

IFAMA SYMPOSIUM

Sustainability in Agribusiness: The Role of Technology, of Network Management, and consequent value chain interruptions

UNIVERSITY TRANSFORMATION AND ENTREPRENEURSHIP IN RESPONSE TO AGRIBUSINESS AND SOCIETAL NEEDS

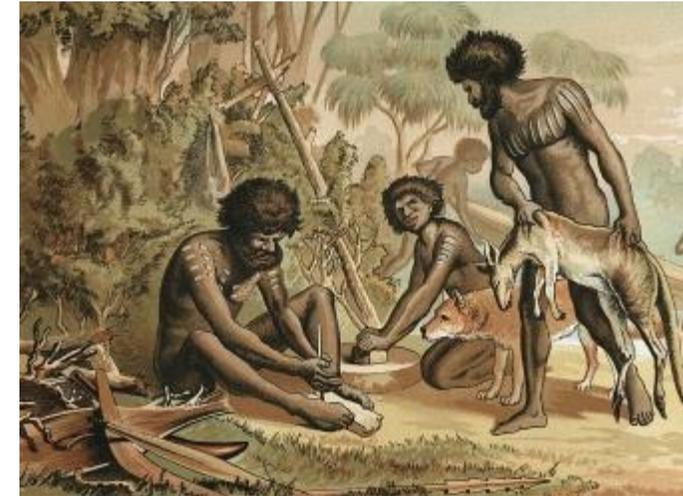
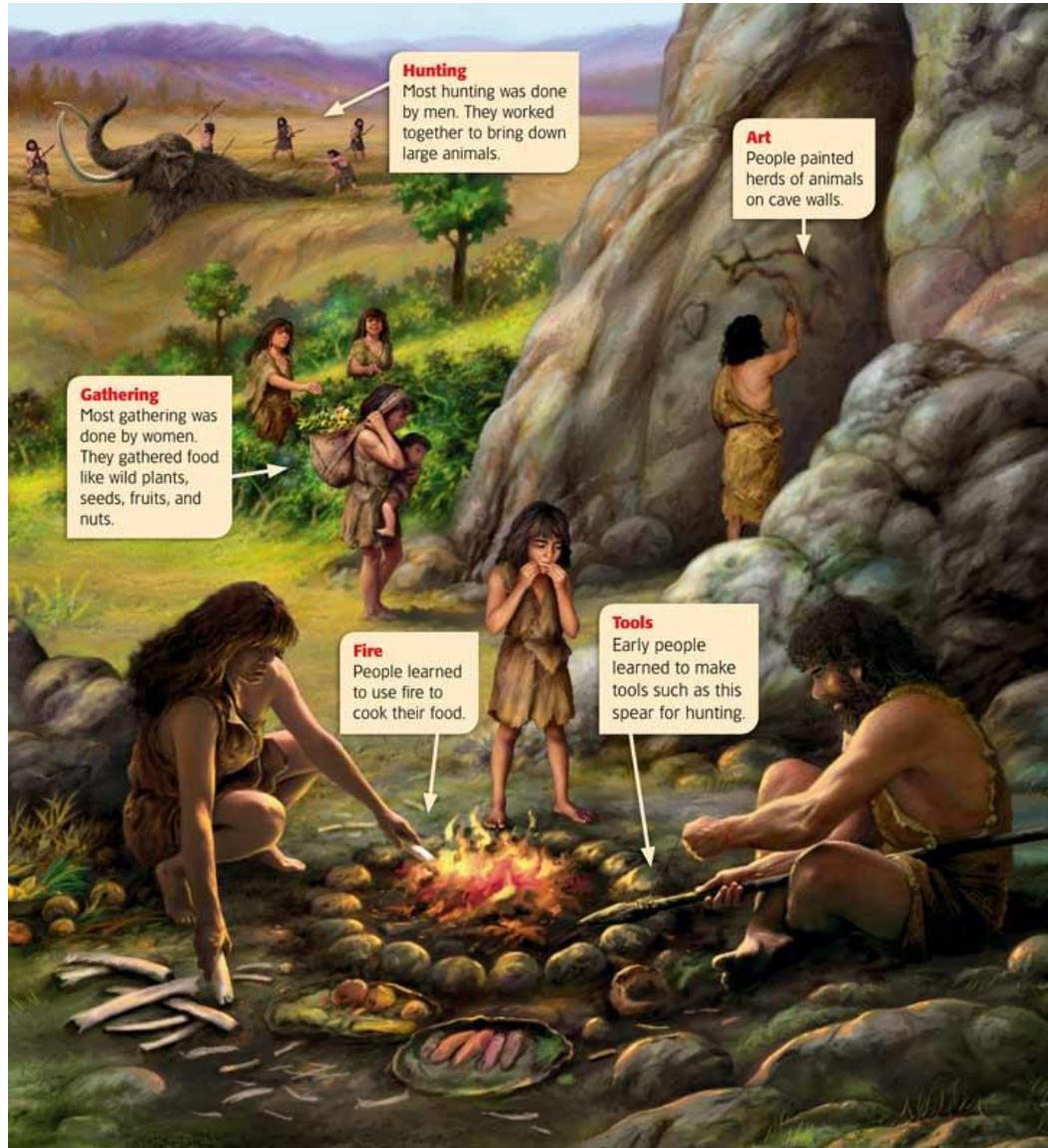
18 Junio 2022



Dr. Jim French, GCHERA
Secretary-General
Project Director-AUB



Changing and broadening role of agriculture in society



Changing and broadening role of agriculture in society

MODERN AGRICULTURE TECHNOLOGY



Figure taken from <https://www.mytechmag.com/how-modern-farming-technology-covers-agricultural-risk/> for illustrative purposes.

