CAN HIGHER EDUCATION MEET THE NEEDS OF RURAL COMMUNITIES?

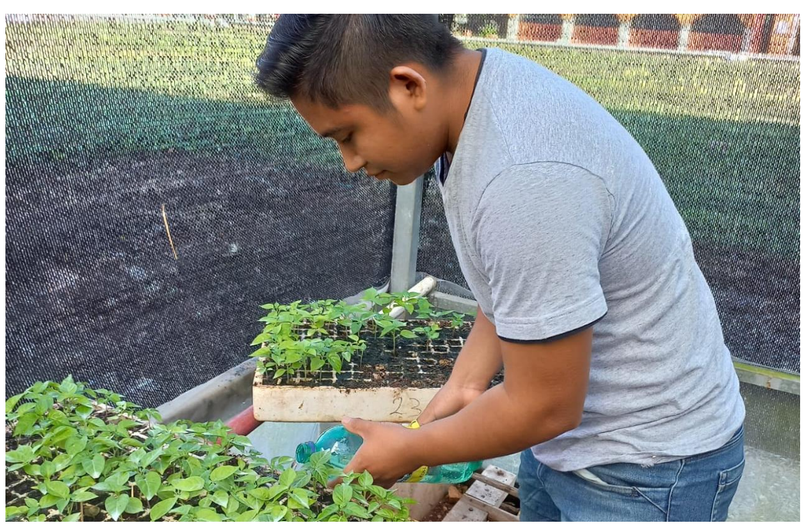
Newsletter 11 | April 2023

THE BENEFITS OF THE TRANSFORMING HIGHER EDUCATION LEARNING MODEL ARE BEING SHOWN IN ITESCAM

Thanks to the higher education learning model enhanced by the five elements of success(often referred to as the EARTH model), our partner universities have begun to experience the benefits of a student-centered education focused on experiential learning and reinforced by an enriched interaction with the local communities, entrepreneurial education, and an increased emphasis on values based ethical leadership skills.

In the Instituto Tecnológico Superior de Calkiní (ITESCAM), located in Campeche, Mexico, Mildred Yazmin Uc Yah focused her research on "*Adaptation of the Sustainable and Innovation Agricultural Engineering, Reconciled to the Educational EARTH-Itescam Campeche Model*", to obtain her Masters in Educational Integration.

In the study, she compared a total of 108 students from the Innovation and Sustainable Agriculture (IIAS) Academic Program of ITESCAM, using data from the student classes between 2019 to 2022. She considered historical numbers from the official dropout rates of the traditional educational program, versus the comparison of the five school semesters since the application of the EARTH model (2019-2022), based on the grades obtained in the experiential scenarios in the subjects of agroecology, soil science, agricultural production systems, among others.



"The educational model proposed by EARTH University is seen as an area of opportunity for adapting careers in agriculture and agronomy in higher education, because it allows valuing the cultural knowledge of the region and generating learning scenarios that adjust to the conditions of the school". - Mildred Yazmin Uc Yah.

The research focused on a comparison of dropout and subject failure rates regarding between the conventional model and the "EARTH" model. The results demonstrate that the changes or adaptations to the educational model significantly improved the student's theoretical-practical knowledge and strengthened the bond with the surrounding communities. The IIAS students and graduates also exhibit the capacity to develop viable business enterprises that incorporates ethics and values including cultural respect of the new rurality, combining ancestral knowledge with new technologies.

According to Uc Yah, there are significant differences between the results obtained by the students in the control group and the experimental group, particularly with respect to experiential learning.

In the projects presented, the enhanced ability of IIAS students to develop their own companies and an entrepreneurial mentality was observed. Students are better enabled to generate self-employment, community employment, the creation of added value throughout the value chain, and the generation of greater dynamics in the local community economies. Another observed result was the integration of teachers from other disciplines that strengthened the entrepreneurial projects.

