



Undergraduate Education Reform to meet 21st Century Societal Needs – a GCARD3 Initiative

Undergraduate Education reform is one of the three collective actions on capacity development proposed by GCARD3 in Johannesburg. The Global Confederation of Higher Education Associations for Agricultural and Life Sciences (GCHERA) and the regional organisations of universities in Africa, Europe and America, YPARD and GFRAS have expressed their support to develop the initiative further.

Education is the great equalizer! Human capacity development is central to alleviating poverty and achieving nutritional security among vulnerable populations. We simply cannot continue doing what we have done in the past. We need a new paradigm where human capacity development is recognized as being fundamental to improving the quality of life for all.

Industry, government, NGOs and civil society require leaders who not only have the knowledge and skills to act in specialist fields, but are also leaders with the interdisciplinary competences to be effective leaders in the wider bioeconomy.

The most important characteristic of young professionals is that they be guided by positive values and high ethical standards, and seek justice, peace and dignity for all. Strong leadership, entrepreneurship, interpersonal and team building skills are vital for a successful career across the broad spectrum of employment opportunities in the agri-food system. Thus, our vision for undergraduate education seeks to cultivate these characteristics as the foundation for the technical skills required for a particular discipline.

The Need- Characteristics of 21st Century Leaders

- be guided by positive values and high ethical standards, and seek justice, peace and dignity for all
- possess strong leadership, interpersonal and team building skills
- possess a strong social consciousness
- be life-long learners capable of taking advantage of relevant information as it is generated and who are able to take advantage of existing and new information technologies in support of innovation.
- possess strong entrepreneurial skills and spirit, capable of identifying new business opportunities
- be committed to a vision of the agri-food system compatible with the sustainability of the natural environment and the conservation of biodiversity
- be professionals with a holistic vision of the bioeconomy, though an interdisciplinary education and work experience, and the ability to build bridges between specialists to solve the global challenges

- have had a solid grounding in the relevant natural and social sciences, and the technical and business principles that underlie practice, as well as the practical experience critical to developing confidence and capability in delivering solutions
- possess high level cognitive skills in analysis, evaluation and synthesis of new solutions

Implementation – How will it work

World-wide scope with 100 Universities – ~15 universities per GFAR region (Africa, Asia Pacific, Near East and North Africa, Central Asia and the Caucasus, Europe, Americas). The reform of undergraduate education initiative is envisaged to be global in scope with 100 universities participating across every region of the world. Initially the work will involve a small cohort of universities who will be selected on the basis of their interest and willingness to participate in the development of the undergraduate reform “model”. The development of the new model will draw heavily on the experiences of those universities who have already transformed their institutions to become examples for others to follow.

Partners: GCHERA’s global network of member associations and their over 900 constituent universities, YPARD, GFRAS, Industry, Government, Regional Fora.

Next Steps: Over the past two years GCHERA, with the support of GFAR, has engaged its member associations, and other stakeholders, in a series of workshops and conferences to study the current status of undergraduate education in agriculture and the life sciences. This dialogue has resulted in a series of recommendations on undergraduate education reform designed to help ensure that graduates are better prepared to meet present and future societal needs, including the pressing challenges of food and nutritional security, environmental sustainability and climate change.

The recommendations for action on undergraduate education reform form the basis of GCHERA’s Action Plan 2016-2020. The next step is for GCHERA to bring together its member associations, with YPARD and other partners, to plan the implementation of the action plan. With the support of its member associations, GCHERA will engage global experts to define the central elements of undergraduate education that will form the basis of the “model” that will be developed for global dissemination. A key element of defining the model will be conducting a Delphi study that engages all stakeholders that includes industry, government, students, alumni, academia, NGO’s etc.

GCHERA Proposes to take advantage of the RUFORUM Biennial Conference in Cape Town in October 2016 to take the first of the collective action required to achieve the outcome identified by GCARD3.

Project Elements: The reform of undergraduate education is not restricted to curricular and pedagogical reform. It also needs to be inclusive of other elements such as experiential learning, mentorship, international experience, as well as university administration.

- 1. Curricular and pedagogical reform:** Curricular and pedagogical reform need to include the values, ethical and leadership skills as a central core. Technical skills need to be built on a strong ethical foundation with a recognition of the importance of an interdisciplinary approach to problem solving. Entrepreneurship and a global perspective are also important characteristics of future leaders. Universities are no longer the sole repositories of knowledge so our focus needs to be on creating an environment where students can

achieve their full potential – it is no longer a question of the student being the vessel to which knowledge is transferred from the professor. Experiential learning is an example of how we empower students with the confidence to excel.

2. **Experiential Leadership Program.** The education of the leaders of tomorrow should include participation in “experiential leadership programs”. The development of experiential learning programs within the agri-food system would provide youth with opportunities that would include:
 - Formalized mentorship programs, at multiple educational levels – secondary, undergraduate and graduate, for young professionals
 - Study abroad experientially-focused programs within the agri-food system industry as a component of the undergraduate curricula
 - Internship programs – short and long-term
 - Multicultural exchange programs to promote north- south student exchange
 - Development and implementation of formalized leadership programs for emergent young professionals in the food system with a focus on ethics, values, life skill development and leadership

3. **University Administration – change management.** The quality of university administration directly impacts the quality of education, research and outreach by universities. We have much to learn from institutions that have transformed their universities into world class institutions over a relatively short period of 10 years. An administrative system that encourages and supports excellence helps to attract the best staff and also allows professors to achieve their full potential.

4. **International Accreditation of Programs.** There is a need for an independent body to evaluate programs. A panels of experts who would travel to institutions to evaluate programs and provide guidance across the spectrum of curricula reform, pedagogy, and university administration.

The RUFORUM conference in Cape Town provides an opportunity to bring all partners together to plan the next steps and identify the role of each partner in developing the model that best meets the needs of each region.