

Women Empowering Women Through Reusable Sanitary Pads

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Abstract

Menstrual Hygiene Management (MHM) is one of the top challenges for schoolgirls and female teachers in Uganda, leading to low retention rates for girls (25%) compared to boys (33%). One of Higher Education Resource Services-East Africa (HERS-EA) goals is to remove barriers to girls' education and advance women in leadership. This paper summarizes results of a community engagement project that trained rural women in two districts of Uganda (Bulambuli and Butaleja) in entrepreneurial skills and production of affordable reusable sanitary pads. Additionally, a needs assessment was conducted by HERS-EA. MHM issues and possible research areas (community education, engineering, environmental, business and marketing of sanitary pads) were identified. The paper highlights the plight of schoolgirls and rural women regarding MHM and the need for affordable sanitary pads to keep girls in school. The paper further highlights the mutual benefits of collaboration and opportunities that support university primary missions of education, research, and outreach.

Introduction

Recent grassroots activism in the development community, including the first ever menstrual hygiene day, has highlighted the potential impact menstruation in a poor income setting may have on women's rights to sanitation health and education (Boosey & Wilson, 2012). Menstrual Hygiene Management (MHM) is a term that has recently emerged among the international development community to refer to the process of handling menstruation (Boosey & Wilson, 2012). According to the United Nations Children's Fund (UNICEF, 2012), good MHM is defined as access to necessary resources (e.g. menstrual materials to absorb or collect menstrual blood effectively, soap and water), facilities (a private place to wash, change, and dry re-usable menstrual materials in privacy during menstruation, and an adequate disposal system for menstrual materials, from collection point to final disposal point), and education about MHM for males and females.

A study of 12–17 year olds in 20 primary schools in five districts in Uganda revealed that girls in rural Uganda miss up to eight days of study each school term because they are on their periods (*The Guardian*, 2014). This was due to lack of washrooms, lack of sanitary pads, and bullying by peers. The eight days on average translates into 11% of the total learning days in a year. It's a school absence rate that is hard for the girl to make up for and partly accounts for girls dropping out of high school (*The Guardian*, 2014). Most of the girls in the study said they used a piece of cloth called

a kitenge, which they got from their mothers, while others improvised with the cloth nappies used by their younger siblings. Some girls even used dry leaves to try to soak up the blood in emergency situations. Not only are these girls dealing with a lack of materials, they are also stigmatized by cultural attitudes that associate menstruation with being dirty. Many girls grow up dreading their period because of this kind of social stigma, as well as the lack of services and facilities to help them (*The Guardian*, 2014).

According to the 2011 Uganda Education Management Information System report, the average primary school completion rate was 52%, and the retention rate for boys and girls was 53% and 42%, respectively (Bernbaum & Kurt, 2011). A study conducted by the Netherlands Development Organization in Uganda reported that up to 40% of female teachers in primary schools missed school, and 11% of the time, girls missed learning due to challenges of coping with menstruation (The Netherlands Development Organization, 2013). Women and girls living in rural settings in particular suffer from the stigma and lack of services and facilities to cope with the physical and psychological pains associated with menstruation. Sanitary pads sold locally are extremely expensive (House, Mahon, & Sue, 2012). While there are other factors that prevent girls from attending school, this project focuses on the barriers that prevent girls from attending school due to lack of sanitary napkin pads needed during their monthly menstrual cycle.

Causes of school dropout are many and they vary among regions. Several studies, including the 2012 UNICEF report document reasons for school dropout without quantifying the proportion each contributes. They include, but are not limited to, hidden costs of education. Although Uganda introduced free primary education in 1998, parents are expected to provide stationery, food, exam fees, uniforms, and cash contributions to support teacher remunerations. Other factors are: lack of interest due to irrelevancy of curriculum and poor quality teaching; absenteeism by teachers and pupils, leading to lack of motivation; repeating of classes (pupils have to pass end-of-year exams before they advance to the next class); prevalence of corporal punishment (humiliating—especially for girls); family demands—domestic and farming chores and (mainly girls) nursing a sick family member; lack of parental support—lack of appreciation for value of education; early pregnancies (sometimes leading to early marriages); long walking distance to school; overcrowded classrooms (150–200 per class in rural areas); various forms of gender-based violence (GBV); and defilement at times by teachers. Despite existence of laws prohibiting GBV with harsh consequences, weak enforcement mechanisms mean that these practices are prevalent. Hardly a day passes without news reports of GBV, defilement, early and/or, forced marriage.

