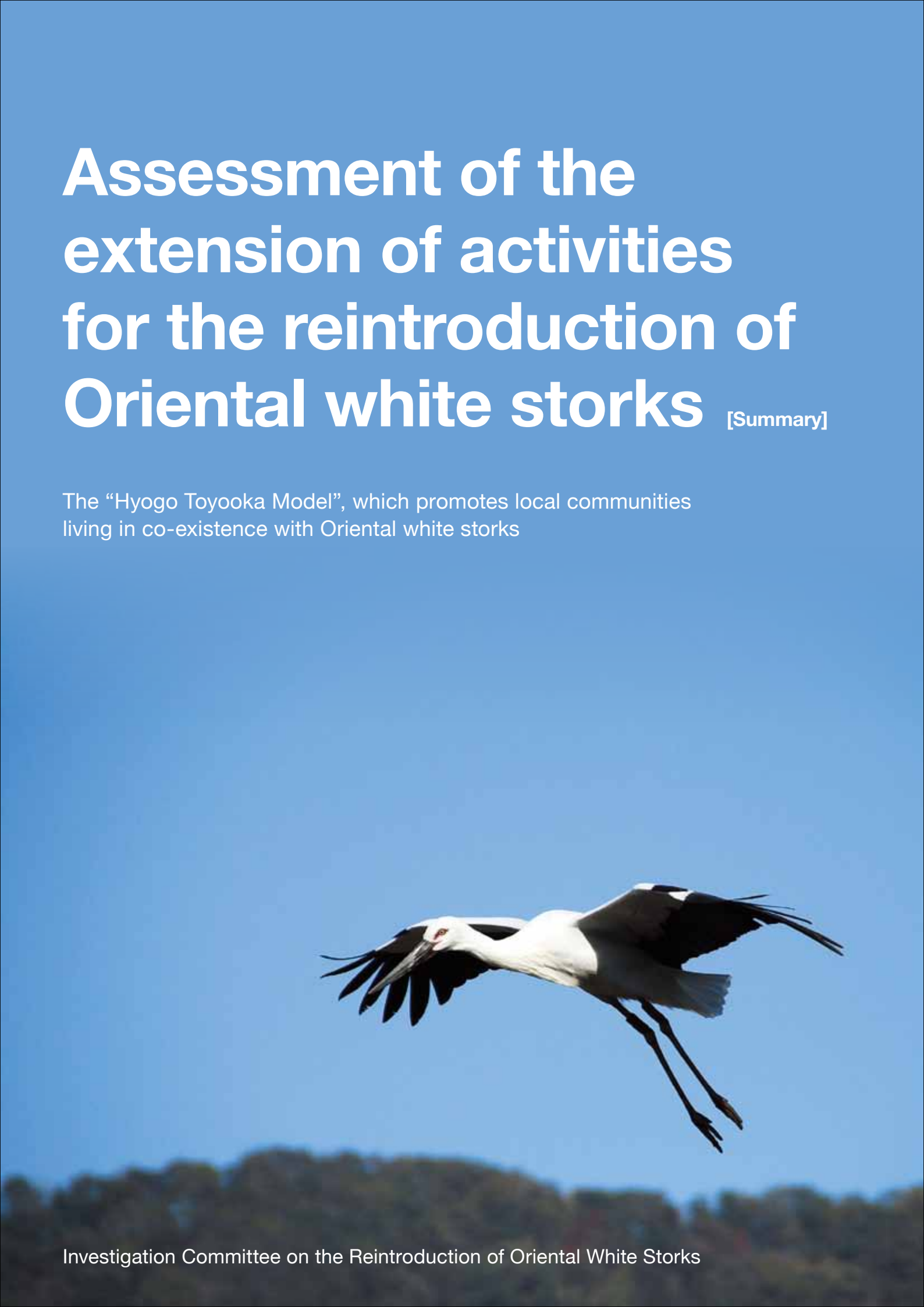
# Assessment of the extension of activities for the reintroduction of Oriental white storks [Summary]

The “Hyogo Toyooka Model”, which promotes local communities living in co-existence with Oriental white storks