Changing and broadening role of agriculture in society

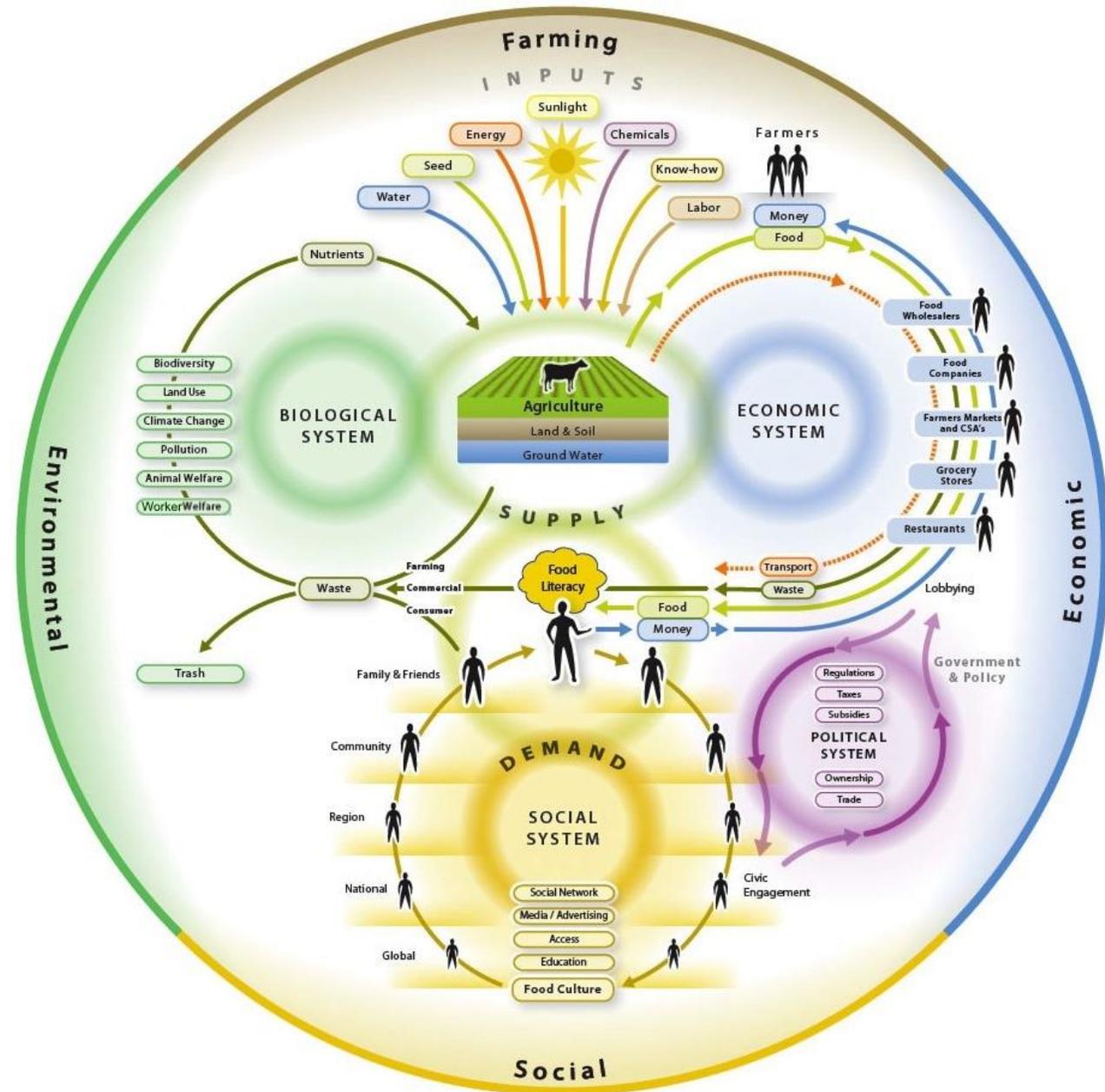


Diagram taken from <https://www.nourishlife.org/teach/food-system-tools/>

Changing and broadening role of agriculture in society

Changes in the nature of agriculture – relevance of undergraduate programs of agriculture?

- Traditional agricultural programs are production oriented:
 - How to manage technology to produce more!
- Scientific orientation – biosciences
- Increased awareness of issues with environment, sustainability & climate change
- Growing argument **agriculture is a business**
 - ↳ **incorporate entrepreneurship & business knowledge and skills**

Changing and broadening role of agriculture in society

Changes in the **nature of employment demands** → greater emphasis on **translatable skills**:

- ❖ Essential **soft skill clusters**
- ❖ Higher order **critical thinking skills**,
- ❖ As well as **technical knowledge and skills** in agriculture

Changing and broadening role of agriculture in society

Changes in the nature of employment demands greater emphasis on **soft - transferable skills** (students, faculty, graduates, employers)

