Initiatives for the Sustainable Agricultural Mechanization beyond COVID-19

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Agriculture is an essential industry to supply food to the people even amid the pandemic.

- In Japan, thanks to the collaboration among the authorities and stakeholders, the supply and retail systems for the staple article of food are steady as usual.

- On the other hand, having emerging issues like:
  - Expensive “Wagyu beef” producers are facing difficulties due to the decrease of demand from high-end restaurants.
  - Flower producers are affected by the decrease of demand from parties and/or funerals.
  - Lack of labor force in field workers due to the entry ban of foreigners.

→ Some supporting movement arose from hotel industries, airline companies and so on.
COVID-19’s impact on the agri-machine industry in Japan

◆ Shipment value of all agri-machines decreased by 15% from same period of previous year.

- Tractors  -22% in value, -19% in unit
- Rice Transplanters  -5% in value, -12% in unit
- Combine Harvesters  -10% in value, -17% in unit
- Dryers  -9% in value, -10% in unit

(Source: JAMMA’s statistics Jan.-Oct., 2020)
COVID-19 pandemic itself doesn’t directly affect the activities of agricultural production. Furthermore, there is no case of infection through the food.

On the other hand, the activities of agricultural production is extremely vulnerable due to its characteristics (to handle/get along with “natural environment”, “climate change”, “various creatures big & small”, etc.).
It would be indispensable to make the activities of agricultural production “Resilient” through various approaches from the expertise of Agricultural Machinery. That will certainly contribute on our activities for “Building Back Better” beyond COVID-19.

Thus, I suggest you, Agricultural Engineers, some initiatives toward addressing sustainable Agricultural Mechanization beyond COVID-19 shown below.

(These idea might be effective not only in Japan but other East Asian economies where mechanized farming has mostly achieved.)
Informal 3 Initiatives/Recommendations
(Fujimori’s private suggestion)

I) Make “Smart Agriculture” (already in implementation stage in Japan) much more expandable and sophisticate.
→ Achieve the acceleration of the labor hour minimizing and the ultimately precise operation with developing “Data-driven Intelligent” machines.

II) Come true some far-term (future conceptual) technologies (beyond “Smart Agriculture”, by “destructive innovation”).
• Totally unmanned farm operation
• Hyper weatherproof machine
• Perfect food value chain (no missing link and no loss)
III) Accident-free farm work. We still have about 300 farm work fatalities per year in Japan. Ensuring the safety of farm work is a very big policy issue.

→ Strengthen the survey and analysis activities, and build a safety-securing system targeting “zero accident” through the use of AI (Artificial Intelligence).

Your comments would be highly welcomed!

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Thank you for your attention!