Investigation Committee on the Reintroduction of Oriental White Storks

## About this assessment project

Activities for the “Reintroduction of the Oriental white storks”, which is Japan’s first case of the reintroduction of an animal that has become extinct in this country, have been developed in Toyooka City and the surrounding area (hereinafter referred to as the Toyooka region). Here, the Hyogo Prefectural University specialized institution for storks called the Hyogo Park of the Oriental White Stork that leads the activities, government agencies, community residents, and companies in various fields have worked together to develop these activities, which have made it possible for over 70 Oriental white storks to inhabit the area in the wild as of 2013.
The aim of this project is to contribute to the progress of future activities including the extension of these activities to other areas. A third-party committee will consist of six government agencies that are deeply involved in these activities (i.e. Agency for Cultural Affairs, Ministry of Land, Infrastructure, Transport and Tourism, Ministry of Agriculture, Forestry and Fisheries, Ministry of the Environment, Hyogo Prefecture, and Toyooka City) and will become cooperating partners to assess the process of the progress of these activities at this time from the viewpoint of public measures and to clarify various issues.

In this project, the process and mechanism used in the extension of the activities were analyzed, by reviewing past activities carried out in the Toyooka region for the creation of local communities living in co-existence with the Oriental white storks.
In addition, the progress of the activities was evaluated to clarify the current issues, and the features of the mechanism for the expansion of activities carried out in the Toyooka region were classified, reviewed and then compiled as the “Hyogo Toyooka Model”.

# Introduction

## 1. Background and development of the activities "The Oriental white stork, which is both an auspicious bird* and also causes harm to crops, and the Maruyama River, which causes both floods and gives natural blessings"

In the Toyooka region, "living with nature" activities have been organized over the years which, are accompanied by the fact that the region is at the mercy of harsh natural conditions such as the flooding of the Maruyama River, etc., but which is sometimes used for practical purposes (e.g. making of wicker baskets using *Salix integra*, a species of willow that inhabits the wetlands along the river, etc.).

A bird called the Oriental white stork, which used to inhabit the region in large numbers, is also a symbol of this region that places importance on co-existence with nature, although there were contradictions in this relationship (Oriental white storks are considered a harmful bird because they sometimes trample on seedlings in the rice fields, as well as being an auspicious bird that at the same time is loved for its graceful appearance).

However, during the course of modernization and the pursuit of economic growth and improvements in convenience, people and nature have become less involved with each other and the number of Oriental white storks in the Toyooka region, the last surviving storks in Japan, declined rapidly after the war. They were designated a special national treasure in 1956 and disappeared from the wild in 1971.

In the Toyooka region, a systematic conservation movement has been implemented jointly by the public and private sectors since 1955, artificial incubation was started by Hyogo prefecture in 1965, and a research institution for Oriental white storks called the "Hyogo Park of the Oriental White Stork" was opened in 1999. In this way, activities for the protection, breeding, and reintroduction of Oriental white storks have been promoted for more than half a century based on the efforts of the people in local communities.

Since 2005, the release of Oriental white storks into the wild has been implemented on a trial basis by the Hyogo Park of the Oriental White Stork. Activities for the reintroduction of Oriental white storks in the Toyooka region have developed significantly through the stages of its disappearance in the wild, protection and breeding, reintroduction, and local community involvement (along with the strengthening of these communities).

The reintroduction of Oriental white storks is an activity that has no precedent in the world in which birds have been reintroduced once they disappeared from areas of human habitation. In order to reintroduce Oriental white storks to areas of human habitation, it was necessary for the residents of these communities to accept them, understand the importance of creating local communities where people and Oriental white storks can live together, and promote cooperative activities among the communities.

* Auspicious bird: A bird that is said to be a sign of an auspicious event


Location of Toyooka City and the surrounding area

Maruyama River and the urban area of Toyooka

## 2. Current status of the progress of the activities "Success of the structural design through collaboration among scientists, governments, and the regional society"

A major feature of activities in the Toyooka region is that collaboration among (1) the scientists concerned with Oriental white storks, (2) the local governments, and (3) the regional society (communities) became the driving force for the expansion of the activities.

The "Governments" sincerely accepted requests from the "Scientists" concerning Oriental white storks and have developed technologies and measures that can be adopted by the "Community", by taking various situations into consideration. In addition, against the background of the regional climate (geography, history/culture, nature, disasters, human modifications, etc.), it can be considered that the "Community" understood the knowledge provided by the "Scientists" concerning Oriental white storks and developed various cultural and social activities for community revitalization.