While attempts to mitigate school dropout rates for girls have been made across numerous government and non-governmental levels, access to sanitary pads for girls remains a daunting task (Nakanyike, Kasente, & Balihuta, 2002; Kasente, Nakanyike, & Balihuta, 2003). To address this problem and other challenges faced by women at various levels of human development, HERS-EA was formed. HERS is a non-profit educational organization incorporated under the laws of the state of Colorado and based in Denver, Colorado in the United States, providing leadership and management development training for women in higher education administration (HERS, 2017). HERS-EA is an affiliated organization of HERS, providing leadership and management development training for women at higher education institutions in East Africa (Uganda, Kenya, Tanzania, Rwanda, Burundi, and Ethiopia) (HERS-EA, 2017). The goals of HERS-EA are to (a) advance women leaders in higher education institutions in East Africa, and (b) to empower women at multiple levels of leadership and integrate the results to change systems (HERS-EA, 2017). HERS-EA aims

to remove barriers to girls' education in order to increase retention of girls in schools. Also, its curriculum addresses the plight of women in rural communities, including those that have not gone to school and those who have dropped out—referred to as Returning Learners (HERS-EA, 2017).

In 2015, with support from Mississippi State University (MSU), HERS-EA conducted a needs assessment aimed at improving the retention rate of schoolgirls by helping them manage menstruation through access to affordable sanitary pads. The specific objectives of the study were: (a) to equip the women in District A (Bulambuli District, Uganda), with business skills to market reusable sanitary pads that they were making, (b) train the women in District A to become trainers of the women in District B (Butaleja District, Uganda) so that the reusable sanitary pad project could be scaled up to benefit girls and women in other parts of the country, (c) develop and implement a small business microfinance strategy for rural women in the two study districts, and (d) provide a research and outreach engagement opportunity that links women researchers at MSU and Makerere University (Mak) to the rural women to address pertinent community challenges such as MHM.

The overall theoretical lens that frames this project is linked to literature on building community capacity. Chaskin (2001) conceptualizes community capacity as the relationship among human capital, organizational resources, and social capital used to solve problems and improve a community. According to Chaskin, this involves four key elements: 1) a sense of community, 2) a level of commitment, 3) the ability to solve problems, and 4) access to resources. Social agency is a critical component in building community capacity. Chaskin goes on to identify four core strategies to building community capacity: 1) leadership development, 2) organizational development, 3) community organizing, and 4) fostering collaborative relations among organizations. Building community capacity for both the sanitary napkin project participants and the HERS-EA initiative are essential components to ensuring the success of both projects.

Methodology

Project area. The project area comprised two districts: Bulambuli (District A) and Butaleja (District B), both located in Eastern Uganda (Figure 1). Uganda is a landlocked country in Eastern Africa with an area of 241,038 square km. Kampala, with a population of 1.2 million, is the capital and its largest city. Uganda is divided into

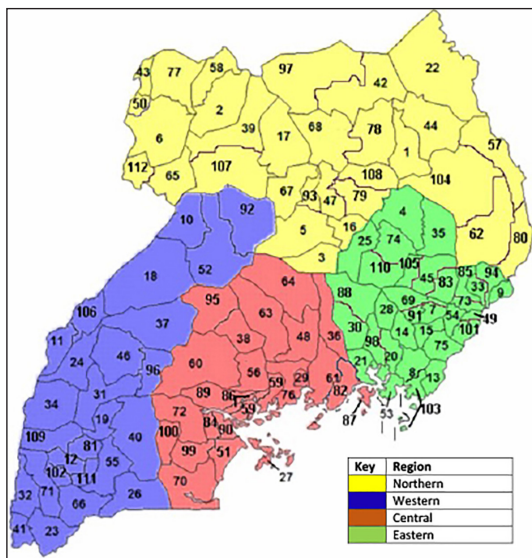


Figure 1. Uganda's Regions and 111 Districts
Source: "Status of Local Governments." Uganda Ministry of Local Government (2010).

four regions, the Northern Region, the Central Region, the Eastern Region, and the Western Region, and subdivided into 111 districts (Uganda Bureau of Statistics, 2014). The study districts are located in the Eastern Region (Figure 1, green). Uganda's 2014 National Population and Housing Census reported a total population of 34,634,650. The Central Region contained 27% of the country's population, the Western Region 26%, Eastern Region 25%, and the Northern Region 22%. The populations of the study districts—Bulambuli (District A, No. 85 in map) and Butaleja (District B, No. 15 in map)—were 174,508 and 244,158, respectively (Uganda Bureau of Statistics, 2014).

Education. Uganda's education system follows a four-tier system. The first tier is comprised of seven years of primary education, followed by four years of ordinary level secondary education, two years of advanced level secondary education and the final tier is three to five years of tertiary education. Each level is nationally examined and certificates awarded. The government introduced universal primary education in 1997 to offer free education at the primary level, and in 2007 universal secondary education was introduced. University and tertiary education are offered by both public and private institutions. There also exists informal education in Uganda that aims to serve those persons who did not receive or only partially received formal education. Under the informal system, a range of practical/hands-on skills are imparted. The informal system includes a functional adult literacy program in the Ministry of

Gender, Labour and Social Development and adult basic education for Karamoja among others (Uganda Bureau of Statistics, 2014).

