LM5: Financial Innovation in Agri-food Systems

1.1 Module objectives

"The primary aim of this module is to explore how innovative financial instruments can empower agricultural productivity through technology and collaboration among actors along the value-chain."

1.2 Learning outcomes

Financial incentives, innovative funding and insurance instruments are core tools to build more resilient, inclusive and competitive agricultural sector:

- Demand for new financing tools in the agri-food sector has increased steadily since the abolition of production and market support mechanisms.
- New digital technologies can contrast the typical risk-aversion in Agri-food towards innovation investments by predicting cash flows volatility and increasing flexibility.
- The specialised and fragmented investors that dominated the market are now contending the market with new actors offering innovative and added value solutions to enhance access to finance and tailored financing options to actors along the value chain.

The module will provide an overview of the European agricultural sector and showcase a set of innovative financing schemes that proved particularly effective within the agricultural sector. At the end of the module, two case studies offer practical examples of how technology and data-driven solutions are being implemented in the sector.

To summarise, the learning outcome of this course are:

- understanding the size and structure of the agricultural sector in Europe and globally, highlighting key challenges and trends.
- being aware of the context in which agri-businesses operate.
- enhancing understanding of innovative financial instruments, with the purpose of widening access to capital, mitigating risk, reducing operating costs, reaching the unbanked population, and more.
- Addressing the predominant risk-aversion of the agri-food sector, and provide incentives to innovate

- Being aware of case studies and best practices in financing innovation in the agri-food sector.

1.3 Course content

1. **Overview of the Agri-food sector**
   - Key market figures and trends
   - Main stakeholders and market challenges
   - Product and process innovation in agri-food production
   - EU agriculture policy and strategy

2. **Innovative Financial innovation in Agri-business**
   - Financial instrument types
     - *Credit*: Microfinance, Mobile Money, Green, Social and Sustainability bonds
     - *Equity*: FFFs, Accelerator funding, Angel Investment & Venture Capital, Impact Investments
     - *Risk sharing*: Public Private Partnerships, Microinsurance, Public funding

3. **Case Studies**
   - ANT GROUP
   - ACRE AFRICA

1.4 Mode of teaching

- Lectures
- Literature study
- Case study, and
- Presenting the results to the group

1.5 Recommended study material

Selected examples of articles, book and online study material.

- Cremades, A. (2016). The art of startup fundraising: pitching investors, negotiating the deal, and everything else entrepreneurs need to know. John Wiley & Sons.
- Bureau, J. C., & Swinnen, J. (2018). EU policies and global food security. Global food security.
- Caro, M. P., Ali, M. S., Vecchio, M., & Giaffreda, R. (2018, May). Blockchain-based traceability in Agri-Food supply chain management: A practical implementation. In 2018 IoT Vertical and Topical Summit on Agriculture-Tuscany (IOT Tuscany) IEEE.
- Deng, Haiyan, Ruifa Hu, Carl Pray, and Yanhong Jin. "Impact of government policies on private R&D investment in agricultural biotechnology: Evidence from

chemical and pesticide firms in China." Technological Forecasting and Social Change.

- Gao, Liangliang, Dingqiang Sun, and Cuiping Ma. "The impact of farmland transfers on agricultural investment in china: A perspective of transaction cost economics." China & World Economy.

- Ibragimov, Z., Lyeonov, S., & Pimonenko, T. (2019). Green investing for SDGS: EU experience for developing countries. Economic and Social Development: Book of Proceedings.

- Jia, X., & Desa, G. (2020). Social entrepreneurship and impact investment in rural–urban transformation: An orientation to systemic social innovation and symposium findings. Agriculture and Human Values.

- Miranda, J., Ponce, P., Molina, A., & Wright, P. (2019). Sensing, smart and sustainable technologies for Agri-Food 4.0. Computers in Industry.

- Moral performances in agricultural investment projects. Environment and Planning A: Economy and Space.

1.6 Coordinator

EBAN / AgTech7 online platform