The progress of these activities varies depending on the field, target and contents. They have not always progressed well, however, the progress has been steady. For example, the area of wetlands along the Maruyama River has increased (approx. 127 ha as of 2012) with a target of 154 ha, which was size of the area of wetlands around 1930. In the field of agriculture, "Stork Friendly Farming", which is a typical form of organic farming aimed at creating an environment that the Oriental white storks can safely inhabit, has been expanded to approximately 8.8% of the area of rice paddies in Toyooka City as of 2012. Moreover, Oriental white storks have become adopted into the regional society, such as by displaying their image on signs and use of the name or image as part of the name of a product or a shop.

While these various activities have expanded, other targets that could not be achieved through the past activities and issues caused by the progress of these activities have been clarified.

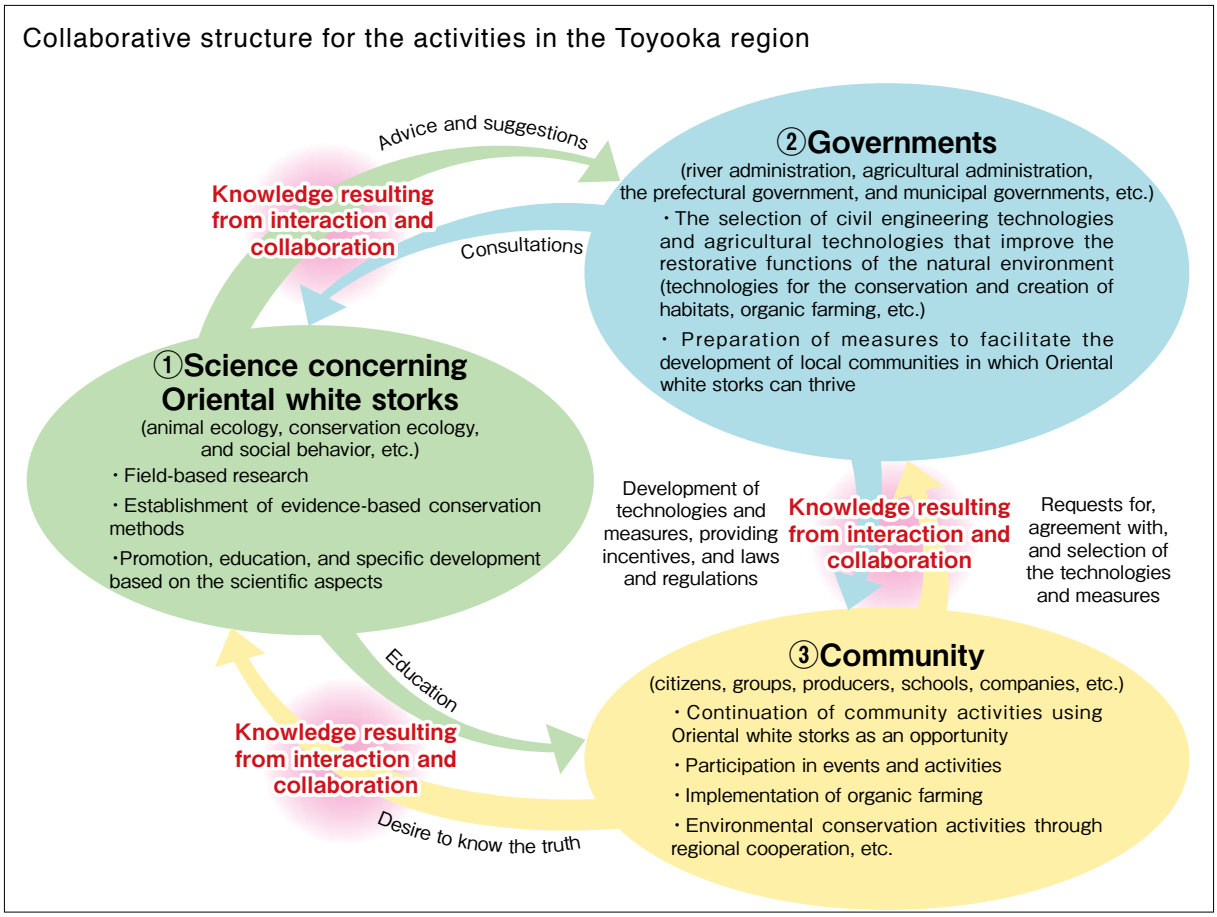



Figure: Overview image of the structure to support the development of activities for the reintroduction of Oriental white storks in the Toyooka region

