Resilience of People and Ecosystems under Climate Stress

A new initiative by the Pontifical Academy of Sciences to bring researchers, policy makers and faith leaders together to understand the scientific and societal challenges of climate change and develop solutions for enabling resilient people and resilient ecosystems.

We can no longer take comfort in just relying on climate mitigation. In fact, this is even more topical and necessary at this time of war, when so many nations, out of need, are turning back to fossil fuels. Adaptation to current weather extremes and related climate risks are upon us, and have to be considered as a central theme in climate policy actions. While we note that the field of climate resilience[1] brings mitigation and adaptation under one common framework, this workshop has a focus on adaptation challenges, which are confronting the world population as a whole, but particularly the poorer segments of countries and societies. Our goal for this new PAS initiative is to bring resilience to center stage of climate summits and protect people and ecosystem from unavoidable climate extremes in the coming decades and to foster justice and the crucial good that is peace. One of our central concerns is the welfare of vulnerable populations, almost three billion, in the world.

Our approach is to acknowledge the multiple intersecting crises facing humanity: Climate Crisis, Biodiversity and Equity. While the primary focus is on the climate crisis, we will look for opportunities where addressing one benefits the other two crises. Following this guideline, our discussion of solutions will broaden the current focus on technology and include nature-based climate solutions that bring in oceans, mangroves, working lands and forests, which by de facto will address the diversity and equity crises, as well as solutions with institutional innovations. In short, the primary focus will be on the two-way coupling between natural systems and social

systems. Any approach to resilience building must recognize the fact that it could take three to five decades to bend the global warming curve, and that climate will be changing from one decade to the next during this period without any norms.

Scope

We are organizing a workshop for scientists in natural sciences, social sciences and humanities. The workshop will be organized around two major themes of resilience, with the first being more briefly covered, while the main focus is on the second theme:

I. The likely climate change risks and trajectories: Under this theme we will consider: Tradeoffs between social, economic and environment goals; unavoidable climate changes, disruptions, risks and threats. Distinguish between risks that are tolerable and acceptable from those which are intolerable

II. Adaptation to Climate Risks and Threats. The topics that will be highlighted are: Public Health including mental health; food and nutrition security; water and energy security; Climate refugees and mass migration; Urban and Rural resilience, including land use plans and protection of critical public assets and services; Coastal populations with emphasis on small island nations. Climate proofing critical infrastructure; financial and fiscal risks including climate financing for the vulnerable populations.

[1] We adopt the IPCC definition for resilience as “the ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity of self-organization, and the capacity to adapt to stress and change”.

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