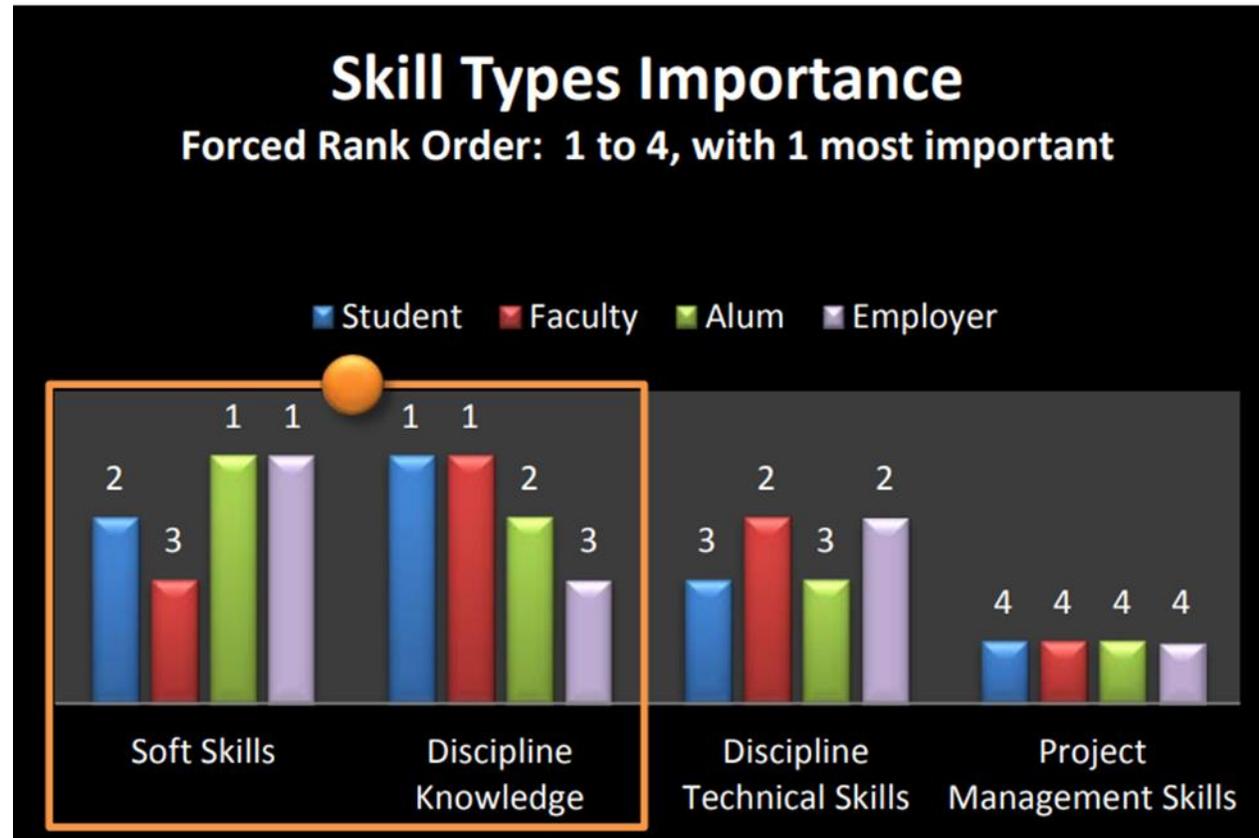
SUCH AS (In order by employers)

- **Communication skills***
- **Decision-making / problem solving skills***
- **Self-management skills**
- **Teamwork including interpersonal relations**
- **Professionalism**
- **Experiences**
- **Leadership**

Crawford, P., Lang, S., Fink, W., Dalton, R. & Fielitz., L. (2011). Comparative analysis of soft skills: What is important for new graduates? Association of Public Land-grant Universities, Washington D.C

* Employers, students, faculty, graduates all had these as 1 & 2 in the survey.

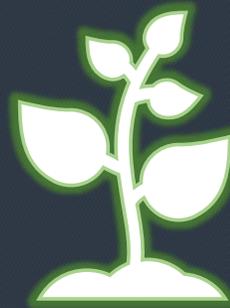
Changing and broadening role of agriculture in society



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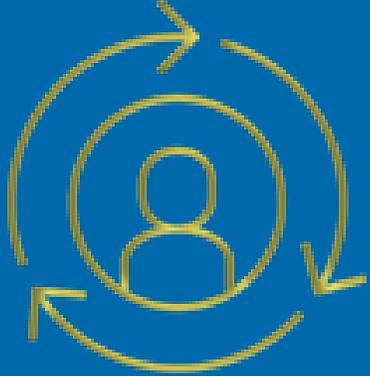
Challenges critical to Agriculture

- Feeding a growing population
- Providing livelihood for farmers
- Protecting the Environment
 - Environmental degradation
 - Deforestation
 - Soil erosion
- Climate Change
- Sustainable systems



- Health & Nutrition
- Innovations & new modern technologies
- Business thinking & market demands & opportunities
- Value Chain disruptions
- Globalization
- Pandemics

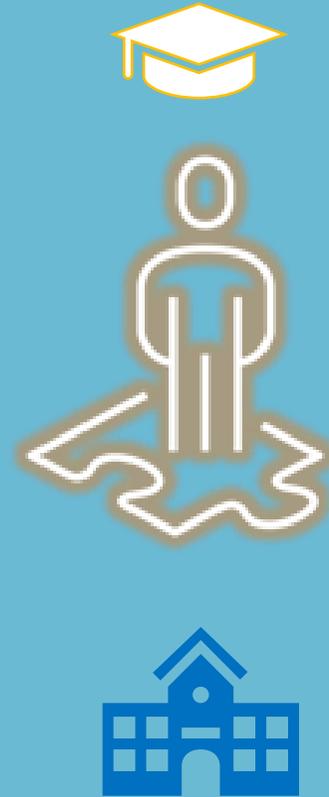
Challenges facing Society



- **Corruption & ethics in leadership**
- **Increasing inequity**
- **Access to financial resources**
- **Access to and impacts of new technologies**
- **Access to higher education, knowledge, and information, especially for rural communities**
- **Country & regional conflicts**

Challenges facing Higher Education in Agriculture

- Relevancy of undergraduate education in agriculture
 - employment and job creation
- Lack of university commitment to communities and society
- Costs of education



- Innovations in pedagogy
- Professor dominant pedagogical model
- Students as passive receptors of knowledge
- What knowledge & skills are critical to success?