Mildred feels that it is important to share the educational model and its benefits. For example, to transform higher education it is necessary to have a generalist idea of education, and a holistic perception of the key human elements, as well as to show that adaptation is possible in various academic programs. The adaptation to the "EARTH Model' resulted in a reduction in the dropout and failure rate in the first semesters that the IIAS student were in the university. Prior to applying this academic model there was a terminal efficiency that ranged from 75 to 81% while after the implementation this increased to 95%., although during the pandemic it decreased to 60% for reasons unrelated to the educational system. We expect the indicator to continue to demonstrate improvement for the 2022-2023 class of students.

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In this way, ITESCAM, with a clear vision of a more global strategy for the future, will design and consolidate a new model for youth entrepreneurship in the surrounding communities.

The Transforming Higher Education project is delighted to see the tangible results of the changes incorporated into the educational model at ITESCAM, and to witness a behavioral change in students, their teachers, the institutions, and their communities, which directly impacts society in a positive way. We hope others will follow the example of ITESCAM!

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THE TREE NURSERY THAT RESCUES THE NATIVE SPECIES OF YUCATAN

On the occasion of the world NGO day which is celebrated on the 27th of February of every year, and is recognized by communities, international leaders, city mayors, businesses, and many organizations around the world, we would like to share with you the story of Arboretum Cholul AC - Arboretum (in Latin a place planted with trees) and Cholul (name of the town in Yucatan)-, an organization that has the objective of conserving endangered fruit trees that formed an important part of the gastronomy of the Mayan culture.

Here, Ángel Guillermo Pech Blanco, a fourth-semester student of Agronomy Engineering at the Tecnológico Nacional de México, campus Conkal, assists and participates with the community in rescuing, cleaning and watering the plants that are there.

"This is of great significance for our students since important goals related to the Transforming Higher Education project are attained: identify areas of collaboration where the community and institutions can work together to solve problems for their benefit. We achieved this with our students being agents of change and the key elements being linked in the projects". - Jorge Gamboa, facilitator of the Transforming Higher Education project at the Technological Institute of Conkal.

Some of the species that are being preserved are the following:

Common name	Scientific name	Main use	Photo
Ciricote	*Cordia dodecandra*	Timber and medicinal (a cough syrup is prepared from the wood)	
Canisté	*Pouteria campechiana*	Fruit tree	
Bonete	*Jacaratia mexicana*	Papain source. The resin is used to remove warts on the skin. It's also used as a live fence.	
Pepino kat	*Parmentiera aculeata*	Edible fruit. It's also used as a live fence.	
Zapote negro	*Diospyros digyna*	Timber. Medicinal. Antibiotic qualities, soothe sore throat and insomnia	

These and other native species are in danger of extinction due to the clearing of forests for livestock, or they are underutilized because they were once commercially important but today their presence in the markets has decreased, or or they have ceased to be appreciated in the local markets or they are no longer known by the families in the Yucatan Peninsula.

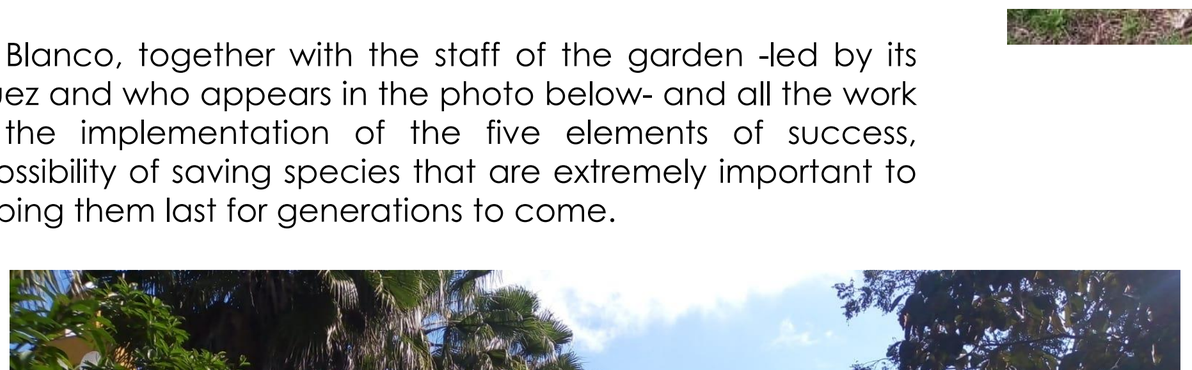
"The care of flora and fauna is important worldwide, especially at these times where climate change and human beings have had repercussions on the loss of species of medical and nutritional importance. Also, the planting of non-native plant species (from other regions or countries), have caused native plants of importance for food, medicine, culture, etc.to be displaced, forgotten, and are in danger of extinction", Gamboa closes.