Illiteracy can be defined as the inability to read and write. In the context of this study illiteracy further means the inability to understand written instructions in whatever language or medium of communication. According to Everest Tumwesigye, Uganda's commissioner for community development and literacy, "Uganda is unlikely to meet the adult education target under the goal to achieve education for all by 2015," (*New Vision*, August 28, 2013; retrieved from http://www.newvision.co.ug/new_vision/news/1330222/uganda-falls-short-2015-adult-literacy-target). According to the Uganda Bureau of Statistics (2014), average adult literacy for persons over 18 years was 71%, with male literacy estimated to be 81% and female literacy 61%. The average data masks vast differences between regions, age groups, and gender but indicate that overall female literacy lags behind male literacy. Among the study groups, illiteracy was a barrier to understanding and interpreting instructions leading to a number of limitations including: (a) primary data collected only via oral interviews, (b) lengthy explanations required to understand business documents (of which many had no prior knowledge), (c) inability to open and manage a bank account, and (d) slower than expected progress during training.

Characteristics of Women Groups. The women in Bulambuli District had formed a group called Elgon Pads, comprised of five women and one man, and had been making reusable sanitary pads since November 2013. Elgon Pads was formed with support of African Village Support, a charity registered in the United Kingdom, and partner to HERS-EA. The company was not selling the sanitary pads in spite of the apparent demand in the district and in other parts of the country. It lacked both leadership structure and business management skills. There were no records of inventory and no market research had been completed regarding customer concerns. The women lacked confidence in marketing the product, especially in schools, partly because most heads-of-schools were men. Also, Elgon Pads was not registered and had not patented their product; they also did not seem to be aware of the risk. Making pads was not the primary activity for the members; it was done in their spare time and the shop was not always open and pads were sometimes out of stock.

All six members of Elgon Pads had dropped out of high school and none of them had formal

qualifications. They got along well but they had no structure in place to streamline allocation of activities; no one seemed to have overall responsibility for any area of the project. They operated in a small room (about 25 square meters) with display shelves at the front. These premises, which were part of African Village Support, were strategically located, about 100 meters from Bulambuli District Administration offices and within a four-mile radius of 10 primary schools and three secondary (high) schools and about 10 meters from a busy main road and local commuter taxi park. This underexploited location was convenient for legal business processes, proximity to market, and transporting products to further places. All members were very skilled in making the sanitary pads and capable of producing up to 20 packets a day. However, from observations made, Elgon Pads members lacked confidence in themselves and in the product they were making, did not seem to be aware of the high untapped demand for the re-usable sanitary pads. As produced, the pads were difficult to sell because they had no labels or instructions for use or washing, the packaging was not attractive in comparison to other sanitary products, and the size was small and did not cater to those who bled heavily. Elgon Pads had sold some sanitary pads to girls in a nearby school but had not obtained feedback on the product.

Butaleja District group had 25 women comprised of teachers, community leaders, schoolgirls, and housewives, ranging in age from 17–48; many were mothers of teenage girls. This group had received earlier training in business management from World Vision and the Africa Institute for Strategic Resource Services (AFRISA) at Mak. The women were earlier organized with a chairperson, secretary, and treasurer; however, the group was incomplete, as some office bearers had moved out of the area.

The Needs Assessment. In Bulambuli District, the needs assessment was carried out through observations, informal discussions with the stakeholders, and surveying the participants using guided questions to establish specific needs that would be addressed by the HERS-EA and AFRISA teams during the business skills and training sessions. An interview guide with specific questions was used to gather information on sanitary pads production, business priority needs, and appropriate interventions. The interview was administered orally as the participants were not confident about responding in writing. The specific questions covered sanitary pads production, quality control, sales and marketing, profitability

of business, and company registration. Information gathered enabled pre-training and post-training assessments to gauge the impact of the project on Elgon Pads' business. HERS-EA ensured that the relevant stakeholders—the rural women, husbands, community leaders, and teachers—were informed and supportive of the pads project. Also, HERS-EA team interviewed a small group of girls (eight volunteers) from a nearby school, who had purchased pads from Elgon, to obtain their feedback.

In Butaleja District, only 10 of the 25 women participated in the discussions. The 10 were comprised of three group leaders, two teachers, two schoolgirls, and three housewives who were literate. The 10 women had previously been trained by AFRISA, and were therefore familiar with group activities. In both districts the participants were briefed about the purpose of the project before they responded to the questions; they were also debriefed, after the discussion, in order to manage their high expectations and also to offer support to those who got emotional. The majority of the participants were illiterate, although a few had basic literacy, so most of them answered questions through oral interviews. The HERS-EA team summarized the information gathered from the discussions. The HERS-EA team engaged with the community leaders before the visit to ensure that all protocols were observed and to gain their support for the project. Several community and political leaders were present during the visits.