United Nations Sustainable Development GOAL 4 “QUALITY EDUCATION”



Calls For

- Access, regardless of gender, ethnicity or economic background
- Need to **teach and train tomorrow's decision-makers**
- Learn to **think both critically and ethically**
- Learn to cope with ethical dilemmas and
- **Learn to apply systems-thinking approaches to serious and complex societal problems.**

Graduates as →



Ethical Professionals & Leaders

- Graduates should value honesty, integrity, & equality, & our natural resources.
- Through their **ethical leadership contribute to the Sustainable Development Goals.**
- Call for more **experiential and active based learning models.**

GFAR (Global Forum on Agricultural Research and Innovation)

Initiative developed with Africa stakeholders

RUFORUM & University of Nairobi (2017)

GRADUATE NEEDS

- GAP between capacities obtained and societal and market demands
- Challenged in professional & decision making environment
- Challenged in finding ways to impact the world

AIM

- Reform university departments of agriculture / universities
 - Transformational learning and leadership skills
- Shift of educational paradigm
- Focus on **“Student/future graduate”**
- Equip that graduate with the **competencies that qualifies them to realize an envisioned future**

GFAR Initiative for Africa – Envisioned Graduates

Competencies:

- leadership
- agility
- empathy
- problem solving
- logical thinking
- modern agricultural technologies
- **Entrepreneurship**

Graduate description

- Proactive
- Ethical
- **Entrepreneurial → conceptualize new business and investment opportunities**
- **Engaged with communities and industry**

- With abilities to leverage diverse range of innovative skills to
 - address **interrelated complex challenges**,
 - analyze gaps and solve problems.
- Graduate will master how to do all of that as
 - **member of a team**
 - **capable of negotiation**
 - **conflict management**,
 - fully understanding group dynamics and
- Capacity to work with **diverse and international groups**.

APPARI/ Tropical Agriculture Platform (TAP) Capacity Development for TAP AIS Common Framework

Higher education (HEIs) in Asia

- Students are **passive learners**
 - not critically and analytically engaged
- Broaden students' **practical knowledge, skills and perspectives**
- Raise their interest in creating **agribusinesses** and finding **innovative solutions**
- **Engaged farmers need interpersonal skills to:**
 - negotiate better contracts and deals,
 - interact with other value chain actors,
 - collaborate within their business relationships, and
 - engage in dialogue with independent regulatory bodies, government and other key stakeholder



APPARI/ Tropical Agriculture Platform (TAP)

Capacity Development for TAP AIS Common Framework

- **Role of Faculty changes**
- Raise capacity of professors to
 - deliver more interactive lectures,
 - engage students,
 - create opportunities for practical exposure of students to work with farmers, and
 - develop students' interpersonal skills, critical thinking, and different forms of business skills



APPARI/ Tropical Agriculture Platform (TAP) Capacity Development for TAP AIS Common Framework

Higher education institutions (HEIs)

Graduate as **“Agents of Change”**



- **“Effectively engage and empower farmer communities”**
- **“Create new agricultural jobs”**
- **“Proactively strengthen the relations with the private sector involving students”**
 - **Hands-on experience in agri-food industry** to promote market-oriented skill development in the sector.
- Create **learning environments with the agribusiness community**
 - bring them into the university,
 - provide opportunities for problem solving research



Challenges facing Graduates of Agriculture

SUCCESS IN AGRICULTURE → MUST THINK OF IT AS A BUSINESS

Graduates working in:

- Farming
- Non-profits
- Public sector
- Outreach
- Agricultural industry
- Creating or managing own business



CAPACITY TO → Complex Conditions

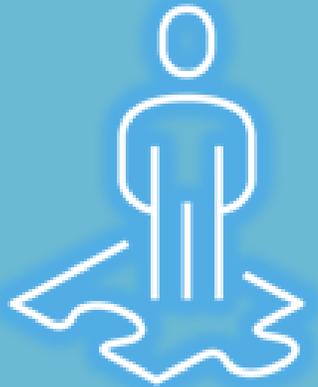
- New technologies, sustainability and climate change
- Market according to consumer tastes & opportunities
- Changing market and economic conditions (supply & value added breakdown)
- Innovate and create value
- Changing global context

Develop an entrepreneurial mentality

Challenges facing Graduates of Agriculture

SUCCESS IN AGRICULTURE → MUST THINK OF IT AS A BUSINESS

GRADUATES MUST HAVE CAPACITY TO:



- Create own business
- Innovate incorporating new ideas, processes, technologies.
- Successfully market and create added value
- Manage technically and financially agricultural enterprises

Develop an entrepreneurial mentality

Universities must play a significant role in educating our future leaders and change-agents

Higher Education
is the best
instrument for the
advancement of
societies and
individuals

Historical Contributions

- **Scientific Advancement**
- **New innovations and knowledge**
- **Quality Graduates as ethical professionals and leaders**
- **Development and well-being of communities and humanity**

Universities are facing ever-increasing criticism for being slow to change curriculum and pedagogy

TRADITIONAL EDUCATIONAL MODEL

- ❑ Dominant educational model → faculty centered
- ❑ University professors as the sole repository of knowledge and the student as a vessel to be filled
- ❑ Passive learning system
- ❑ Disconnection from community

Viable educational model today??

- ❖ Knowledge and information are widely available - INTERNET
- ❖ New more effective educational pedagogy available (experiential/active learning)
- ❖ Students need to become more active & engaged learners
- ❖ Focus on student learning
- ❖ Faculty as facilitators of learning

Universities face greater pressure for change

- ❖ Growing political and societal recognition & pressure for universities to change
- ❖ Ever greater pressure on leaders to transform the university culture
- ❖ Greater recognition by higher education leaders of the need for change

- Reductions in resources
- New more effective educational methodologies & technologies recognized
- Unplanned events (pandemic)
- Faculty driven change
- Student driven change
- Employer driven demands

Universities should transform themselves to reflect this new reality.

