

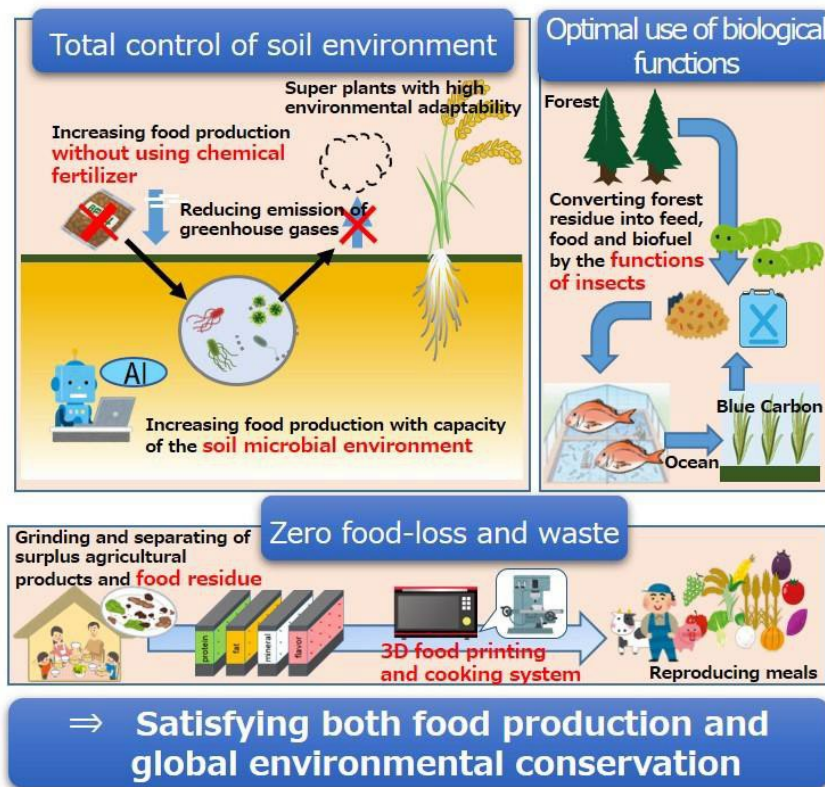
(Annex 1)

<Moonshot Goal 5>

Creation of food supply industry that enables sustainable global food supply with no overburden nor waste by full use of unutilized biological resources by 2050

<Targets>

- By 2050, fully utilize functions such as microorganisms and insects, and develop a complete resources recycling food production system.
- By 2050, develop solutions that eliminate food loss and waste and promote healthy and environmentally friendly reasonable food consumption.
- By 2030, develop and demonstrate a prototype of the above systems, and promote discussion on ethical, legal, and social implications (ELSI) in parallel to globally spread the systems by 2050.



[Reference]

<Related area and vision>

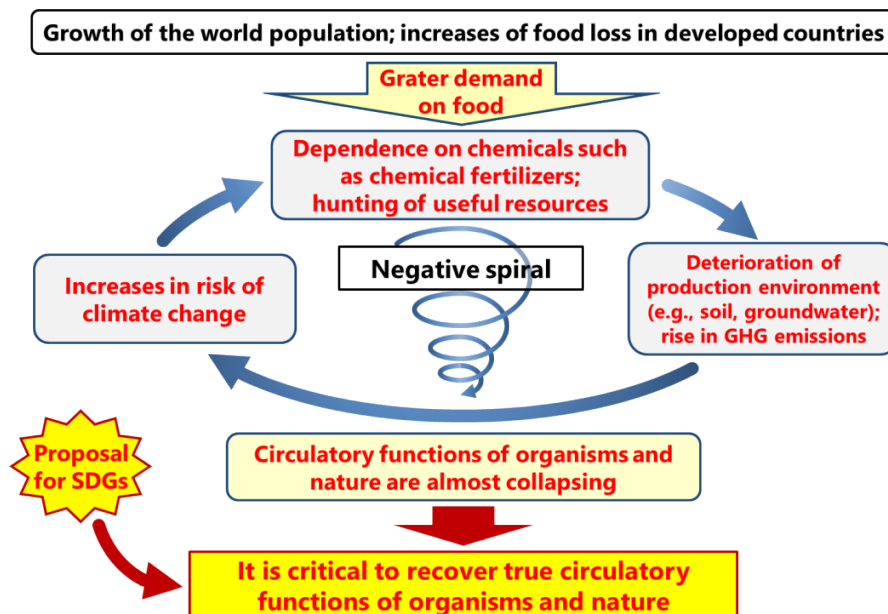
Area: "Develop urban civilization while recovering the global environment"

Vision: "Complete circulation of resources", "Coexistence with nature"

[Reference]

<Background of target setting>

- Due to global population growth, the demand for grain is expected to reach 1.7 times the current level by 2050, and the tight supply and demand for food is inevitable.
- Frequent occurrence of abnormal weather due to global warming, depletion of fertilizers and groundwater for irrigation will progress.
- Organic matter, which is the source of food, circulates as crops, foods, matters of emission, soil matters, and others, but the breakdown of the cycle will adversely affect the global environment, such as climate change and obstacles for food supply sustainability.
- Extensive use of chemical fertilizers and pesticides made from limited mineral resources adversely affects the natural circulation.
- In the future, it will become more and more important to create socio-economic activities that make the most of the original nature and biological functions and are free from overburden and waste.
- Regarding insects, soil microorganisms, and microorganisms in the human body, and others it is presumed to exist many unused functions, and it is necessary to systematize new socioeconomic activities that utilize these functions.



<Society aimed at by Moonshot>

- Respond to global population growth and contribute to the conservation of the global environment by constructing a global-scale food production system free from overburden and by devising cyclical use of finite earth resources and sequestration and storage of carbon in a natural circulation.
- Eliminate food loss and realize a society with food consuming without waste.
- Realize a society in which the earth's indigenous biological and natural circulation function smoothly without depending on artificial materials.