

Editorials for advances in agriculture and environmental science

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Editorial

Welcome to the Journal of Advances in Agriculture and Environmental Science.

“Climate change has potential to damage irreversibly the natural resource base on which agriculture depend, with grave consequences for food security. ... The problems of climate change, hunger and poverty, economic, social and gender inequity, poor health and nutrition, and environmental sustainability are inter-related and need to be solved by leveraging agriculture’s multi-functionality.”¹

“Documented increases in global air and sea temperatures over the last century have demonstrated unequivocally that our planet is warming. Most climatologists agree that the warming trend will continue, and at an accelerating pace unless the causes of global warming are addressed immediately. This reality, and the urgent need for action, is finally being recognized by society and governments around the world.”²

There is inevitable relationship between agriculture and environment [the surroundings or conditions in which a person, animal, or plant lives or operates (it also covers, climatic condition, its pattern and change).³ Human existence and civilization began with the development of agriculture which fully relies on climatic variations of specific locations of Earth surface. All of us have been witnessing the variation and change in climate in one way or another. With no doubt, We, humans are directly or indirectly responsible and have been contributing to this climate change, wherever we live or whatever do; however, the degree of contribution and impact may vary.

“Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems. Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen.” “Anthropogenic greenhouse gas emissions have increased since the pre-industrial era, driven largely by economic and population growth, and are now higher than ever. This has led to atmospheric concentrations of carbon dioxide, methane and nitrous oxide that are unprecedented at least the last 800,000 years. Their

effects, together with those of other anthropogenic drivers, have been detected throughout the climate system and are extremely likely to have been the dominant cause of the observed warming since the mid-20th century.”⁴

Thousands of scholarly publications and evidences (in the forms of scientific papers, books, reports, and opinions etc.) show that the change in climate, has direct impact (mostly negative) on agriculture and other life-support ecosystems of the Earth surface. “The long-term good health of populations depends on the continued stability and functioning of the biosphere’s ecological and physical systems, often referred to as *life-support systems*. ... The world’s climate system is an integral part of this *complex of life-supporting processes*, one of many large natural systems that are now coming under pressure from the increasing weight of human numbers and economic activities.”⁵

These publications also clearly demonstrate that there is an urgency to take actions to minimize / stop / mitigate such changes in climate for a healthy planet. As a matter of fact, many initiatives and steps have been taken from the international to individual levels [various international treaties, policies, actions etc., one recent example is the *Paris Agreement*, which “entered into force on 4 November 2016, thirty days after the date on which at least 55 Parties to the Convention accounting in total for at least an estimated 55 % of the total global greenhouse gas emissions have deposited their instruments of ratification, acceptance, approval or accession with the Depository”.⁶ At the individual level, the behavioral changes such as recycling, tree plantation, sharing and caring, raising awareness on how sea-level rise will affect, advocating, acting, teaching, researching and publishing or publicizing how climate change is affecting humans etc. are a few examples. However, still there are unmeasured and unexplored issues on how climate change has already impacted and will affect the life-support ecosystems (in particular on agriculture and by agriculture). There is a strong need of research by individuals and broad interdisciplinary collaboration within and beyond the spectrum of environment and agriculture.

This journal aims to fulfill this need by bringing scholars from north and south. This opening issue welcomes constructive comments and calls for scientific research papers on climate change, agriculture, food

production, agroforestry, ecology, environment, earth and resource management, sustainability or any research within the domain of Agriculture and Environmental Science.

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