Training. Two visits were made to Bulambuli District to train the women on (a) business management, and (b) training of trainers. The Elgon Pads group of six women was joined by 26 additional women associated with African Village Support for the business skills training. At the beginning of the training session participants shared their expectations, which included (a) how to make money, (b) getting the right employees, (c) how to get buyers, (d) how to access government grants and bank loans, (e) trading standards and regulations, and (f) how to register their businesses. The business management training was conducted over three days by three trainers from AFRISA and HERS-EA. Business concepts were explained in the local language and learners were fully engaged and responsive throughout. Afternoons were spent in group discussions with clear expected outcomes, such as development of a business plan. The training of trainers was conducted on the fourth day. Elgon Pads women later traveled to Butaleja District to train the women there on sanitary pads production.

Butaleja District women were also trained on sanitary pads production. These women had prior knowledge in basic business management, provided earlier by World Vision. Also, the women had discussed, though unsuccessfully, the concept of reusable sanitary pads using old cloths with World Vision. This prior knowledge served them well during the training. Using grant funds from MSU, HERS-EA purchased two sewing machines and fabrics and other accessories for the training. The training session started with a review of the business skills previously covered. Participants then shared their expectations with the trainers (Elgon Pads and HERS-EA), which included: (a) learn how to make pads, (b) earn some money, (c) afford pads for themselves and their children, (d) feel more confident and productive throughout the month, (e) learn how to make other garments, and (f) make new friends. Participants brainstormed on how best to use the two sewing machines, and agreed upon: (a) making African print unisex outfits, (b) repairing clothes, (c) making upholstery, (d) making school uniforms, (e) making aprons for local health centers, and (f) sharing handcraft skills to make more handcraft items. The training was hands-on with Bulambuli women showing Butaleja women how to make the pads while maximizing resources available. The sewing process was stalled because most of the Butaleja women did not know how to use a sewing machine. A local trainer was therefore hired to teach Butaleja women the basics of using a sewing machine.

Evaluation

The evaluation process for the project was conducted by HERS-EA through analysis of information gathered from the needs assessment of the women in Bulambuli and Butaleja. HERS-EA also made additional follow-up visits to Bulambuli and Butaleja districts to conduct a post-training assessment.

Results

Needs Assessment

Bulambuli District. Elgon Pads lacked business and marketing capabilities and required urgent training in this area. The group was not registered and had not patented their product; they did not seem to be aware of the risk either. Making pads was not the primary activity for the members; it was done in their spare time and the shop was not always open; pads were sometimes out of stock. The HERS-EA team interviewed a small group of girls (eight volunteers) from a nearby school who

had purchased pads from Elgon Pads and their responses are summarized below. The girls liked the pads and were relieved to have “something” hygienic to use. However, they did not like washing blood out of sanitary pads. Some of the girls said that this type of pad was seen as “inferior,” one for the poor, and it had been given a bad nickname so they were discouraged from using them.

Butaleja District. Only 10 of the 25 women participated in the discussions. All participants (men and women) were eager to participate in the pads production, distribution, and selling. The women were reluctant to engage in the discussion about menstruation in the presence of men, but later opened up and shared their testimonies once the men left. Many of the women said they were relieved to hear that others were in similar situations and they felt that they could continue supporting each other after the survey session. Overall, Butaleja women found menstruation a challenge but the ways in which it affected them varied according to their daily activities. With regard to housewives, their domestic activities, which included gathering wood for cooking, collecting and cooking food, fetching water, cleaning the home, and washing clothes and dishes became a problem. For example, some felt unwell and unproductive before and during menstruation. Schoolgirls missed up to seven days a month; a school term lasts three months so some of the girls missed up to 21 of the 90 days in a term. The girls felt that they fell behind and were not capable of catching up. Each of the participants knew of an incident where a schoolgirl had been teased about menstruation by her peers and (at times) teachers, or had missed some school days due to lack of sanitary facilities at home and at school. Professional working women seemed to struggle mostly with lack of female toilets and sanitary pads at work. Some of the teachers could remember a few girls who had dropped out of school because they had missed so much that they felt they could not catch up. They also complained about lack of facilities, and many teachers could not afford disposable pads either, so like their students, they too missed some days rather than risk having stained clothes at work.

The personal testimonies by the women gave a deeper insight into specific ways in which lack of menstruation management had impacted them and their children. The effects of the emotional distress displayed could not be quantified within the scope of this study. Table 1 summarizes a few examples of the testimonies. The women reported

a few interventions but said they were inadequate. For instance, some participants had received sanitary pads from World Vision but that had been a one-time event so their problems remained. Some resorted to poor, unhygienic substitutes, like rags, because of the high cost of disposable pads. The rags used had been made of any available fabric, including nylon, which was not absorbent and could get hot and smelly. Others reported using bits of old blankets, which could cause skin irritation in the vaginal area. A few had used thick, hairy leaves, believing that they were more absorbent, only to be disappointed. A few schools had designated female senior teachers to help girls with menstruation issues by providing information and some emergency sanitary pads. Some participants reported hearing about discussions by the Uganda Parliament on menstruation and its effect on education for girls and wondered whether any action had been taken. Some of the girls and women recognized the need to wash and dry the pads thoroughly to avoid acquiring a bad smell; others had challenges on where to dry them, while others doubted the effectiveness of reusable pads in managing heavy bleeding (see Tables 1 and 2).

