



## Preface

Over the past fifty years, Japan has experienced an economic, social and cultural revolution backed up by rapid technological advancement. During this period, Japan has destroyed and polluted the surrounding environment while failing fully to utilize domestic natural resources and abandoning agricultural industries. In recent years, there has been a decline in the workforce and a drop in the GDP due to the decreasing population and aging society, generating concern. Particularly, it is projected that in the future, the agriculture, forestry and fisheries industries will face increasing difficulty resulting from this decreasing workforce and the promotion of trade liberalization. The agriculture, forestry, and fisheries industries have played an important role in providing ecosystem services. This alarming situation has forced us to discuss, as a high-priority issue, an ideal nature-harmonious society where natural benefits (ecosystem services including provisioning, regulating, cultural and supporting services) are effectively used without impairing the value of biodiversity and ecosystems.

Historically, through management and maintenance carried out by local communities based on traditional knowledge and customary practices, the *satoyama* and *satoumi* in Japan provided ecosystem services needed for human livelihood in the region (e.g., charcoal wood, fertilizer, water, salt, algae and marine products). They also generated harmony between human activities and the natural environment, at least up until a certain point in time. Thus, the *satoyama* and *satoumi* ensured a certain degree of sustainable relationship between humans and nature. In addition, the *satoyama* and *satoumi* were formed in local communities traditionally and historically. In these ways, the *satoyama* and *satoumi* can be referred to as traditional “commons.” Nevertheless, since the Meiji era, most *satoyama* areas have undergone a decline in human use due to an increase in chemical fertilizer use and have been replaced with artificial conifer forests. Furthermore, the energy revolution and fertilizer revolution in the 1960s followed by importation of low-priced agricultural and marine products over the past several decades have deprived domestic agricultural and marine products of market value and impaired incentives for the use and management of the *satoyama* and *satoumi*. Thus, the traditional *satoyama* and *satoumi* have been endangered to the verge of collapsing.

Marking the end of high economic growth, Japan has reflected on the destruction of its environment and issues of pollution. At the same time, the general citizenry has become more aware of the importance of conserving the natural environment. An increasing number of people have pursued “spiritual abundance” rather than “material abundance” and have drawn attention to the therapeutic effects as well as spiritual, cultural and social aspects provided by the *satoyama* and *satoumi*. In other words, in addition to material values provided by the *satoyama* and *satoumi*, immaterial values have also been reevaluated. In the midst of this, a review of sustainable traditional “commons” that represent a Japanese conventional *satoyama* and *satoumi* management practice at the regional level is required. Simultaneously, there is a need for reappraising ecosystem services provided by the *satoyama* and *satoumi* with consideration of current globalization, international competition and global environmental changes. Thus, it is necessary to design a system of a “new commons” to reconstruct a nature-harmonious society based on regional needs in collaboration with various private entities such as local inhabitants, municipalities, and NPOs.