# Overview image of the assessment

## 1. Purpose of the assessment
"Further progress of the activities in this region and use of the activities for the promotion of similar activities in other regions"

The purpose of this assessment is to contribute to the following activities by reviewing past activities carried out in the Toyooka region and analyzing the processes and mechanisms of how they have been expanded with the involvement of many people, with the focus on representative areas of activities for the reintroduction of Oriental white storks.

(1) Further promotion for developing local communities where Oriental white storks can thrive by identifying issues from the current status of the activities and clarifying the future direction

(2) It is expected that these activities will be used for the promotion of similar activities carried out in other regions.

Based on the analysis and assessment, the features of the mechanisms for the expansion of activities to create local communities living in co-existence with Oriental white storks carried out in the Toyooka region through cooperation among various collaborators/parties are classified and compiled as the "Hyogo Toyooka Model".

## 2. Scope of the assessment
"Public measures (rivers, agriculture, and community) are the target."

In this project, the expansion and progress of public measures taken in the fields of rivers, agriculture, and community, which are the representative fields of these activities, will be analyzed and assessed as the targets. Therefore, activities carried out in scientific fields will not be analyzed and assessed regarding their scientific aspects.
On the other hand, since these scientific fields are the core of activities for Oriental white storks carried out in the Toyooka region, issues and directions for the "creation of local communities living in co-existence with Oriental white storks" related to scientific fields will also be classified.