Evaluation of the Training. As a result of the training and networking, the women groups became better organized, grew their membership, and acquired additional skills that they did not have before. For instance, with the support of a male community leader (chair of the local head teachers' association), Butaleja women were able to reorganize and develop a new management structure with a chair, secretary, and treasurer. Also, the membership of the group grew from 25 to 30. The group was named Pambileho, which meant "holding hands," or support for each other, in the local language. Registration of Pambileho and opening a bank account were initiated. The group also received some training in operating a savings and credit plan that would enable them to access funding from local institutions. As a result of the training, Pambileho women learned how to sew and make sanitary pads, and also acquired extra skills including making handicrafts. Additionally, a professional tailor was identified to train the women in making African print garments.

The objective of training Elgon Pads women in (a) business skills and (b) training of trainers was accomplished. At the end of the project, it was observed that the Elgon Pads group had gained confidence in themselves and their product, and they took pride in teaching the Butaleja women how to make the pads. They also elected two leaders

Table 1. Testimonies on How Menstruation Affected Different Groups of Women

No.	Testimony
1	"Menstruation incidents affect girls starting from primary 4 to primary 7. One girl refused to leave her desk at the beginning of break; boys in her class were suspicious so they surrounded her; eventually she left. The senior teacher intervened and lent the girl a skirt but the girl left school and she never returned." school teacher, aged 32
2	"During a parents-teachers meeting I saw three girls with blood spots on their dresses who explained that they did not have pads. I offered a cloth to one of the girls to wrap around her; the others left the meeting and missed all the advice that was being given." parent/community leader, aged 50.
3	"I always pretend to have malaria when I get my periods so that I stay home but, it is like a double punishment because I miss classes and fall behind and I also get punished for missing school; maybe it is easier to just give up school; but I really want to be educated and... (sobs)...." school girl, aged 14
4	"My 14-year old daughter used to secretly get money from a man, to buy pads; he eventually raped her.... I can't believe something so stupid...." 43-year-old mother
5	"Our top female student suddenly disappeared, after she was teased by peers when they saw blood stains on her dress." 50-year-old teacher

and started keeping records. The presence of the Bulambuli chief administration officer at their awards ceremony boosted their morale and raised the profile of the group and their product. However, the group needed a mentor to support them in establishing a business, patenting, opening a bank account, and basic bookkeeping. They also needed to expand the market for their pads, including selling the pads to the school leaders' organizations. Increased sales and ability to train groups of women in different parts of the country would improve their livelihood, increase self-esteem, and help raise the profile of reusable sanitary pads for the benefit of a wider group of women and schoolgirls. Overall the Women Empowering Women project was successfully implemented, with respect to the objectives outlined, apart from setting up the microfinance strategy.

Small Business Microfinance Strategy. The objective of setting up a microfinance strategy for the women in Bulambuli and Butaleja Districts

Table 2. How menstruation impacted different groups of women

Impact	School Girls	Married Rural Housewives	Professional/Working (mainly teachers)
	• Premenstrual pain that is not attended to; not seen as a "sickness" • Tension/stress as periods approach and begin, due to lack of facilities • Missing school; up to 7 days a month. • Discomfort and irritation from items such as leaves, rugs, cotton (in raw form) • Humiliation from peers (especially boys) and some teachers and members of the community when clothes are stained. • Girls feel inferior	• Sit up all night to avoid soiling the bed • Sexual aggression from husbands when bleeding • Humiliation by husbands when women ask for money to buy sanitary pads • Lack of facilities can lead to unpleasant smells • Abandonment by husbands who lack understanding of menstruation issues	• Lack of female toilets at the work place • Sexist comments by male colleagues about hormonal stress • Some women could not afford sanitary pads at market price

was not achieved due to: (a) lack of functional financial literacy—most of the women did not have the skills to fill out an application form, operate a bank account, or use a cell phone adequately, (b) political and technical bureaucracy—the training took place during political elections, when political alliances were significant in decision-making and collaborations, and (c) organization within the groups—both groups were still in their infancy and needed support to strengthen the management structures of their young organizations and build track records for their activities before they could be considered for grants and loans. This failure can be further understood by knowing that a local technology of sending and receiving money using cell phones (mobile banking) is widespread in East Africa, but it requires the phone number to be registered and an ability to read security codes when sending or withdrawing money. These women were unable to make these transactions. Additionally, financial institutions were cautious

due to uncertainty about the election outcomes.

Discussion

The Scholarship of Engagement in the Project "Women Empowering Women through Reusable Sanitary Pads"

Fisher, Fabricant, and Simmons, (2004) describe four types of civic engagement: service learning, local economic development, community-based research, and social work initiatives. This project embodied three of the four types of engagement noted, and created opportunities for service learning for students in the future. Below is a summary of the four themes of scholarship of engagement that emerged from the study and their relation to the current literature. While this project was not extensive enough to generate theory, the authors present the information with the intention of setting

a contextual stage for scholarly discussion and future research.