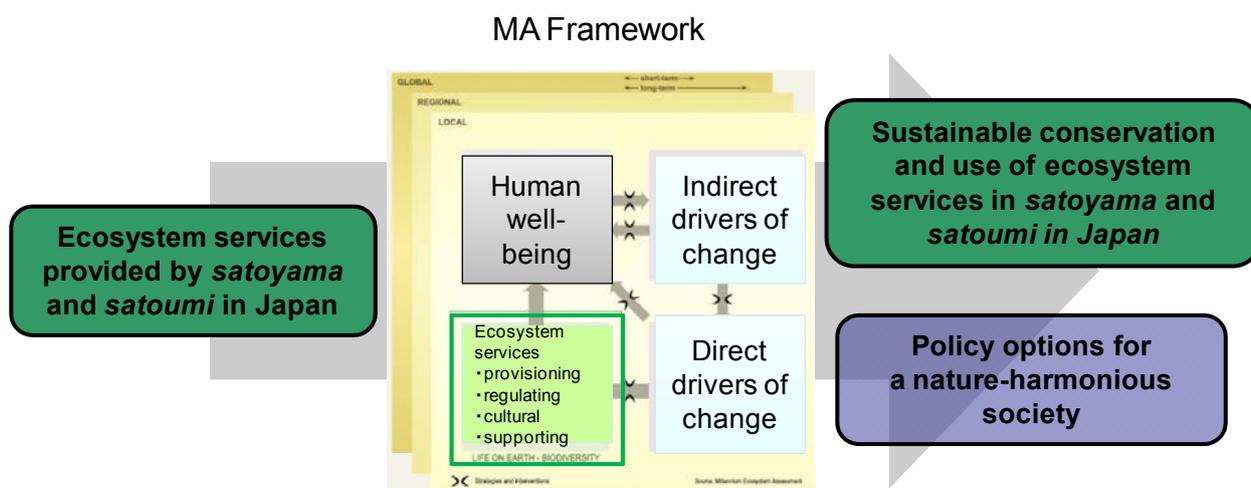
Many individuals and organizations have proposed a variety of definitions for the concept of the *satoyama* and *satoumi* based on their respective standpoints or fields of specialty. The Japan *Satoyama Satoumi* Assessment (JSSA) carried out between 2007 and 2010 reviewed and examined various existing definitions to establish a uniform definition in cooperation with more than 200 authors, involved people, and reviewers including international researchers. Based on the concept of ecosystem services that has been developed in the Millennium Ecosystem Assessment, the JSSA defined the *satoyama* and *satoumi* as follows: *Satoyama* and *satoumi* landscapes are dynamic spatial mosaics of managed socio-ecological systems that bring about various ecosystem services for human well-being (Duraiappah *et al.*, 2012).



The current globalized society has become more aware of the risks of the impact of global changes, including climate change, food crises, and financial crises. In this society, there are many different conflicting viewpoints, such as those critical of the history of exploitation of nature by humans, others having nostalgia for the good old days, and others expressing optimism for a bright future. In order to overcome these conflicts and explore a nature-harmonious society, it is important to make a scientific and objective assessment of ecosystem services produced by the *satoyama* and *satoumi* to propose a political method for managing the *satoyama* and *satoumi* as a new commons. To achieve this goal, basically, this special edition has developed discussions according to the definition of “*satoyama*” and “*satoumi*” examined in the JSSA as a comprehensive definition incorporating viewpoints from various fields based on the concept of ecosystem services. (There are several variations depending on the authors.)

This special edition has been compiled with the following objectives: to add political standpoints and international viewpoints to the research results of the Environment Research and Technology Development Fund of the Ministry of the Environment (E-0902) “Assessment of *Satoyama/Satoumi/Satochi* Ecosystem Services and Reconstruction of a Nature-Harmonious Society by a New Commons” and to reevaluate ecosystem services produced by the *satoyama* and *satoumi* in Japan to deepen discussion regarding how to manage and utilize these ecosystem services in a sustainable manner. This project was carried out for three years from FY2009. The objectives of the project were to assess ecosystem services provided by the *satoyama* and *satoumi* in Japan and to suggest political options for establishing a nature-harmonious society by proposing a method for sustainably using ecosystem services while conserving biodiversity as a new commons.

Specifically, this project has adopted the conceptual framework of the Millennium Ecosystem Assessment (MA) to evaluate various elements comprehensively such as changes in ecosystem services produced by the *satoyama*, *satoumi* and *satochi* in Japan, the direct and indirect drivers of these changes, and the impact on human well-being (Fig. 1). Based on that, this project has gone on to discuss an optimal allocation level and optimal management standard for the use of various resources that allow for the provision of these resources without impeding biodiversity and regulating services. In addition, it has clarified the use of ecosystem services as a commons, the sustainability of the commons, and the history and changes of the commons to extract cultural values and interactions that contemporary people expect from the *satoyama* and *satoumi*. Thus, this project has examined policy options for the reconstruction of a sustainable nature-harmonious society. I hope that this special edition helps readers to obtain deep insight about ecosystem services provided by the *satoyama* and *satoumi* and that it provides an awareness of the implications of exploring a path to a nature-harmonious society.



**Fig. 1** Sustainable management of the *satoyama* and *satoumi* in Japan using MA framework.