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scale farmers from different rural areas, many of whom have limited education. Students not only learn how to implement their course work in everyday life but are also exposed to the effective use of technology in communication and the learning of new skills such as time management and teamwork, which they will go on to apply in the workplace.

General enthusiasm in the study was perceived to be high in 2017 and most students took the project very

intelligence. This approach provides the students with a glimpse into the working environment and how to solve conflicts within the group to ensure that a successful product is delivered in the end.

The community engagement provides the students with an increased sense of social responsibility and an awareness of the importance of it in their future career. The students have also expressed their great sense of accomplishment after the module, not only by mapping the informal settlement but being able to give back through activities with the children at the local school, such as a map competition. The experience of the lecturer and students in 2017 indicated that incorporating community-based service learning into the Geoinformatics curriculum promotes the development of work-readiness skills by the students.

Development of short media items assists technology transfer to small-scale farmers in sub-Saharan Africa

The opportunity to make a 'real-world' impact through creative ideas is very exciting. Students from the course Sustainable Crop Production and Agroclimatology are tasked to create media items (video, podcast, narrated slideshow, simple app, etc.) on specific aspects of crop production that are aimed

at technology transfer to small-scale growers in sub-Saharan Africa. The idea is that the items can then be shared easily with actual farmers, for example, via WhatsApp. The project is the result of a collaboration between Dr Michael van der Laan in NAS and Dr Ina Louw in Education Innovation.

Sub-Saharan Africa is the only region in the world where food production per capita is not increasing, resulting in prevailing food security issues. More households are actually declining into poverty than are escaping it. Among other things, provision of technical assistance and support to farmers is sorely needed to improve the situation, but it has proven to be extremely challenging so far in this part of the world. The National Development Plan (2011) states that to 'promote technological advances, developing countries should invest in education for youth, ... and should ensure that knowledge is shared as widely as possible across society'.

With platforms such as YouTube, there is the possibility of reaching millions of people. Considering that students receive subsidised education, there is also the added motivation of being able to give back to society. Students come from all over the country to study agriculture at UP and may, therefore, have unique skills and knowledge in addressing the challenges in communicating with small-



Students showing a local community how to make a do-it-yourself greenhouse'

Facebook regularly (<https://www.facebook.com/Ingesta-Farming-for-the-Future-530650287278629/>), on a page created by the students themselves, called 'Ingesta: Farming for the Future'.

Ways in which the media products that the students created can be used for technology transfer to small-scale farmers operating within South Africa's newly established 'Agri-parks' will also be investigated as part of a new Water Research Commission project that was recently awarded to the University.

Innovation key in preparing culinary entrepreneurs for the workplace

Prof Gerrie du Rand provides an opportunity where students are told they are allowed to make mistakes, where innovation is the buzzword and a 'new way of doing' is the challenge. The subject (Recipe Development and Standardisation) is a key innovation in culinary art and science and prepares students for amazing jobs in the culinary industry.

seriously. Highlights include the concept of 'Dot Farming', which uses symbols only to communicate better farming practices, and a project where students showed disadvantaged communities how to build their own greenhouses from cheap materials. The department will now make a video compilation of the best contributions for advertising purposes. Good contributions will also be posted on

Consumer-led product development is used as a model to design and develop products that meet the needs of consumers following the process of recipe development and standardisation.

Innovation in the food and beverage industry is what is needed to meet the challenges and choices food and beverage companies are facing. Food consumption and consumer preferences are becoming more sophisticated and diverse as consumers aspire to higher-quality food experiences. Consumers are more food-literate and technology has made information more readily accessible than before. This has led to heightened consumer expectations from food and beverage companies and in turn an increasingly competitive structure in the food and beverage industry, where innovation opportunities abound.

Students have 14 weeks to develop a product according to a brief from industry partners: e.g. Spar, Delonghi, Kenwood, Braun and Gronut. Some of the projects completed in the last few years included in-house-developed fat-replacers, African green leafy vegetables (from the Experimental Farm) and crocodile meat. A Blueprint project approach is followed, where student compile a visual exposition of the process they apply to develop their products using equipment and appliances from industry partners. The process starts with the brief from the industry partner, where the consumer, client and product are identified. A trend analysis is done to determine both local and international culinary trends. Only then is a possible conceptual product identified. Students complete a comprehensive literature review before finally creating their products in the newly refurbished state-of-the-art food laboratories in the Department of Consumer and Food Science.

The next phase consists of trial and error, and often frustration, in getting a product perfect to meet the needs of the consumer and the demands of the industry partner. Triple-testing is the phrase used once the recipe is perfect and the product top-notch. The students then upscale the recipe to meet the demands of a product ready for market, which must be labelled, branded and sold – the perfect mini entrepreneurial opportunity for the class.

The real excitement comes when these newly developed products are professionally styled for food photography, at which point many a food-stylist-in-the-making is discovered. Finally, a presentation is delivered to the industry partners and parents to showcase what the 'new way of doing' achieved. The occasion is planned, presented and executed entirely by the student group. This is the day when the students can review their accomplishments and know that they will be ready for the world of work. Many of our graduates find amazing job opportunities using the array of skills and knowledge acquired in this course.