



ACCELERATING CLIMATE ACTION
A JUST TRANSITION IN A POST-COVID ERA

Book of Abstracts

9th SISC Annual Conference, online, 22-24 Set 2021

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About SISC Conference

“Accelerating Climate Action: A just transition in a post-Covid era” is the title of the SISC 9th Annual Conference, held on September 22nd-24th, 2021.

Due to the COVID-19 virus, all sessions of “Accelerating Climate Action” Conference were held exclusively online.

The Conference aimed at connecting leading scientists, researchers, economists, practitioners, business leaders, and policy makers, whose activities are focused on different aspects of climate change, its impacts and related policies.

The Conference was an important interdisciplinary platform for the presentation of new advances and research results in the fields of science and management of climate change.

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About SISC

The Italian Society for Climate Sciences (Società Italiana per le Scienze del Clima - SISC) is a non-profit and non-advocacy association, which aims at contributing to scientific progress and the innovation of climatic sciences in Italy by promoting the convergence of disciplines and multidisciplinary research. SISC aims to be a reference point for all scholars dealing with climate-related sciences and their applications.

SISC was created to serve as a meeting point for scientists from different disciplines, who use climate information for their research: from climatologists to physicists and chemists, geographers to agronomists, economists to political scientists, and all scholars that deal with climate-related sciences and their applications.

The Italian Society for Climate Sciences aims at contributing to scientific progress and innovation of climatic sciences in Italy by promoting the convergence of disciplines and multidisciplinary research.

The institutional purposes of the SISC are:

a) to the world of research:

- to foster the exchange of ideas, the creativity and the development of new interdisciplinary research;

- to promote communication and cooperation between universities and research institutions in Italy, strengthening the presence of climatic sciences in both Italian universities as well as higher education systems;
- to attract young talents to build a new interdisciplinary scientific community and increase overall productivity;
- to stimulate and coordinate the Italian contributions to the International programs in the field of climate sciences;
- to become the reference point and the meeting place for Italian scientists living abroad.

b) to the society:

- to increase the impact of the studies and of the debate on climate issues, giving scientific rigour to the analysis of climate policies for mitigation and adaptation;
- to promote the dialogue among scientists, policy makers, businesses and citizens to support actions in the interests of the society and the environment;
- to provide research results to institutions, businesses and citizens

The SISC association is non-profit and non-advocacy, acts according to ethical principles and promotes policies for equal opportunities.

The aims of the Association are pursued in particular through the organization of conferences and debates addressed to the scientific and policy communities, the implementation of web-communications, the promotion of training courses for young graduates, and collaboration with multidisciplinary doctoral courses on climate science.

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ORAL

Exploring socio-natural factors of farmers' adaptation: A review on risk awareness and perception towards climate change

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Risk awareness and perception have been linked to different types of behavioural models based on beliefs and concerns about the environment that influence how individuals respond to impacts of climate change (Schlüter et al. 2017). Some authors understand awareness as of the first step before developing any resilience-building process but also as a requirement that must be met during the resilience development process because it drives transformation (Abegaz & Wims 2015, Iturriza et al. 2020). Likewise, risk perception is how individuals receive information or stimuli from their environment, transform it into psychological awareness, and (re)act accordingly (Azocar et al. 2021). Perception varies with the individual's past experiences and the present sets or attitudes act through values, needs, memories, moods, social circumstances, and expectations (Hasan & Kumar 2020). Knowledge, interest, culture, and many other social processes shape the behaviour of an individual or social group who use the information and tries to influence that particular situation or phenomenon (Akhtar et al. 2019).

Farmers' awareness and perception towards climate change reflect their judgments and may affect their adaptation and mitigation behaviour (Hou et al. 2015). Sulewski & Kłoczko-Gajewska (2014) argued that if farmers are not aware of climate change risks, they will not respond to them. Li et al. (2017) applied path analysis to deepen on causality and inter-relationships between climate variability and farmers' beliefs, awareness, and adaptation capacity. The obtained results highlighted two main issues. Firstly, the belief in individual vulnerability was found not to directly influence adaptation

behaviour. Secondly, belief in climate change risks was heightened by the awareness of more observable climate change phenomena (e.g. extreme weather events and water shortage) but it was not a direct cause of adaptation behaviour. However, as some authors suggested, ‘seeing is not believing’, and even after acknowledging their experience with climatic extremes, many farmers continue to be resistant to the idea of the need to mitigate agricultural contributions to climate change (Houser et al. 2019).

In this work, a review of the literature examining farmer awareness and perception towards climate change is reported to identify the main statements and driving factors affecting farmers’ awareness and perception. For example, asking about the statement ‘climate change is occurring or had occurred’, between 50-90% of farmers agreement was obtained, including experiences in which awareness is significant or total (75-100%) (Hundera et al. 2019, Mutandwa et al. 2019, Zhang et al. 2020). Most of the studies also reveal how climate change awareness is mainly based on some observed changes in weather patterns, such as the change in temperature and rainfall patterns with about an 80-98% of agreement (Ado et al. 2019, Voss 2021). Likewise, more than 90% of the farmers thought climate change impacts crop production, with 59% of the respondents asserting that the impact is quite obvious (Guo et al. 2021). Moreover, close to 60-76% of the farmers were aware of climate change because the weather is becoming unpredictable (Chhogyel et al. 2020). According to Le Dang et al. (2014), when farmers believe that higher risks of climate change are threatening their physical health, finance, production, social relationships and psychology, they are more likely to have an intention to adapt to climate change. Furthermore, adaptation intention also increases when farmers perceive greater effectiveness of adaptive measures in general and more agency to conduct adaptive measures in particular. On the contrary, some studies, such as Azadi et al. (2019), concluded how farmers’ beliefs and awareness of climate change had no effects on their adaptation behaviours and risk perception. These authors argued that farmers’ adaptation behaviours might occur without engaging their belief systems about climate causality. Otherwise, the results obtained by De Matos Carlos et al. (2020) demonstrated that there is no direct relation between awareness and perception about the harmful effects of climate change and adaptation; perception only affects adaptation when mediated by belief in the adverse effects of climate change (this result is called by the literature of ‘indirect effect’). In other words, awareness and perception will influence adaptation practices when farmers believe in climate change. This type of results could contribute to reformulate policy interventions by considering farmers’ recommendations and preferences to better respond to climate change from local experience.

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