Developing partnerships on Sustainable Food Systems

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What the new strategy is about?

- Measures for achievement of Decarbonisation and Resilience with Innovation (MeaDRI), is the national strategy to achieve SDGs and sustainable food systems,

- The strategy was formulated in May 2021, following intensive discussions with stakeholders and public consultations.
Objectives of MeaDRI

(1) build **the basis for sustainable food systems**

(2) provide **healthy and nutritionally balanced dietary habits**,  
- enhance circular economy with more use of local resources and  
- improve livelihood/ job opportunities in rural areas

(3) contribute to **carbon neutral** via  
- reduction in the risk of chemical pesticides/fertilisers,  
- disseminate energy saving/precision technologies
Japan’s approach

- Japan conceptualises food systems from four stages;
  1) inputs  
  2) production
  3) processing/distribution  
  and 4) consumption.

- identifying challenges at each stage and encourage behavioural changes
Challenges for global food system

We need to achieve reducing environmental impact while increasing food production to meet the population growth.
Global cereal production and harvested area

(source: USDA 'PS&D' (Jan 2021))
Innovation is at the heart of “MeaDRI”

Examples of 141 technological areas
Timeline is provided for each of them

Accelerate Innovation

2020
Methane reduction through water management in paddy fields
Appropriate forest management, including thinning
Pinpoint pesticide spraying using drones

2030
Development of low methane emitting rice varieties
Increasing carbon sequestration by biochar
Development of feedstuffs to reduce N₂O from livestock waste
Introducing superior varieties and F1 plus trees in forestry seedling
Carbon sink by blue carbon

2040
Maintaining and improving health through nutritional food
Use of plastic-free production materials
Promotion of super plants with high CO₂ absorption capacity
Practical use of energy management systems for local production and consumption
Expansion of high-rise wooden buildings
Electrification of agricultural and forestry machinery and fishing boats, hydrogenation

2050
Healthy consumption
Scientific understanding of tasty and healthy food
Application of self-care food technology through AI analysis of consumer preferences, etc.

Optimised processing and distribution
Reduction of food loss through special freezing and packaging technologies
Optimisation of distribution through the use of data and AI

Reduction of GHG
Advanced use of biomass, including mass production and cost reduction of modified lignin
Use of bovines, which produce less methane

Reduction of chemical risk
Elucidation and full use of soil microbial functions
Use of biological agents effective against a wide range of pests

Sustainable food systems

Healthy consumption
Optimised processing and distribution
Reduction of GHG
Reduction of chemical risk
11 of KPIs have numerical goals on core components towards 2050

- **ZERO CO2 EMISSION** from fossil fuel combustion in agriculture, forestry and fisheries sectors
- Complete transition to fossil fuel-free horticultural facilities
- **50% ↓** in risk-weighted use of chemical pesticides
- **30% ↓** in chemical fertiliser use
- Organic farming **↑ to 25%** of farmlands (1 million ha)
- **30% ↑** of labor productivity in food manufacturing industries
- Halving food losses in the food business sectors ※1
- SGA ratio ※2 in the wholesale sector ↓ to 10% through optimised distribution. ※1
- **90%** and more superior varieties and F1 plus trees in forestry seedling
- Restore fish resources to the same level of catch as in FY2010 ※1
- **100%** of artificial seedling rates in aquaculture of Japanese eel, Pacific bluefin tuna, etc.

※1) 2030 goal  ※2) Selling, General and Administrative Expenses as a ratio of net sales

INNOVATION and behaviour changes of players are the keys to achieve these goals.
Transition to sustainable agriculture and food systems

EU – Japan joint statement,
- promote actions to support the necessary transition
- work together on robust solutions and pathways based on the diversity of our natural and societal circumstances as well as dietary cultures,
- acknowledging that agricultural innovation is key.
- Research and development, strengthening human capital and other related activities should be encouraged,
A technology for transition: Pest control

Pest diagnosis and pin-point spraying can also reduce pesticide use.

**Conventional method**

Pesticides are sprayed all over the crop fields.

**Pin-Point spraying with DRONEs**

1. Images captured with drones
2. Pests are identified with AI use
3. Pin-point spraying with drones

Reduce pesticide use by one tenth
A technology for transition: Accelerated Breeding

➢ Improving resource efficiency and productivity

Tomatoes with increased γ-aminobutyric acid (GABA) content

Potatoes with reduced solanine
※ under development

Wheat with resistance to pre-harvest sprouting (PHS)
※ under development

Thick and meaty sea bream with a lot of muscle mass

Data source: https://regional.fish/projects/post-4751/
Core of the sustainable food systems: a balanced diet

France-Japan Joint statement

To achieve global economic, social and environmental sustainability, a well-balanced diet based on

- diversity of safe and nutritious food which are sustainably produced
- consumed in appropriate quantity taking account of age and nutritional status,
- accompanied by comprehensive consumer information are essential.
Challenges for Asia-Monsoon region

➢ Small farmers constitute a vast majority of farms in Asia.
➢ The technology to resolve these challenges must be accessible for those small farms easily and widely.
➢ there is no one-size-fits-all solution

Data source:
Southeast Asia: OECD-FAO Agricultural Outlook 2017-2026 - © OECD 2017
Japan: Agricultural Census, 2015
Dialogues with stakeholders

- 63 dialogues for FSS were held
  including 22 MeaDRI high-level dialogues hosted by Minister, vice-ministers, parliamentary secretaries with a total 127 stakeholders.

And numerous bilateral dialogues with stakeholders have been organised to inform and implement this strategy.

- New round table council will be set up this autumn.
Thank you.