Using online tools to build food safety knowledge

The project aimed to improve the knowledge and skills of young professionals working in government and the private sector, based on the development of web-based e-learning curriculum and information platform on food standards, to help strengthen the food quality and safety assurance system in Ghana.

STDF/PG/300

Status
Completed

Start Date
01/12/2010

End Date
30/11/2013

Project Value (US$)
$410,732

STDF Contribution (US$)
$355,732

Beneficiaries
Ghana

Implementing Entities
University of Cape Coast (UCC), Ghana

Partners
Food and Agriculture Organization of the United Nations (FAO)
German Development Cooperation (GIZ)
Market Oriented Agriculture Programme (MOAP), GIZ
South African Institute of Distance Education (SAIDE)

Background

This project was developed to address challenges linked to limited access to up-to-date information on food safety standards. Recognizing the importance of capacity to meet SPS standards for market access, and the increasing number and complexity of such standards in both developed and developing countries, the project sought to address key information and knowledge gaps by developing an innovative e-learning curriculum and information platform for food quality and food safety standards, which would enhance food safety-related knowledge and skills of young professional employed in government, research and extension and the private sector in Ghana, and also help to strengthen the national quality assurance system.

The project was formulated in cooperation with GIZ and FAO, and built on GIZ's Practitioners Reference Book on Food Quality

and Safety Standards, as well as relevant FAO information and knowledge. It was implemented by the University of Cape Coast (UCC) in Ghana, with technical advice and guidance provided by FAO and GIZ. The project purpose was to promote compliance with local, regional and global food safety standards by: (i) developing a e-learning tool and university curriculum to enhance education of future staff of public and private organisations involved in setting, enforcing, certifying or adopting and applying mandatory and voluntary standards in Ghana; and (ii) setting up timely and credible information services on manda¬tory and voluntary standards in potential target markets.

Results

Innovative e-learning curriculum and information system on food safety and quality standards launched for university students

The launch of an innovative e-learning curriculum and information system on food safety and quality standards (http://ucms.ucc.edu.gh) was the main result of this project. The curriculum comprises six online modules: (i) the role of food safety and quality standards; (ii) food safety threats, their prevention and handling; (iii) international food standards; (iv) private and social, environmental and other food standards; (v) Ghana's national food standards and laws; and (vi) compliance with standards. The modules are moderated by trained e-tutors and available as Open Education Resources (OER) using Moodle, a recognized learning platform that enables educators, administrators and learners to personalize their learning. Development of the modules as OER means that interested users can access the materials free-of-charge. The modules are targeted at university students enrolled in Bachelor of Science programmes in UCC's School of Agriculture. Students from other UCC faculties and departments (e.g. Hospitality and Tourism Management, Laboratory Technology), who follow courses including content on food safety and standards, will also benefit. A sensitization workshop held at UCC to disseminate information about the e-learning platform attracted over 300 students. UCC has fully incorporated the e-learning curriculum and information system into its Bachelors programme. Students who complete and pass the online course receive three credits towards their graduation.

Four e-tutors were trained under the project to facilitate student learning using the new curriculum. UCC donated space in a brand new Distance Learning Facility to house the project and encourage use of the e-learning platform. This facility offers students access to computer and the Internet, as well as support from e-tutors, as needed. UCC is committed to use this facility to promote and facilitate the continued use of the e-learning platform in the future, after the conclusion of the project. In this context, UCC has permanently attached two Moodle specialists to the e-learning curriculum and information system to facilitate ongoing maintenance and upgrades. Four other public universities in Ghana, consulted during development of the modules, intend to use the curriculum for their own students. In addition, 17 universities and colleges teaching agriculture in Benin, Burkina Faso, Ghana, Ethiopia, Mali, Malawi, Nigeria, Tanzania and Uganda have been invited to make full use of the e-learning curriculum and modules through the Sasakawa Africa Fund for Extension Education (SAFE). As a result, a large number of students at UCC and elsewhere in Africa are expected to benefit from the project, now and in the future.