- **Reform curricula and pedagogy**
- **Transform their educational models and institutional cultures**
- **Become inclusive, integrated centers of learning for students, faculty and the greater community,**
- **Promote Innovations in teaching, learning, and the curriculum**



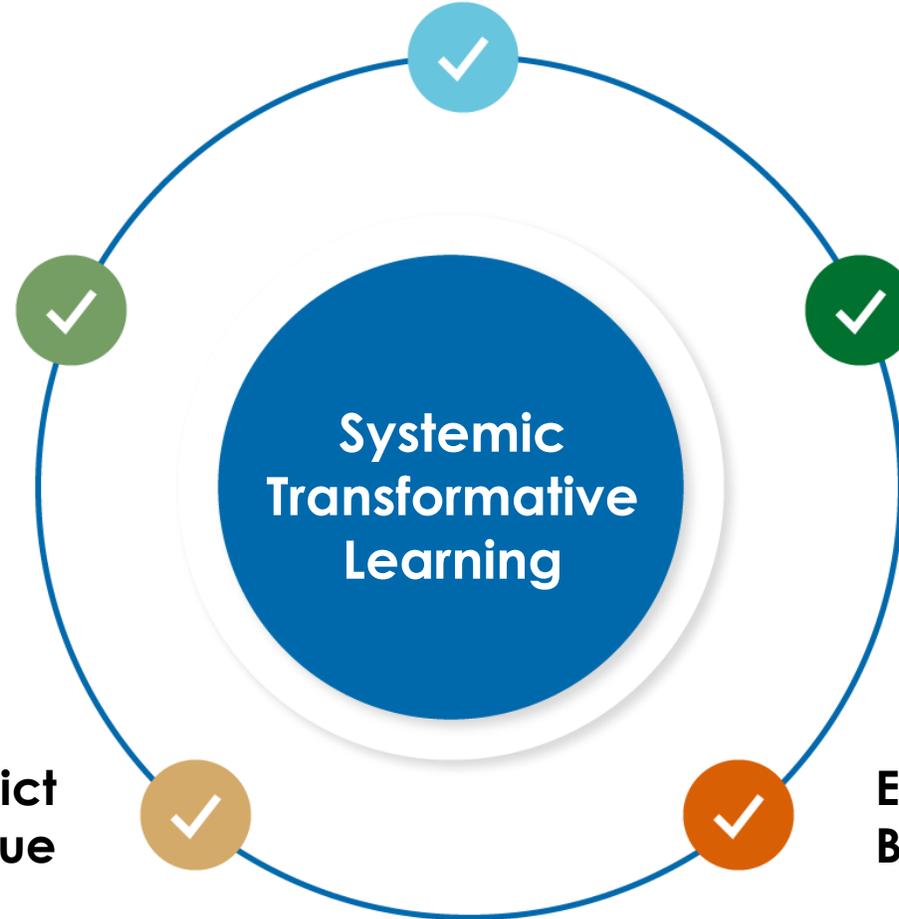
**Experiential Learning - immersion
of students in practical reality**