Theme 1: Emphasis on Community Engagement. Universities and colleges are increasingly providing internal grants to encourage faculty and staff involvement in community-based research and service-learning projects (Nicotera, Cutforth, Fretz, & Thompson, 2012), and studies have shown that community-based projects energized the participating faculty, helped them make their academic work relevant in communities, created formal and informal university/community partnerships, and elevated the university's public image (Nicotera et al., 2012). This project was funded by an internal grant from MSU International Institute (\$4,000) and The National Strategic Planning & Analysis Research Center (NSPARC) (\$10,000) to encourage interdisciplinary and international faculty engagement. The participating research universities (Mak and MSU) both espouse community engagement, and the project focused

on empowering rural women in two districts in Uganda in entrepreneurial skills to produce and market low-cost, hygienic, reusable sanitary pads in their communities. In addition to generating income for women, access to sanitary pads enabled girls and school teachers to stay in school and rural women to engage in social, political, and economic activities. The participants, primarily women and girls, and secondary beneficiaries (community and political leaders) participated in decision-making regarding the type of activities and sustainability of the project.

Theme 2: Emphasis on University Outreach.

Universities' primary missions are education, research, and outreach (Lynton, 2016). Outreach has been defined as "a reaching out from the university to the people and organizations a university serves" (Byrne, 2016, pp. 53–58), including transfer of knowledge and technology from the university to its constituents. Leading scholars have eloquently described the societal need for a more intense and direct engagement of universities with their external constituencies (Lynton, 2016). The internal benefits of outreach to universities are immense, and strong faculty engagement in outreach is needed by the university as much as it is by its societal partners (Lynton, 2016). Each engagement in outreach is likely to have an element of inquiry and discovery, leading to creation of new knowledge that flows in both directions. First-hand faculty involvement in the field provides new academic insights and understanding, which provide new directions for controlled research in laboratories. Findings, in turn, lead to ideas that can be brought to the place of application (Lynton, 2016). Outreach is needed for the optimal generation of knowledge; it provides bridges between theory and practice that benefit the teaching and learning process, both directly and indirectly. Direct student involvement in faculty-outreach projects has the potential of providing considerably more mentoring and learning than an external experience in which faculty are not engaged. And, faculty outreach indirectly benefits all other students (Lynton, 2016). This project provided a research and outreach opportunity that linked women faculty at MSU (U.S.) and at Mak (Uganda) with rural women in Eastern Uganda. As a result of this engagement, new interdisciplinary research questions were generated and efforts are ongoing to address them.

Theme 3: Interdisciplinary Research. This project provided an opportunity for faculty to

generate interdisciplinary research questions and also enhance international collaboration between faculty at MSU and Mak. The study played a supporting role to the university's primary missions of education and research and fulfilling the goal of land-grant universities of serving people globally. HERS-EA researchers from Mak, in partnership with the AFRISA Institute, collaborated with researchers from MSU's Social Science Research Center, Human Sciences, and the College of Veterinary Medicine to conduct a pre-training and post-training assessment in production and marketing of the sanitary pads. This interdisciplinary project facilitated through MSU's International Research Development Office at the International Institute generated areas for further research in education, sociology, business, technology, and engineering. HERS-EA, in collaboration with Mak and MSU researchers, is actively seeking funding opportunities to expand this international collaboration, including providing opportunities for student training. Plans are underway to build upon accomplishments of the project "Women Empowering Women Through Use of Reusable Sanitary Pads" to advance cross-national research and programmatic development. For instance, an interdisciplinary research team from MSU comprised of scholars with expertise in sociology, gender studies, women's economic empowerment, community development, demography, and social entrepreneurship has been formed. The MSU research team has developed a 10-year plan to work with East African scholars to develop and expand the existing WEW project. The research project goals include: (a) establishing long-term (5–10 years) research project with multiple peer-reviewed publications, (b) strengthening ties with HERS-EA and participating in an annual HERS-EA Leadership Training Academy, (c) securing grant funding for research, (d) incorporating the project into the MSU Sociology Department undergraduate and graduate curriculum, and gender studies curriculum at Mak, (e) establishing study-abroad opportunities at Mak for MSU students, and (f) facilitating faculty exchange. The research questions identified include: (a) how is menstruation perceived culturally in Butaleja and Bulambuli? What is the specific content of these beliefs? (b) once reusable pads are established, both in terms of stable production and use, what are the long-term effects on women's social participation and status? (c) how does the business affect the workers, their families, and the community?

Theme 4: Opportunity for Service Learning for Students. In their report to UNESCO, Boothroyd and Fryer (2004) draw on their experience in Vietnam, Thailand, and North America to argue that universities have the capacity to create social change through carefully planned engagement by faculty and students. Also, research indicates that service learning as an instructional strategy helps students gain knowledge and skills and increase self-confidence and a sense of caring (Jenkins & Sheehey, 2012). It increases understanding and depth of course content, promotes knowledge and understanding of civic and social issues, and increases awareness and acceptance of diversity (Jenkins & Sheehey, 2012). In addition to creating opportunities for future faculty research and publication, the project also provided educational opportunities for students at both institutions through study abroad, joint research, and service learning.