According to Biocultural Heritage, less than half of the pre-Hispanic fruit trees of American origin are cultivated. Additionally, there are a variety of fruit species with high nutritional potential that are wasted and unknown by most people, especially in the cities, since they are only planted in the countryside.

Therefore, it is necessary to promote conservation strategies to maintain the biological, cultural and food diversity of Yucatan since the preservation of germplasm as mentioned by Hernández and León (1992) will be based on the development of markets and technologies for agronomic management and preparation for consumption.

Thanks to the work of Ángel Pech Blanco, together with the staff of the garden -led by its founder, Dr. Jhon Enherenber Enriquez and who appears in the photo below- and all the work with the community as part of the implementation of the five elements of success, organizations like these have the possibility of saving species that are extremely important to the legacies of an entire nation, helping them last for generations to come.

Angel Guillermo Pech Blanco. Student of the fourth semester of Agronomy Engineering.



CAN HIGHER EDUCATION MEET THE NEEDS OF RURAL COMMUNITIES?

The global food system is facing its biggest threats since the Green Revolution of the 1960s. Broken supply chains, a pandemic and human conflict are adding to existential crisis caused by climate change and population growth.

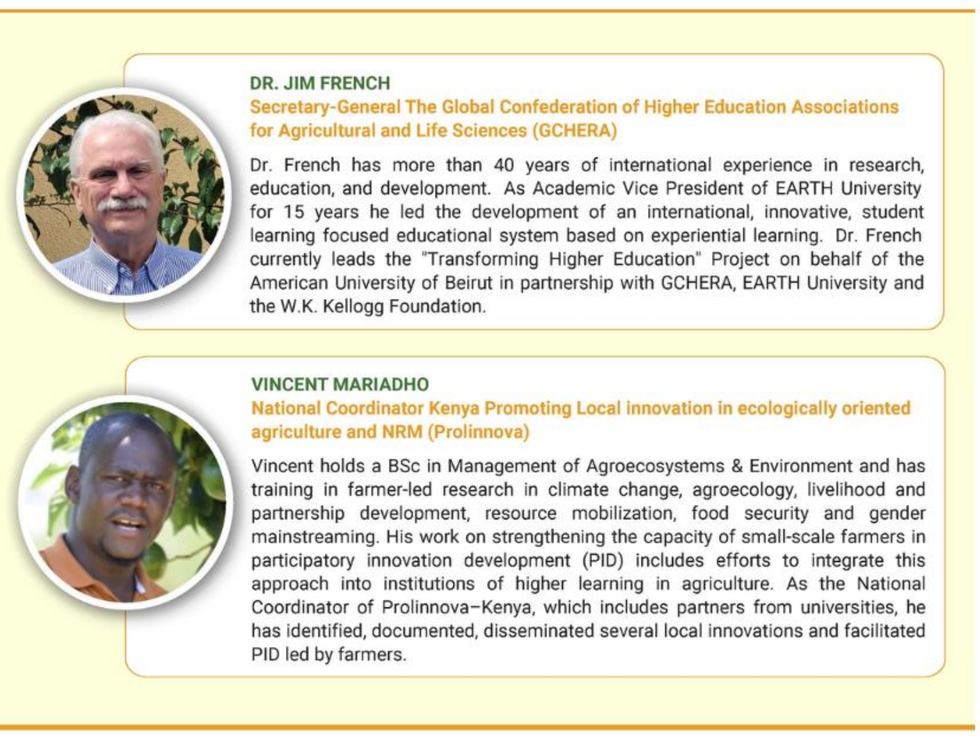
Rural communities and those living in marginalized settings are among the most vulnerable to these threats, but can the higher education system meet their needs and address the challenges they face now and in the future?