**Ethical & Value
Based Leadership**

**University Engagement
with Communities**

**Problem Solving, Conflict
Resolution Through Dialogue**

**Entrepreneurial Training &
Business Development**



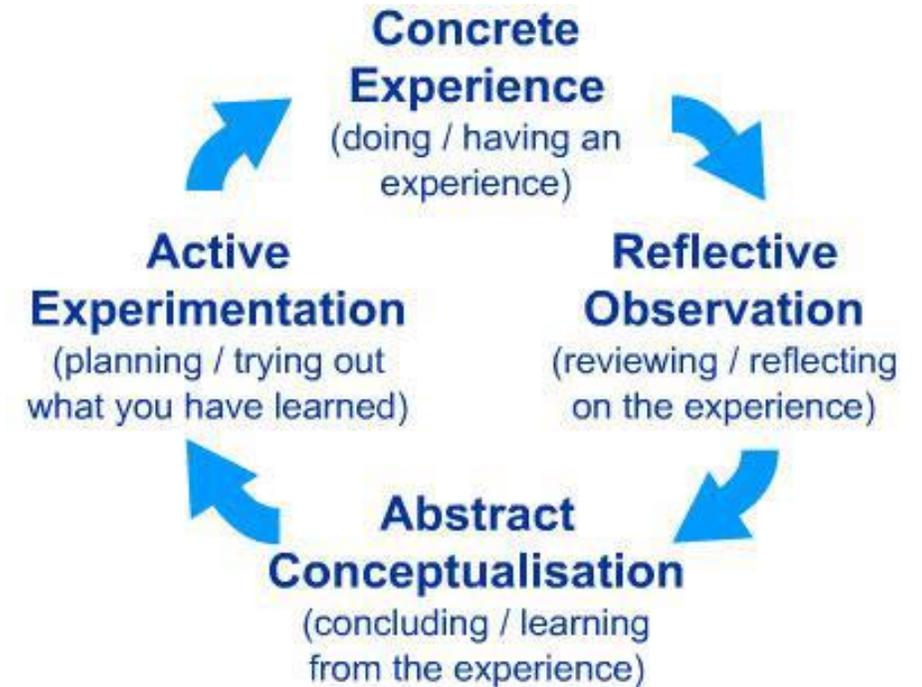
THE TRANSFORMING HIGHER EDUCATION PROJECT

Five Key Elements Of Success- Experiential Learning

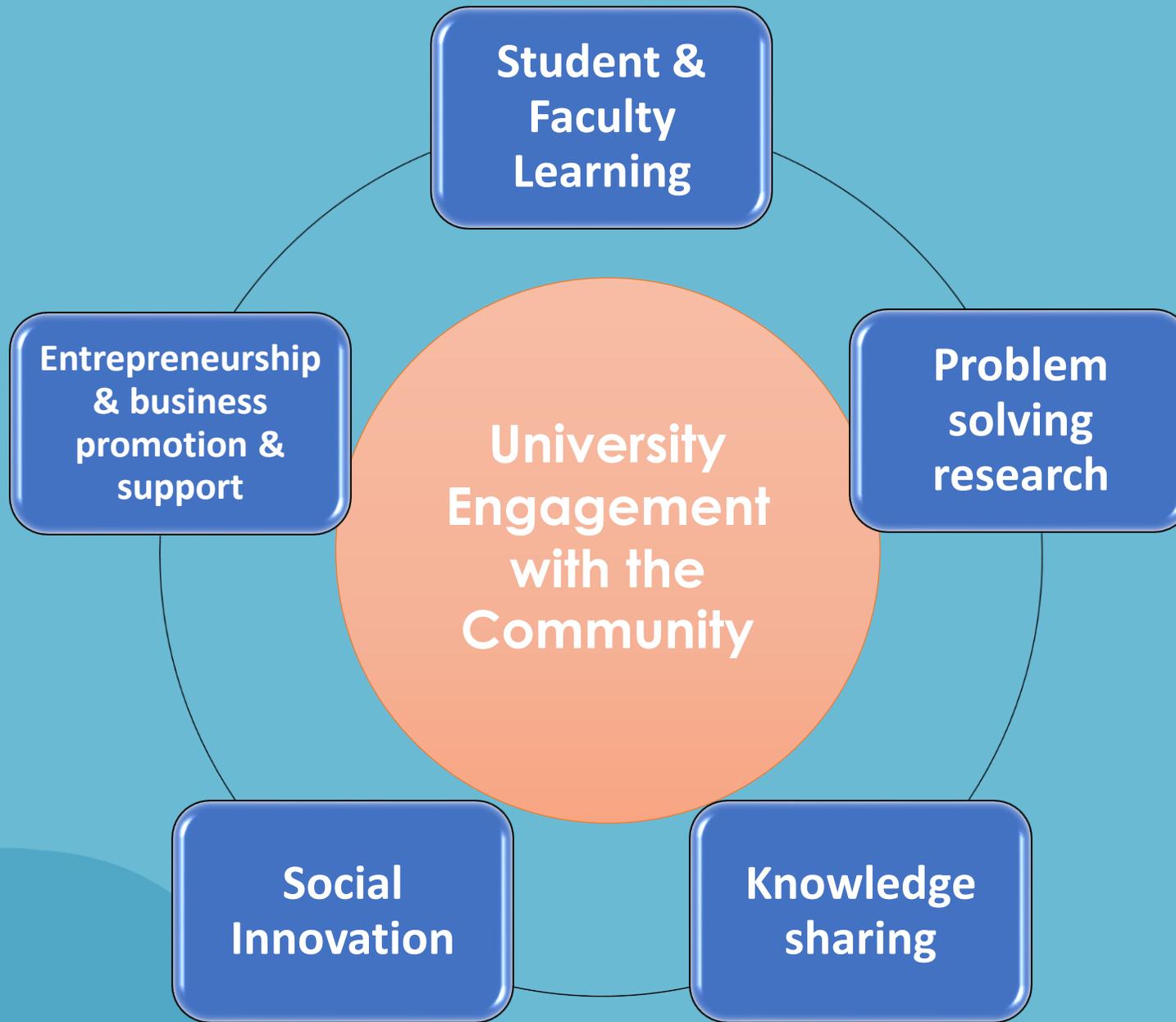
Immersion of students in practical reality

Key → application of theoretical concepts to real life situations and reflection on the experience

- Core of educational model for colleges of agriculture
- More effective learning
- Theoretical basis of 3 learning theories
 - Constructivism, Adult learning theory
 - Learning Styles



Kolb's Experiential learning cycle reinforces learning



CE CONTRIBUTES TO TECHNICAL & SOFT SKILLS DEVELOPMENT

Social & Technical Skills

Real world understanding

Greater understanding of community issues

Civic skills

Intercultural

Social awareness & commitment

Technical knowledge & skills

Personal Skills

Self understanding

Self confidence

Proactive culture

Professional/ career understanding

Leadership

Soft Skills

Critical Thinking

Problem solving

Team work

Communication & interpersonal

Empathy

Why incorporate entrepreneurship within agricultural education?

- Agriculture has become a global business that has to manage diverse elements including environment issues, market demands and impacts, climate change, and its impact on development.

It has been found that an entrepreneurial education contributes significantly to risk-taking, the formation of new ventures, and to self-employment.

Entrepreneurs are by nature innovative.

Employers looking for university graduates to have a series of soft skill.

Learning these soft skills as key components of entrepreneurial education!

Develop diverse agricultural technical skills, soft skills, and entrepreneurial skills.

Why incorporate entrepreneurship within agricultural education?

