What kind of activities do you plan to do on hardware aspects, such as data centers and energy, which are the major premises of AI and information utilization?

I think that securing information and energy is an important issue. But I would like to know the initiatives and challenges of the system as a whole, in terms of data utilization..

Thanks for your question. As you pointed out, infrastructure such as communications, clouds, and IoT devices are indispensable as a prerequisite for using information. I would like to explain mainly the efforts of the National Agriculture and Food Research Organization (NARO). As a system-wide overall initiative, NARO is building “NARO linked Database (DB)”. Various industrial sectors can avail aggregated data stored in **NARO Linked DB** with the API (Application Programming Interface) of the “Agricultural Data Linkage Platform” (commonly known as WAGRI). Currently, the number of WAGRI members is 85 companies, and it is increasing annually. We will continue to use this structure to promote the use of data in the agricultural field.

Communication also plays a vital role. In terms of communication and networks, we are working on 5G. At our “Agribio base”, we are trying to transfer big sensor data collected at the fields with high-capacity transmission technology. In addition, NARO has concluded a partnership agreement with telecommunications companies, and is promoting the spread of on-site information utilization technology while cooperating on hardware aspects such as cloud computing and IoT devices.

We considered the power consumption of data center to create an effective Business continuity planning (BCP), although there are no outstanding initiatives for power saving in the case of utilizing data.

How does the variation in "cultural diets" influence chronic diseases?

The Japanese diet is a nutritionally balanced diet, which consists of rice as a staple food and a variety of side dishes with ingredients/raw materials such as fish, meat, milk/dairy products, vegetables, seaweed, beans, fruits, and tea etc., However, the result of the systematic review showed that increased intake of vegetables, fruits, and fish, and decreased intake of meat and salt reduce the cardiovascular disease (CVD) mortality risk (1). Consumption of vegetables and fruits, and fish reduced the risk of CVD in various countries. Dietary fiber has been shown to lower serum cholesterol. Vegetables and fruits are the leading sources of dietary fiber, potassium, and antioxidant vitamin, and these components are suggested to contribute to the risk reduction of chronic diseases and CVD mortality. The n-3 polyunsaturated fatty acids DHA/EPA contained in fish oil are known to lower serum triglycerides which may contribute to the reduce the risk of CVD.
Please check the following paper on possible foods and components that may reduce the risks of chronic diseases and CVD mortality.

(1) Shirota M, Watanabe N, Suzuki M, Kobori M. Japanese-Style Diet and Cardiovascular Disease Mortality: A Systematic Review and Meta-Analysis of Prospective Cohort Studies. Nurients. 2022;14(19):2008. doi: 10.3390/nu14102008.