



# Agriculture, economics, ecology and trade: how forward for better world

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## INTRODUCTION

Very minute changes within the ecological conditions have a bigger impact on the agriculture, trade and economy. This is often a replacement perspective paper focusing more on next generation innovations in Agriculture, Economy, Ecology and Trade for better world. There's got to drive the economic process in order that nonrenewable resources don't trigger irreversible damage to the environmental resources and menace the welfare of the longer term generations. Integration of the environment policies, trade practices and individual actions must be enhanced for environment reliable technology and innovative solutions, which are necessary to work out the viability of the longer term in our planet. Frequency Identification Technology, soil and water sensors, NL5000 G5, precision agriculture, bio-security, robotic solutions, mobile technology, cloud computing, pervasive automation, block chain technology; e-agriculture and environmental security measures are the new emerging latest technologies, which enhance the economic process by integrating the trade, ecology and agriculture. Modern and innovative world is that the only choice to meet all the goals within the agriculture sector. These technologies make the agriculture more profitable, safe, efficient, and eco-friendly. Farmers got to improve themselves to be skilled in using innovative technologies. Government should support investments within the agriculture and ecology. Smart insurance designs (e.g. tailoring insurances to

the individual farm) and technological progress (e.g. advances in satellite technology) enable improvements in insurance schemes. Spatially and temporally more detailed information also as better knowledge of the connection between weather and yields losses can reduce basis risk of insurances. However, the utilization of latest and better data doesn't automatically cause better insurance schemes. The SURE-Farm project contributes to the understanding of weather risks and new insurance mechanisms as possible tools to extend the resilience of European agriculture to weather extremes. Therefore, we aim to point out the way to integrate newly available data sources for various agricultural outputs, namely grassland, crop and dairy production in several European regions. Within the four contributions summarised here, we evaluate currently existing index insurance schemes and supply fundamental insights for future developments of index insurances for the crop and livestock sector in Europe. We first summarise and discuss existing index-based weather insurances. Second, we investigate the drought risk reduction potential of various drought indicators in two case studies on different crops in Eastern Germany. Third, we examine the connection between hot and humid weather and milk yield losses for dairy producers in Flanders.