**ENTREPRENEURIAL
& SOFT SKILLS
DEVELOPMENT**

Entrepreneurial Education Contributes to Business & Soft Skills Development

Business skills

Administration

Marketing

Budgeting & Finance

Business plan

Time & People management

Strategic Thinking

Cognitive skills

Problem solving

Critical thinking

Creativity

Innovation

Interpersonal skills

Communication Skills

Teamwork & Interpersonal relations

Conflict management

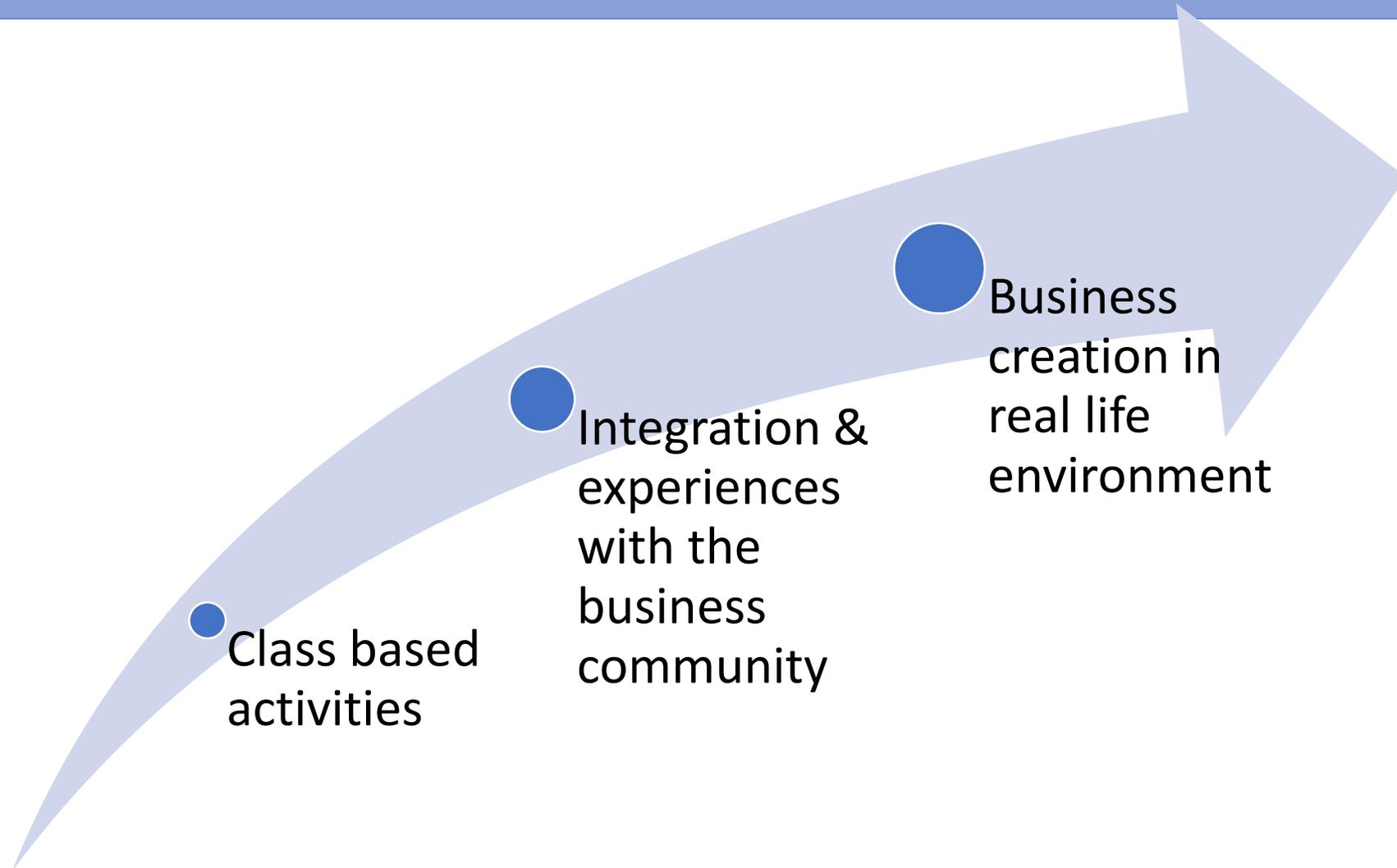
Ethical Leadership

Technical skills



Taken and adapted from Irene Alvarado video series on Entrepreneurial Education: Basic Competencies and Skills Needed for an Entrepreneurial Education in Agriculture. https://youtu.be/XC_FOB08bEU. <https://transforminghigher.education/knowledge-sharing/>

EXPERIENTIAL EDUCATION ENTREPRENEURSHIP & BUSINESS DEVELOPMENT



Class based experiential learning processes

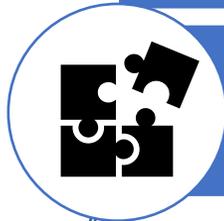


Case studies

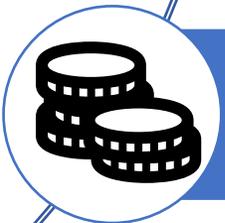


Class projects

- Market Analysis
- Finance Analysis



Subject matter Simulations



Specially designed course

Integration & experiences with the business community

Service projects

Work study

Incubators

Business research projects

- Case study development
- Market Studies
- Business plan development
- Business strategy development

Internships

- Learn about the business
- Learn specific skills
- Learn business culture & responsibility
- Evaluated

Entrepreneurial PROJECT

Opportunity to create and implement a business

- Create a business enterprise with classmates
- Develop and defend business plan
- Loan provided \$
- Implement business plan in a real world environment.
- Implement the business (production – marketing – sales).
- Assess profitability (all costs charged) \$
- Assess environmental impact



EARTH University - Costa Rica Entrepreneurial Projects



Taken and adapted from presentation by Dr. Irene Alvarado to Transforming Higher Education Orientation Workshop, February 2019: <http://transforminghigher.education/EARTH-OGUTW-Feb-2019/ses4/1-1-Educacion-empresarial-y-el-desarrollo-de-negocios-integral-a-la-formacion.pdf>

