# Overview of Farm Guidance Support System

I. The NEC Farm Guidance Support System, which is designed mainly for farm guidance providers, is a system developed to optimize data collection and analysis work that is required for guidance on cultivation farming. By providing various functions such as unified management functions for cultivation plot information and agricultural product growth information, as well as report preparation functions for producers, this system can shorten the time spent by farm guidance staff on office tasks and thus allow them to allocate more time to guidance at cultivation sites (production sites). The system also makes it possible to provide objective guidance based on data.

The aim is to raise the quality and yields of the whole production area, and to increase revenues through the branding of producing districts in order to empower producing districts in Japan.

II. Further, by recording and accumulating concrete data on the implementation of climate change adaptation measures (progressive farmer know-how) in producing districts, and utilizing this data for the consideration of adaptation measures in the near future, it will make it possible to devise rational responses to future global warming. Moreover, accumulating information on effective measures will enable better response to future risks. (For example, if temperature rises are expected, it will be possible to avoid or mitigate crop losses by selecting measures that have been found to be effective in the past.)



# Overview of Farm Guidance Support System

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## PLAN

Guidance for producers Guidance on agricultural techniques and control methods (Fruit thinning, pruning, pesticide spraying, etc.) Guidance on increasing crop quality (irrigation, fertilization, etc.)

## ACTION

#### Determination/modification of harvest targets

○Target quality
(sugar content, acidity, size, etc.)
○Harvest timing

Guidance Producer

Producer

Cultivation PDCA cycle

Guidance provider Guidance provider

Use of mobile information terminal Check of conditions OFruits (sugar content, acidity, size, etc.) OTrees (leaf color, tree health, etc.)

CHECK

DO

Agricultural crops on

agricultural chemicals

OFertilization, spraying of

cultivation plots

OIrrigation

OPruning, etc.

OEnvironment (estimated evapotranspiration, etc.)

Make this task more efficient!





### Environmental Benefits of Farm Guidance Support System

Among the eight risks of climate change indicated in the Intergovernmental Panel on Climate Change (IPCC) of the United Nations, the risks that can be mitigated by this solution are the following.

(See "The eight risks of climate change" on the following page)

(The numbering of the items below corresponds to the numbering of "the eight risks of climate change" on the following page.)

### 5. Threat to food security caused by rising temperatures and drought

Temperatures are rising due to global warming, but there have been years of high temperatures in the past. By collecting information on the measures that have been found to be effective among the various measures in such hot years so far, it is possible to **mitigate** or avoid the risks to food security associated with temperature rise, drought and other disasters.

### 6. Loss of livelihood and income in rural areas due to insufficient water resources and reduced agricultural productivity

Guidance on effective farming practices will contribute to the expansion of agricultural output, and strengthening producing districts with high added value will contribute to the **stabilization of farmers' income**. Furthermore, by providing advice on measures according to growing conditions such as the size of fruits and lack of sugar content, risk can be mitigated or avoided through quality improvement and stabilization.



# The Eight Risks of Climate Change

#### Source: 5th Assessment Report of IPCC (2014)



1. Damage caused by rising sea levels and storm surge in coastal areas



2. Damage caused by flooding in urban areas



3. Breakdown of infrastructure and other societal functions due to extreme weather events



4. Death and ill health caused by heat waves which particularly affect vulnerable groups in urban areas



5. Threat to food security caused by rising temperatures and drought



6. Loss of livelihood and income in rural areas due to insufficient water resources and reduced agricultural productivity



7. Loss of marine ecosystems that are vital to coastal water areas



8. Loss of services provided by terrestrial and inland water ecosystems

