Bottlenecks of climate change adaptation in local municipalities: Case study of agricultural adaptation planning in Ibaraki Prefecture

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Following the National Adaptation Plan (Cabinet decision, November 27, 2015), local Japanese municipalities are expected to make regional plans to adapt to climate change. However, there are some bottlenecks for implementation. First, there is a lack of detailed information on future climate change impacts at the regional level. Second, showing only negative impacts may make local people feel unnecessarily insecure unless plans for adaptation are proposed. Third, the priority of climate change issues tends to be lower than urgent or regional sustainability issues such as economic stability and the aging society.
The authors have attempted to identify the risks of climate change on agriculture and to establish “Agricultural adaptation plans in Ibaraki Prefecture (provisional)” as a roadmap to respond to the regional impacts of climate change The main contents of the plans will be 1) climate projections for Ibaraki, 2) climate impacts and risk assessments for agriculture, and 3) proposal of adaptations to mitigate adverse impacts. To respond specifically to the first two bottlenecks listed above, it important to identify the adverse impacts and to prepare countermeasures. So far, the authors have examined the critical temperature and sensitivity for the incidence of chalky rice kernels using crop yield and quality data from Ibaraki Agricultural Institute. As for the third bottleneck, more comprehensive collaboration with local people is required. Some challenges for Ibaraki University have also been identified.

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