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PANEL TITLE:

AGRO-ECOLOGICAL AND SOCIO-ECOLOGICAL RESILIENCE: A PILLAR OF SUSTAINABLE DEVELOPMENT AND FOOD SECURITY

CONVENOR: PROF. SANKAR KUMAR ACHARYA

CO-CONVENOR: PROF. M.M. ADHIKARY AND PROF. B. K. MOHANTY

ABSTRACT

This is an era of unstable ecology and fragile environment; a sustainable cultivation approach is gaining gradual importance in the place of conventional input-intensive agricultural production systems along with non-judicious use of agrochemicals and irrigated water. Food insecurity could be an indicator for assessing vulnerability to extreme events and slow-onset changes. This impact of global warming has significant consequences for agricultural production and trade of developing countries as well as an increased risk of hunger. The number of people suffering from chronic hunger has increased from under 800 million in 1996 to over 1 billion recently. Thus, end of hunger, achieving food security and improvement of nutritional status globally are at the heart of the sustainable development goals. Agro-ecosystems permanently interact with disturbances of natural and anthropogenic origin, i.e. the occurrence of adverse weather events, public policies, market fluctuations, community organizations, the role of institutions, availability of information and economic, logistical, technical, administrative or infrastructure resources, among others. After facing with the occurrence of these events, the affected system responds to the disturbance dynamically, thanks to an emerging property of these open systems called resilience. Resilience here is defined as the capacity of social, economic and ecosystems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity, and structure as well as biodiversity in case of ecosystems while also maintaining the capacity for adaptation, learning and transformation. Even so, agro-ecology is a holistic approach to food production through using ecological methods, which also address the health, social and economic dimensions of the food system. It operates at the field, farm, and food system levels. In 2015- 2016 conservation agriculture was adopted on about 180 MHA of cropland, about 12.5% of the total global cropland, i.e. 69% more than 2008-2009 in the world. Resilience is a positive attribute when it maintains such a capacity for adaptation, learning, and/or transformation. Assessing sustainability in the context of complex systems in the changing world requires a shift in thinking and perspective. Resilience represents such a shift in thinking and is described as a change from “fail-safe to safe-to-fail” for sustainability management. We invite empirical studies and secondary source review studies exemplifying best practises of resilience agro-ecology.

Keywords: Agroecology, Agroecosystem, Anthropogenic, Resilience, Sustainable development etc.

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