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# Save and grow – a new paradigm of food security and environmental challenges

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## Abstract

Climate Change is most talked about subject all over the world. India as one of the major economy in the world can not abdicate its responsibility in fighting global warming. That intense heat waves shrink harvests is not surprising. Ice melting in the Himalayas and on the Tibetan Plateau poses an even graver threat to food security at a global scale. It is the ice melt from these mountain glaciers that helps sustain the major rivers of Asia during the dry season, when irrigation needs are greatest. In the Indus, Ganges, Yellow, and Yangtze River basins, where irrigated agriculture depends heavily on the rivers, the loss of any dry-season flow is bad news for farmers. China is the world's leading producer of wheat. India is number two. Therefore, the melting of these glaciers coupled with the depletion of aquifers present the most massive threat to food security the world has ever faced. In India, the giant Gangotri Glacier, which helps keep the Ganges River flowing during the dry season, is retreating. The Ganges River is by far the largest source of surface water irrigation in India and a source of water for the 550 million people living in the Gangetic basin. The rule of thumb used by crop ecologists is that for each 10C rise in temperature above the optimum can expect a reduction in grain yields of 10%. With global temperature projected to rise by up to 60C during this century, this effect on yields is an obvious matter of concern. Each year the world demand for grain climbs. Surging annual growth in grain demand at a time when the earth is heating up, when climate events are becoming more extreme, and when water shortages are spreading makes it difficult for the world's farmers to keep up. Each year the world's farmers must feed 80 million more people. This situation underlines the urgency of cutting carbon emissions quickly by the developed and developing countries - before climate change spins out of control. Adaptation is thus needed to respond optimally to the new challenging environment. Adaptation will in part occur autonomously, with individuals and societies switching to new technologies and new practices, and in part will require the planning, coordination and funding of governments. Uses of renewable energy is the way out.

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