Service learning can benefit the education of students in several ways. Values such as diversity, self-determination, accountability, and collaboration can be taught using service-learning methods, which further students' learning (King, 2003). Service learning also promotes professional development. Feedback from students who were taught a policy course using service-learning projects suggested that students increased their confidence and competencies as policy practitioners and that the service-learning projects were influential in that change (Mink & Twill, 2012). After the course, students engaged in policy activities such as calling, emailing, or writing an elected official, working on a specific policy change effort, participating as a member of a coalition working on a political issue of change, and voting (Mink & Twill, 2012).

Limitations of the Study. This small qualitative study focused on the engagement experiences of women groups in two districts in Uganda, and may not reflect the views and experiences of women in other districts in the rest of the country or other sub-Saharan countries. The two districts selected for inclusion in the project were chosen based on the production of sanitary pads (Elgon) and prior engagement with World Vision and AFRISA at Mak. The perspectives of the women in the two districts may not reflect the views of all women in all 111 districts of Uganda. A study on a larger scale would provide wider perspectives of how MHM affects women at a broader level. In spite of these limitations, we believe all institutions working to enhance women's advancement will find helpful suggestions from our findings and lessons learned.

Reflective Experiences of the Project "Women Empowering Women Through Reusable Sanitary Pads". The partnership between MSU, Mak, and HERS-EA demonstrated by this project highlighted the mutual benefits of this collaboration and existing opportunities that support the university's primary missions of education, research, and outreach. The project enabled MSU and Mak women researchers to connect with real issues faced by rural women in Uganda and to understand them within the cultural settings where they occurred. Faculty encountered the role played by Indigenous knowledge and cultural art and they began to apply their own scientific knowledge and research skills to begin creating new knowledge and assess how to impact gender and economic policies through engagement rather than top-down strategies.

Action research identified from the project covered several disciplines including: (a) education—impact of menstruation on education of the girl child and policy development to address this plight, (b) sociology—impact of menstruation management on professional women and inclusiveness and full participation of women in economic and other activities, (c) science and technology—development of a product that was environmentally sensitive with regard to inputs and disposal, and (d) business—sanitary products have a guaranteed and growing demand.

Unexpected challenges encountered included a range of issues: (a) balancing the fear of losing husbands due to lack of understanding of menstruation issues, to seeking help regarding buying pads (b) some women could not afford underwear needed to hold the sanitary pads, (c) many of the women were illiterate, which made teaching of record-keeping skills difficult, (d) more sewing machines were needed, (e) product distribution—there was a lack of packaging materials and the target schools were within a 10-mile radius; the women lacked reliable transportation, and (f) there was need for funding for an office and capacity building at HERS-EA.

Potential Future Collaborations. Opportunities exist for collaborative research, training, and outreach between higher education institutions in East Africa, the United States, and other stakeholders on: impact of MHM on education of the girl child and policy development; impact of MHM on professional women; science and technology—developing an appropriate product that is environmentally sensitive with regard to inputs and disposal; and business-entrepreneur-

ship development. Additional opportunities exist for developing further partnerships between HERS-EA, African Village Support, AFRISA, and other stakeholders, such as development agencies.

Conclusion

This paper described the plight of women regarding Menstrual Hygiene Management and the need to address it in order to keep girls and women teachers in school. It highlights the role of higher education institutions in addressing MHM through scholarly activities of research outreach and community engagement—contextualized within the theme of the 17th Annual ESC conference, namely “Visioning the Future of Engaged Scholarship: Reciprocity, Mutual Benefit & Impact.” With a small grant from MSU, in collaboration with African Village Support and AFRISA, HERS-EA was able to conduct a baseline study in Bulambuli and Butaleja Districts, train women in Bulambuli to (a) better manage the pads project and (b) become trainers of other women in making the pads. HERS-EA also trained Butaleja women on how to make sanitary pads. Consequently, as of December 2015, the women in Butaleja District had made and sold their first batch of reusable sanitary pads and were ready to develop the skills further and to grow their business, if they could access more capital. This project has enormous potential to create employment for many women and improve their livelihoods while improving retention of girls in schools.

The women who were trained still require further mentorship in managing small businesses successfully and improving their product so they could gain confidence in promoting the sanitary pads for the benefit of a wider group of women and schoolgirls. There is a ready market for reusable sanitary pads and there are existing distribution channels (local shops and schools) that could be used to sell the pads. At the time of the evaluation visit on January 15, 2016, Pambileho had received orders of 8,000 packets from local schools but could not meet the demand due to lack of sewing machines and funds to purchase the necessary materials. The need for reusable pads was apparent from the responses, media reports, and informal conversations during visits by HERS-EA. Therefore, with monitoring and mentoring and seed money to provide sewing machines and fabrics, the groups had potential to grow and expand the pads project. HERS-EA is indebted to MSU for facilitating this project and looks forward to developing collaborative research and more community

engagement projects to provide life-changing opportunities for marginalized groups of women and girls in Eastern Africa.

