dakar	Formation/Transformation
34	NDIAYE	Nafissatou Diop	M	ITA/Dakar	Recherche/Transformation
35	NDONG	Moussa	M	UGB/Saint Louis	Enseignement
36	NGOM	Daouda	M	UASZ/Ziguinchor	Enseignement
37	SOME	Batamaka	M	WFP/Mali	Genre
38	SOUMANO	Lansine	M	IPR/IFRA Katibougou/Mali	Genre
39	SOW	Alyou	M	CFPH/Dakar	Enseignement