



Università
Ca'Foscari
Venezia

PROJECT ACRONYM AND TITLE: CIFTRESS - Climatic Impact on Food Trade RESilience and Security

FUNDING PROGRAMME: H2020 Marie-Sklodowska Curie Actions Individual Fellowship

CALL: H2020-MSCA-IF-2018-European Fellowship – Marie Skłodowska-Curie Individual Fellowships

SCIENTIFIC FIELDS: Economic Sciences

HOST DEPARTMENT: DAIS – Department of Environmental Sciences, Informatics and Statistics – CMCC

SCIENTIFIC RESPONSIBLE: Carlo Carraro

FELLOW: Ali Kharrazi

FINANCIAL DATA:

Project total costs	Overall funding assigned to UNIVE
€ 171,473,28	€ 171,473,28

ABSTRACT:

Global climate change adversely affects crop yields and undermines humanity's food security and resilience; while previous research has focused on regional agricultural adaptation, the opportunities and vulnerabilities of trade networks have remained less explored. In this vein, this research examines the joint climate, agro-environmental, and economic induced changes to the trade network topologies of five staple foods, i.e., maize, rice, wheat, barley, and soybeans, up to the year 2050 in the European and Mediterranean region. This proposed research adopts an interdisciplinary methodology drawing on crop yield modeling, economic trade modeling, network science, and quantitative scenario building approaches. More specifically, this research will enhance the International Model for Policy Analysis of Agricultural Commodities and Trade (IMPACT) Model with fitness network formation and gravity trade models to reveal the regional origin and destination of staple commodities. Through the enhanced model, the network topologies of current and future scenario staple food trade will be investigated and linked to the notions of resilience and security. Scenarios describing alternative dynamics of staple food trade network topologies for each crop will be developed through a comprehensive literature review focusing on agricultural trends, investments, and regional strategies and semi-structured interviews with agro-economists, agriculture policy specialists, and agricultural trade practitioners. The main innovations of this research project are the enhancement of the IMPACT model and in addition, the application of network analysis to interpret the 'indirect' trade flow relationships which are not well captured by the current model. This will enable an analysis of climate change impacts on staple food trade in the light of the network-based configurations of network efficiency, redundancy, and modularity which are linked to the notions of food resilience and security.

Planned Start date	Planned End date
1 st May 2019	30 th April 2021

PARTNERSHIP:

1. Ca' Foscari University	Italia	Coordinatore
2. Euro-Mediterranean Center on Climate Change	Italia	Partner