On March 1, Jim French, Project Director on the "Transforming Higher Education" Project and Vincent Mariadho, national coordinator of Prolinnova-Kenya participated in a webinar organized by the Global Forum on Agricultural Research and Innovation (GFAR). The webinar addressed the question: Can Higher education meet the needs of rural communities?

According to statistics from The Global Economy, 39.2% of the population lives in rural areas, which face challenges related to access to basic services such as decent work, migration of inhabitants, lack of technological resources, isolation from the rest of the population, corruption and limited opportunities to grow businesses in certain territories.

"Rural youth face many hurdles in trying to earn a livelihood. Pressure on arable land is high in many parts of the world, making it difficult to start a farm. Youth often also lack access to credit, and many other productive resources necessary for agriculture. But even if such hurdles can be overcome, isn't urban life much cooler? Perhaps, but not if you cannot make a living there.

Particularly in developing countries, rural youth find themselves in such a bind". - Youth and agriculture: key challenges and concrete solutions, FAO



DR. JIM FRENCH
Secretary-General The Global Confederation of Higher Education Associations for Agricultural and Life Sciences (GCHERA)

Dr. French has more than 40 years of international experience in research, education, and development. As Academic Vice President of EARTH University for 15 years he led the development of an international, innovative, student learning focused educational system based on experiential learning. Dr. French currently leads the "Transforming Higher Education" Project on behalf of the American University of Beirut in partnership with GCHERA, EARTH University and the W.K. Kellogg Foundation.

VINCENT MARIADHO
National Coordinator Kenya Promoting Local innovation in ecologically oriented agriculture and NRM (Prolinnova)

Vincent holds a BSc in Management of Agroecosystems & Environment and has training in farmer-led research in climate change, agroecology, livelihood and partnership development, resource mobilization, food security and gender mainstreaming. His work on strengthening the capacity of small-scale farmers in participatory innovation development (PID) includes efforts to integrate this approach into institutions of higher learning in agriculture. As the National Coordinator of Prolinnova–Kenya, which includes partners from universities, he has identified, documented, disseminated several local innovations and facilitated PID led by farmers.

So, can universities contribute through their influence to rural progress? According to the webinar participants, yes, they can, but not without recognizing the main challenges to implementing changes in the university educational model.

According to Jim French, the greatest challenges for universities contributing to community development as an integral part of their educational models include a lack of focus on student-centered learning, a professor dominant educational model, students as passive learners, the university isolation from the surrounding communities, and a lack of focus on problem-solving research and innovations. in partnership with the community,

Agriculture is an extremely complex system today and the educational model must incorporate many factors.

Click here to see the webinar on YouTube

- Environmental degradation and depletion of natural resources, climate change, and sustainability.
- Close interaction and management of biological systems.
- Modern agricultural technologies and innovations are science-dependent, rapidly changing, and complex.
- Agriculture is a business that transforms and produces products according to the needs and demands of consumers.
- Consumer preferences for quality including price, origin, color, organic or environmentally friendly, among others.
- Impact on health.
- Value creation.

How can universities contribute to rural progress? The answer is changing their traditional educational model focused on teaching methods to one in which the student learning is the primary reason for the educational system, designing a learning environment where students apply theory to practice, highly engaged with the farming, business and rural communities, where students are permitted to develop enterprises and to work together with the rural community to learn, and seek to solve the problems impacting the community.

Graduates will develop the skills that will prepare them to proactively impact the agricultural sector and rural communities and contribute to community and agricultural business development.

Society needs graduates that are prepared to be agents of change, that can effectively engage with the rural sector and create positive change. Universities need to change their educational models to create a creative, experiential, learning system which engages with the local communities, farmers, and businesses, and which develops an entrepreneurial mentality in its graduates. Graduates who will be prepared to work in innovation systems in co-creation research with the local communities, and by so doing, impact change. The Transforming Higher Education project has successfully worked with our partner universities to create a new educational model, as have many other universities around the world. Therefore, universities can successfully engage with local communities to contribute to greater business and economic development, through its graduates, and through the university partnering with the rural community as an integral part of its academic and research programs.

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