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Stimulating STEM Opportunities in West Africa: International Collaborations Spurred by ASM Membership

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Background

Social and environmental factors have prompted educational systems to develop science, technology, engineering, and math (STEM) programs in recent decades. Globally, such programs have surged, and there is a need to establish frameworks which succeed in STEM integration. Membership to professional, education, and business societies/organizations are useful in achieving cohesive standards needed in STEM education. One such society, the American Society for Microbiology (ASM), is among the largest life science societies in the world, whose members include researchers, educators, and a variety of health/business professionals. Currently, ASM has over 200 Ambassadors, 35 Branches, over 130 Student Chapters, ASM's vast network promotes an overall understanding of microbiology. As a result, membership and active participation often result in new contacts and collaborative opportunities for its members and students.

Objectives

Recently, ASM members in Lomé, Togo have worked with other international ASM members to establish RAB-Togo, a network of biology enthusiasts in Togo. Members of this network work to establish protocols and laboratory experiences which promote creativity, teaching, and entrepreneurial STEM opportunities. RAB-Togo is also tackling STEM gender equality in West Africa and seeks to encourage women in Togo to pursue education and careers in STEM. ASM Members and Ambassadors have worked to develop microbiology protocols which can be implemented by RAB-Togo officials in Lomé. Members have also worked to secure much needed microscopes to be used by RAB-Togo's Bio'phile Project. The goal of this presentation is to explore and demonstrate recent impact that ASM Member/Ambassador contributions have had on RAB-Togo's STEM framework.

Methods

RAB-Togo works with K-12 students, undergraduate science students, and a variety of community members throughout Togo. In order to gauge the overall success of RAB-Togo's efforts, surveys which evaluate participant goals, interest, and skills were provided at each of RAB-Togo's site visits. Participants were given opportunities to become involved in collaborative research activities conducted by ASM Members and Ambassadors. Survey results, as well as participant comments related to collaborative research projects, were recorded and evaluated for perceived success.

Results

This study has collected more than three years of data. Results of RAB-Togo's efforts have demonstrated improved participant interest and competency in areas of STEM. Participants have developed new skills in areas of microbiology. Additional surveys to evaluate community economic impact are currently underway.