

**O 12. BETWEEN A RESILIENT AND SUSTAINABLE FUTURE: RESHAPING
HUMAN–NATURE INTERACTIONS TO AVOID THE COLLAPSE OF OUR
SOCIO–ECONOMIC SYSTEM UNDETERMINED WATER QUALITY FOR IRRIGATION
SUITABILITY IN KONYA CITY**

Pëllumb Harizaj^{1*}

¹ *Agricultural University of Tirana, Faculty of Agriculture and Environment*

E-mail: pharizaj@gmail.com

ABSTRACT: Socio-economic systems built by humans are subsystems of the natural systems and are closely related with each other. The history of past human civilizations reveals that all socio-economic systems of the past used to experience short periods of economic prosperity which were followed by the inevitable collapse. The failure of those systems may be explained with the depletion of natural resources, climate changes, and the inability of former civilizations to act wisely by adjusting their needs to the carrying capacity of nature. Bearing in mind the past of humanity, this presentation aims at contributing to: 1) applying a holistic framework to integrate socioeconomic and natural systems, 2) proposing the use of system dynamics principles to prepare simulation models to design and implement better socio-economic and environmental policies at different space-time scales, 3) applying system dynamics methodology via simulation models to forecast future scenarios for our socio-economic system and the depletion of natural resources in the coming decades. Due to the complexity of the real world, simulation models may be the best alternative in comparison with the analytical (mathematical) solutions to forecast the future reality. These models can continuously be improved to offer better approximations of the real world situations by using software programs.

Keywords: *Holistic Approach, System Dynamics, Software Programming.*