Adapted e-learning platform on food safety and quality standards launched for food safety practitioners

The e-learning curriculum and information system developed under the project was specially adapted for practitioners involved in food safety in the public and private sector. Representatives of practitioners in Ghana were consulted in the development of this system to ensure that it meets their needs. This adapted e-learning curriculum is available free-of-charge. In addition to the adapted content on food safety and quality standards, it also includes web links and additional features (e.g. online discussion fora). A maintenance system has been put in place to ensure efficient updating of information. The e-learning platform for practitioners is expected to enable staff of government authorities involved in food safety, as well as private enterprises, to enhance their knowledge and skills and carry out their jobs more effectively. It will help them to find information on food safety and quality standards, as well as other relevant information.

Enhanced collaboration on food safety education and learning in Africa

The consultative process adopted to develop the e-learning curriculum and information system helped to promote an exchange of information on food safety education and to enhance professional networks among university professors involved in food safety learning in Ghana and other parts of Africa. In Ghana, the project strengthened collaboration among four universities (University of Ghana, the Kwame Nkrumah University of Science and Technology, University for Development Studies, and University of Education, Winneba). Additional linkages were developed with 17 higher agriculture programmes in universities and colleges in nine other African countries through the Sasakawa Africa Fund for Extension Education (SAFE).

Recommendations

Ensure that the scope of activities to be completed within the project timeframe is realistic

During implementation, it became apparent that the activities planned under this project could not be completed within the two-year timeframe available. While the project was extended for one year, fully completing all the activities on time remained a challenge. This was in part due to the original and innovative nature of the activities, and the number of stakeholders involved. It was also linked to infrastructural challenges, including frequent power outages and recurrent problems with Internet connectivity. Implementation of the project by UCC played an important role in facilitating local capacity building and promoting sustainability, and also required "learning by doing" given the newness of e-learning at the university.

Build on and add value to the project's outputs

There is scope to build on and add value to the outputs of this project to further extend its impact. For instance, with moderate additional inputs, the existing curriculum for Bachelors level students could be further developed and adapted as an e-learning course for graduate students enrolled in Master of Science (MSc) programmes at the University of Cape Coast, and elsewhere. Training additional e-tutors, from UCC and especially from other public universities in Ghana, is recommended to enhance familiarity with the system and promote its adoption more widely. UCC should contact local development partners and donors in Ghana, including GIZ, to try to obtain support for such activities. To ensure that future efforts to promote and build on the e-learning system will be successful, it will be essential to address ongoing challenges related to infrastructure and Internet access. A back-up server would be valuable to ensure continuous access to the e-learning system, even during power outages.

Further disseminate the project's e-learning curriculum and information system to university staff and students in Ghana and elsewhere

While the main target audience of this project was students and food safety practitioners in Ghana, the outputs produced under this project are of potential interest and relevance to many other stakeholders in Africa and beyond. Some efforts were made, within the available budget and timeframe, to disseminate information about the project to students and educators at other universities in Africa. More could be done (e.g. through sensitization workshops, communication using print and electronic media) to inform other universities in Africa about the e-learning curriculum and information system, and actively encourage them to make use of it. This will require ongoing and concerted efforts, as well as resources. Professional networks and groups such as the Sasakawa Africa Fund for Extension Education (SAFE) could be valuable partners.

Identify and pursue opportunities to promote use of the project's outputs by food safety practitioners in Ghana and elsewhere

There is potential to promote increased use of the e-learning platform developed through this project among the public and private sector in Ghana, and elsewhere in Africa. In Ghana, the Ministry of Food and Agriculture (MoFA) is currently developing an e-agriculture project, with funding from the World Bank, to support agricultural extension delivery. The e-learning curriculum developed under this project should be linked with MoFA's effort to avoid any duplication of effort and maximize the impact. There may be other opportunities to share the e-learning platform with food safety practitioners in other parts of Africa. One option could be to make use of the Codex Coordinating Committee for Africa to disseminate information on the e-learning platform to food safety practitioners in Africa.