CONFERENCE/WORKSHOP ORGANISER'S REPORT

"Vulnerability of Agricultural Production Networks and Global Food Value Chains due to Natural Disasters"

The opinions expressed and arguments employed in this report are the sole responsibility of the authors and do not necessarily reflect those of the OECD or of the governments of its Member countries.

Brief Description of what the conference/workshop was about

Agricultural value chains become regional and global and more stakeholders are involved. Due to the increased complexity and dependences, the vulnerability in agricultural production networks is increasing. More disasters coincide with higher levels of vulnerability. This increases damage and loss in individual units of the agricultural value chain and demands for more sophisticated counter measures even at places not hit by disasters. Increases in prices for certain agricultural products or higher premiums for insurances against extreme climate events are just two perceivable consequences. Focus was given to specific agricultural production networks and food value chains from the perspectives of individual researchers and policy makers.

Outstanding scientists gave presentations in economics, natural resource management and risk research. The topics of four scientific sessions were: 1) The nexus of agricultural production networks and global food value chains and natural disasters 2) Natural disasters and agricultural production: numbers, models, measures and current policies, 3) Lessons to be learned for agricultural production networks and food value chains 4) Decreasing vulnerability against natural disasters in agricultural production networks and food value chains. The final session 5) was a strategic session on the dissemination of the conference findings.

The aim is to reach the wellbeing of all actors in the value chain - producers, intermediates and consumers – and an early recovery and business continuity after disasters.

Participation – details of total number of participants, countries they came from, backgrounds (academia, industry, etc.)

In total some 60 people took part in individual parts of the conference. There were 33 persons registered as official participants. Most of the participants were also speakers. The 33 registered persons came from 15 countries, Austria (16), USA (3), Japan (2) and one from Italy, France, Portugal, Sweden, Norway, Switzerland, Korea, Indonesia, China, GB, Slovakia, Thailand. There were 18 participants from universities, 5 participants from research institutes, 4 participants from industry, 4 participants from international organizations, 2 participants came from public administration. The remaining 27 participants were mainly stakeholders from Wachau region. They enabled a very practical touch to the topic and helped the visitors to understand the local situation in Austria.

Major highlights from the presentations

In total there were 30 presenters during the conference, 24 scheduled in the program, two celebrities from TU Wien, two bus lectures during our excursion, and two ad hoc presentations during session 4 by policy officers. In addition there were four stakeholder presentations during the excursion in the Wachau Cultural Landscape.

Susan Cutter, Margreth Keiler, Sven Fuchs, Julien Hardelin and Stefan Anderberg presented in the first session 1) The nexus of agricultural production networks and global food value chains and natural disasters. Here, the interconnections were highlighted. - Pedro Chambel-Leitao, Luc St. Pierre, Minquan Liu, Franz Sinabell, Chris

Renschler and Eirik Ramstad presented in 2) Natural disasters and agricultural production: numbers, models, measures and current policies. Pedro, Luc and Chris aimed for stakeholder information, while Minquan, Franz and Eirik had state policies in mind. - Hiroyuki Nakata, Eiji Yamaji, Willem Thorbecke, Venkatachalam Anbumozhi, Hyeon Kim, Malinee Phonsuwan spoke in session 3) Lessons to be learned for agricultural production networks and food value chains. They tried to bring in experience gained in other contents. - Ramasany Selvaraju, Ladislav Miklos, Theresa Oedl-Wieser, Pia Kieninger and Meinhard Breiling were concerned about 4) Decreasing vulnerability against natural disasters in agricultural production networks and food value chains. Principles on how to build up resilience were brought. - A key experience for the participants was the excursion to the Wachau cultural landscape. The excursion was also the best mean to exchange opinions between local stakeholders, scientists and government policy officers.

Major outcomes/conclusions in terms of policy relevance

While the prevention from negative consequences from natural disasters such as protection of fatalities and harm to infrastructures is a key concern in international cooperation, the damages to agricultural production networks and food value chains are often not registered and methods on how to calculate damage vary in individual countries.

The resilience against disasters can be altered by better soil and water management. This is connected to a wider application of organic or precision agriculture methods, the availability and use of sophisticated climate information, the legal enforcement of land use or environmental protection strategies.

