
Japanese adaptation policy and the analysis and mapping of impacts under Climate Change for Adaptation and Food Security Project

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In Japan, relatively low temperatures continued up until the 1940s, but then started to rise. After experiencing high temperatures in around the 1960s and rather low temperatures until the mid-1980s, the temperature rapidly rose from the late 1980s. Many of the years that marked record-high temperatures in Japan are concentrated in the 1990s and onwards. The frequent occurrence of high-temperature years in Japan can be construed as a combination of global warming caused by an increase in greenhouse gas emissions represented by carbon dioxide and the natural fluctuation repeated with a cycle of a few years or a few decades.

Recently, damage to agricultural products has been reported, and a change of suitable areas for cultivation is projected. In the case of apples, the entire area of Hokkaido will be suitable, while Kanto and further south will be excluded. In order to adapt to global warming, the following measures are currently taken:

- Awareness of the impact of warming: agricultural research institute publicize reports on the impacts of global warming and incorporation of adaptation measures throughout the nation.
- Technical support system for producing areas: establishment of an examination committee and a support team of specialists, which provides advice and guidance to producing areas where impacts of warming are evaluated as severe through local examination.
- Support for adaptation measures (techniques): support for the private sector to develop vegetable species that are resistant to warming, and support for incorporating fog coolers, etc. that prevent disorders of agricultural products caused by high temperature.

Besides domestic policy, Japan has funded FAO to proceed with the Analysis and Mapping of Impacts under Climate Change for Adaptation and Food Security (AMICAF) project as international cooperation. This project deals with how climatic change can impact on food security. In step 1, the impacts of climate change on agriculture are analysed using FAO's existing MOSAICC (Modeling System for Agricultural Impact of Climate Change)

system. This model utilizes four components; climate scenario down-scaling, hydrological modeling, crop growth simulation and economic modeling. In step 2, food insecurity vulnerability analysis at household level will be conducted, using micro-econometric methods. Here, vulnerable household groups will be identified and categorized under the different climate change scenarios. Factors that contribute to household food insecurity will also be assessed. The location of vulnerable household groups will then be indicated by mapping. In step 3, community-based adaptation in vulnerable communities as well as the most relevant adaptation option will be identified, validated and tested in the field. In step 4, institutional analysis and awareness-rising will be conducted. After this project, global guidelines for implementation in other countries will be developed. Finally, in step 4, the project will conduct awareness-rising aimed at relevant stakeholders. At the same time, the project assesses how and which policy support measures can constitute an appropriate incentive for the adoption of the adaptation options. This will be followed by policy recommendations for the design and implementation of selected adaptation options.