Entrepreneurship

**Social
Entrepreneurial
Training & Business
Development**

Program Objective

**Promote
entrepreneurial
initiative and
leadership in
students through
business creation**



Central Element of the
EARTH University
Curriculum



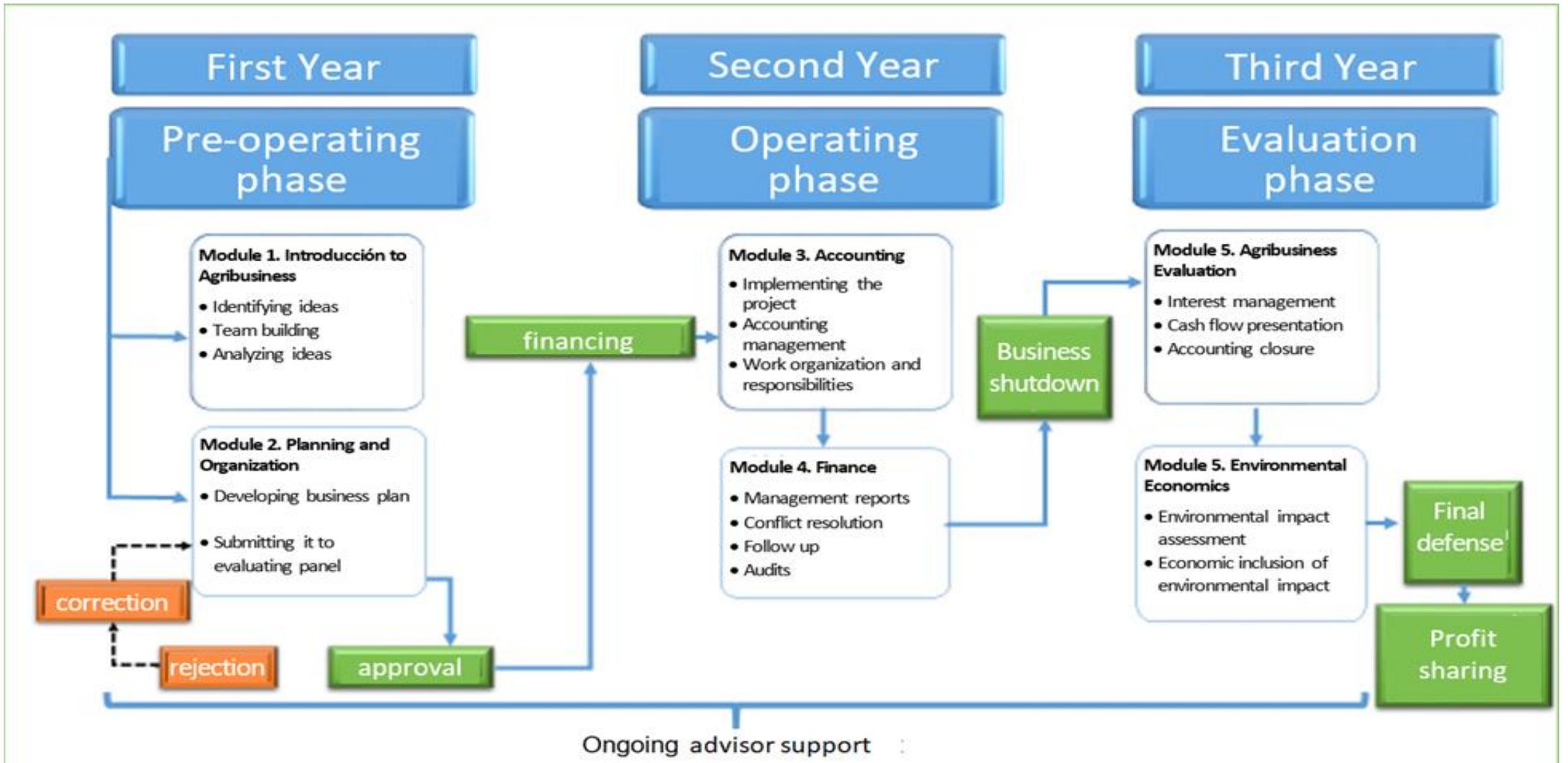


Specific Objectives of the Program:

- Develop Entrepreneurial mindset
- Includes social, environmental and ethical considerations in decision-making process.
- Enhance management knowledge, skills and abilities.
- Leadership skills, creativity and innovation.
- Application of business skills.
- Responsibility, proactive learning, networking, interaction with community and agribusiness sector.

Adapted from presentation by Dr. Irene Alvarado to Transforming Higher Education Orientation Workshop, February 2019:

<http://transforminghigher.education/EARTH-OGUTW-Feb-2019/ses4/1-1-Educacion-empresarial-y-el-desarrollo-de-negocios-integral-a-la-formacion.pdf>



Taken from document on Entrepreneurial Education by Dr. Irene Alvarado: <https://transforminghigher.education/wp-content/uploads/2020/12/4-Entrepreneurial-education-and-business-evelopment-eng.pdf>

EARTH UNIVERSITY ENTREPRENEURIAL PROJECTS

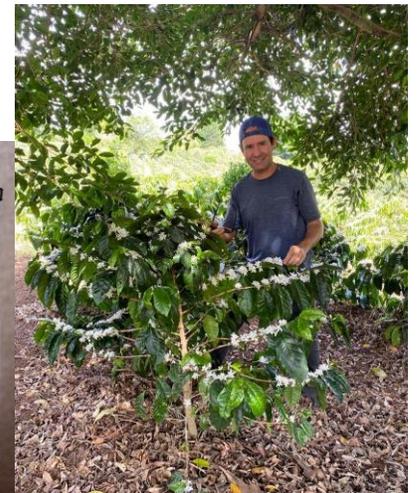


Innovation and Sustainable Agriculture Program Technological Institute of Higher Education Calkiní





Brumas Restaurante es un concepto innovador que fomenta la gastronomía creativa partiendo del cultivo sostenible. Todos los platillos son preparados con ingredientes frescos, de la huerta a la mesa; enalteciendo lo representativo del acto de comer.





Gracias

por ser parte de estos

28 AÑOS



Para una mejor generación...





Gustavo Manrique Mii
Ministro del Ambiente y Agua del



PREMIOS
LATINOAMÉRICA
Verde



THE TRANSFORMING HIGHER EDUCATION PROJECT

Change
Universities



Change the
World