Within agricultural supply chains in particular producers are in most vulnerable position. Disasters can redistribute benefits and burdens between producers, intermediates and consumers. Burdens are shifted towards producers, often the smaller, poorer and weaker partners of the food value chain with fewer alternatives.

Disasters cannot be seen on market prices – the matching of small and large scales is imperfect. Global food value chains include richer and poorer countries with lower or higher dependence on the agricultural sector.

Three major gaps that hinder business continuity after disasters are: i) information gap, ii) science gap and iii) policy gap. A comprehensive and standardized loss accounting for agriculture is needed. A better and more systematic integration of scientific disciplines is desirable. Provision or non-provisions of instruments, plans or measures of a political system can ease or aggravate disaster impacts on food supply chains.

Guidelines on how to develop tools, data collection and measurements (indicators-indexes) for making possible improved regional evaluations/comparisons of impacts, vulnerabilities and local capacities like level of entrepreneurship or attitudes to handle natural hazards should be elaborated under participation of OECD, ERIA and FAO and disseminated broadly in member countries.

Organic agriculture is a measure for sustainability, disaster prevention and a higher value of the product. The interrelationship related to improved soil- and water management and higher prices for organic products should be further highlighted.

Data driven information help stakeholders to understand systems and processes and is a means to design scenarios and see impact on system dynamics. The broad application of data collecting instruments depends on their cost. It is expected that these instruments will become more affordable in future.

It is difficult to predict the degree and severity of disasters and to give an appropriate warning time. The types of damages within the food supply chain have to be classified: production damage, transportation damage, storage damage.

The trend to integration of production networks and markets with "just in time" and "just in sequence" increases the interdependencies. This also increases the vulnerability to disasters from far away. In particular oligopolistic markets can use disasters for business advantages at the extent of other players.

Authentic local and regional food production – often in combination with organic food production - is a means to increase the value of local and regional food chains. The vulnerability to effects from global disasters decreases.

An unsolved issue is the share of individual and society benefits and costs. Private weather insurance schemes sometimes counteract national emergency relief funds. Some risks cannot be insured while other risks are compensated by the state without adequate premium.

Developing countries suffer in particular from damages and losses in the agricultural sector. Women have a dominant role in particular local food value chains. Most women stay year around on farms while their husbands can be out for seasonal work. Strengthening the position of woman can also increase disaster resilience.

A key concern for any value chain and the food value chain in particular is activity. In many rural areas the level of activity gets limited. Actions with citizens from outside stimulate innovation and feed-back from outside.

Considering a territorial approach on agricultural production networks one can see a close interconnection between agriculture and tourism in rural areas. A viable economy is often the precondition for planning preventing or mitigating actions against disasters.

Policies should be sensitive to the local/regional differences, allow and stimulate the strengthening of local capacities, sustainable farming, niche markets, and take particular local vulnerability into account. Value chain analysis is a valuable tool for the integration of wider multiscalar perspectives in regional policy.

Relevance to CRP theme(s)

The conference was within topic one: "Natural Resources Challenge" with strong links to topic two "Sustainability in Practice" and topic three "The Food Chain". The different compartments of the conference like "agricultural production networks", "global food value chains", "vulnerability and natural disasters" are widely discussed areas, but where not yet brought into a common context. Within "Theme 1: The Natural Resource Challenge" especially sub-point "Holistic economic and societal evaluations of systems where natural resources are used in the agri-food chain" was covered. "Theme 3: The Food Chain" could be even be found in our title, but we concentrated on the value of the food chain, both with regard to money and resources. Additionally "Theme 2: Sustainability in practice" was considered as economic, social and environment concerns were covered. In particular our topic related to the sub-point "risk assessment and management related to agricultural practices".

Website for further details – please also indicate if the presentations are/will be available on the website

Publications are on the way:

1) Joint Proceedings with ERIA, the Economic Research Institute of ASEAN and Asian States, the Co-organizer of the conference are on the way. http://ttl.tuwien.ac.at/160621/program_june_2016.pdf
2) A Special Issue in "European Countryside". The special issue is considered for the first half of 2017. https://www.degruyter.com/view/j/euco.2016.8.issue-2/issue-files/euco.2016.8.issue-2.xml
3) An additional summary article in: "Environment: Science and Policy for Sustainable Development" is planned for 2017.