References

- Bernbaum, M., & Moses, M. (2011). Education management information systems: A guide to education project design, evaluation, and implementation based on experiences from EQUIP2 projects in Malawi, Uganda, and Zambia. EQUIP2 lessons learned in education. *USAID Report*. Retrieved from <https://www.fhi360.org/sites/default/files/media/documents/EQUIP2%20LL%20EMIS%20AAR.pdf>.
- Boosey, R., & Wilson, E. (2012). The menstrual hygiene management and the international human rights system: A vicious cycle of silence. Retrieved from https://consultations.worldbank.org/Data/hub/files/a_vicious_cycle_of_silence_final_version_of_paper_0.pdf.
- Boothroyd, P., Fryer, M., & Exchange, D.L. (2004). *Mainstreaming social engagement in higher education: Benefits, challenges and successes*. Comunicación presentada en el Coloquio de la UNESCO sobre Cambio Curricular y Cohesión Social en Sociedades Afectadas por Conflictos, París, 1–3.
- Byrne, John V. (2016). Outreach, engagement, and the changing culture of the university. *Journal of Higher Education Outreach and Engagement*, 20(1), 53–58. Retrieved from <https://eric.ed.gov/?id=EJ1097237>.
- Chaskin, R.J. (2001). *Building community capacity*. New York: DeGruyter.
- Fisher, R., Fabricant, M., & Simmons, L. (2004). Understanding contemporary university-community connections. *Journal of Community Practice*, 12(3), 13–34.
- HERS (2017). *Higher Education Resource Services*, Denver, CO. Retrieved from <https://hersnet.org/>.
- HERS-EA (2017). *Higher Education Resource Services, East Africa*. Retrieved from <http://www.hers-ea.org/>.
- House, S., Mahon, T., & Sue, C. (2012). *Menstrual hygiene matters: A resource for improving menstrual hygiene around the world*. Retrieved from www.wateraid.org/np/~media/Files/Global/MHM%20files/Compiled_LR.ashx.
- Jenkins, A., & Sheehy, P. (2012). A checklist for implementing service-learning in higher education. *Journal of Community Engagement and Scholarship*, 4(2), 52–60. Retrieved from http://jces.ua.edu/wp-content/uploads/2012/10/JCES_Vol4No2.pdf.

Kasente, D.H., Nakanyike, M., Balihuta, A. (2003). *Improving the management of sexual maturation at primary schools: Information needs from the perspective of Ugandan school children*. Makerere Institute of Social Research (MISR), Makerere University, Kampala.

King, M.E. (2003). Social work education and service learning. *Journal of Baccalaureate Social Work*, 8(2), 37–48. Retrieved from <http://www.sowo.tcu.edu/jbsw/>.

Lynton, E.A. (2016). Ensuring the quality of outreach: The critical role of evaluating individual and collective initiatives and performance. *Journal of Higher Education Outreach and Engagement*, 20(1), 35–43.

Mink, T., & Twill, S. (2012). Using service-learning to teach a social work policy course. *Journal of Community Engagement and Scholarship*, 5(1), 5–13. Retrieved from http://jces.ua.edu/wp-content/uploads/2012/10/JCES_Vol5No1.pdf.

Nakanyike, M., Kasente, D.H., & Balihuta, A. (2002). *Attendance patterns and causes of dropout in primary schools in Uganda*. Ministry of Education and Sports, Kampala, Uganda.

Nicotera, N., Cutforth, N., Fretz, E., & Thompson, S.S. (2012). Dedication to community engagement: A higher education conundrum? *Journal of Community Engagement and Scholarship*, 4(1), 37–49. Retrieved from http://jces.ua.edu/wp-content/uploads/2012/10/JCES_Vol4No1.pdf.

The Guardian, (2014). *A bleeding shame: Why is menstruation still holding girls back?* Retrieved from <https://www.theguardian.com/global-development-professionals-network/2014/may/28/menstruation-girls-education-uganda-sanitation>.

The Netherlands Development Organization (SNV)/IRC International Water and Sanitation Centre (2013). *Study on menstruation management in Uganda*. Retrieved from http://menstrualhygieneday.org/wp-content/uploads/2016/12/Menstrual_Management_-study-report_Uganda.pdf.

Uganda Bureau of Statistics (2014). *National Population and Housing Census 2014 Main Report*. Retrieved from <http://unstats.un.org/unsd/demographic/sources/census/wphc/Uganda/UGA-2016-05-23.pdf>.

United Nations Children's Fund (UNICEF). (2012). *Water, sanitation and hygiene (WASH) in schools: A companion to the Child Friendly Schools manual*, New York: UNICEF. Retrieved from https://www.unicef.org/publications/files/CFS_WASH_E_web.pdf.

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