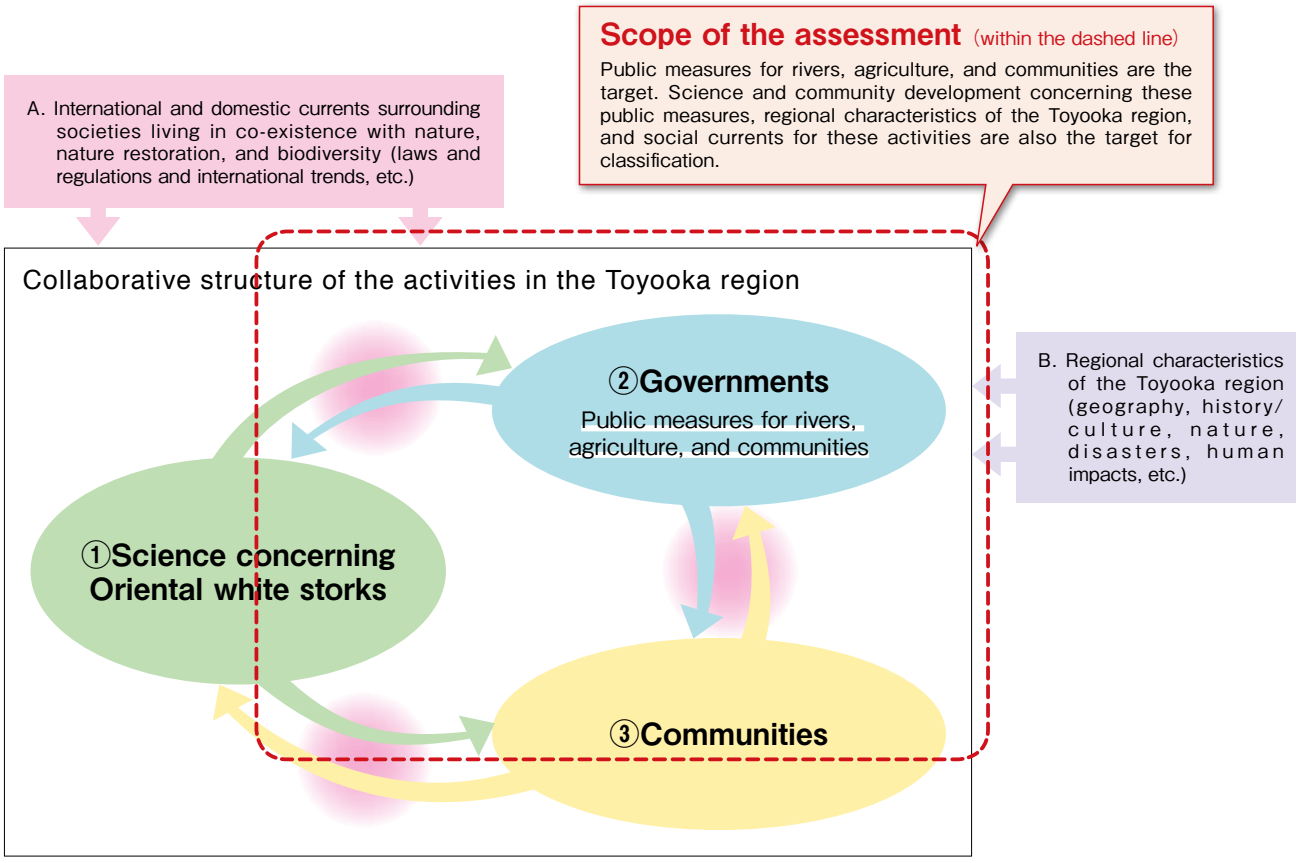



Figure: Scope of the assessment


Note: extracted from the website of Machida City, Tokyo

Love of living creatures


Note: extracted from the website of Chikuma City

Love of hometown

## 3. Analysis and assessment method
## Analysis focusing on the "cycle of sympathy for living in this region"

### I. Analysis

It can be considered that the presence of Oriental white storks as a symbol has had a huge effect on the development of activities for creating local communities living in co-existence with nature carried out in the Toyooka region. However, it is not enough to analyze the causes of such development. Therefore, we tried to perform an analysis focusing on "sympathy" as the axis of the evaluation.

As perspectives (survival principles) by which people confirm their existence and seek a better life, it is said that they include the "love of animals and nature (Biophilia[*1])" (hereinafter referred to as the "love of living creatures") and the "love of the hometown (Topophilia[*2])". It is also said that people take action to seek stability if their minds are destabilized.

For people in the Toyooka region who have lived under the imperative to prepare for "Overcoming disasters[*3]", a breakdown in the relationships between people and nature and the disappearance of Oriental white storks, which symbolized such a breakdown, must have caused a sense of anxiety about living in this region.

As the background to the progress of activities for the reintroduction of Oriental white storks, it can be considered that there is a factor of ensuring stability based on the "desire for a stable life" (economic stability) in addition to stability based on the "love of living creatures" and "love of the hometown", and the activities have expanded through a reinforcing cycle of sympathy as a result.

Moreover, it is considered that this cycle of sympathy has enabled people involved in the activities to rediscover a feeling of satisfaction and happiness with their lives and identification with life in Toyooka.

Based on this, the love of living creatures, love of the hometown, and the desire for a stable life are expressed as the "survival/life principle".

**《Points of sympathy for seeking a better life》**

(1) Love of living creatures = Biophilia
(Love of nature symbolized by Oriental white storks)
(2) Love of the hometown = Topophilia
(Love of a place "Toyooka")
(3) Desire for a stable life

In this project, an analysis designed for the expansion of the activities will be conducted by examining numerical determining factors in relation to the activities from the viewpoint of what a better survival/existence principle is, and conducting interviews with concerned people about the expansion of and their connection with the activities.

### II. Assessment

By evaluating the progress of the activities in each representative field, the remaining current issues, additional identified issues, and the future direction (over about the next 10 years) for creating local communities living in co-existence with Oriental white storks will be determined.

In addition, based on the Aichi Biodiversity Targets (20 individual targets) (CBD-COP[*4] 10, Aichi, October 2010) which are action plans to be implemented by 2020 towards the realization of "a world living in co-existence with nature" by 2050, the future direction of the activities will be determined by evaluating the progress of public measures carried out by the government agencies related to the Toyooka region in comparison with the Aichi Biodiversity Targets, in order to promote further activities to stimulate the implementation of activities to create local communities living in co-existence with nature.

*1: Advocated by Edward Wilson (1929-, U.S.A., sociobiology) and others. Affinity for animals and nature
*2: A concept advocated by Yi-Fu Tuan (1930-, U.S.A., geography). Love of a place
*3: To live in a region with the help of the forces of nature in preparation for disasters
*4: Conference of the Parties to the Convention on Biological Diversity

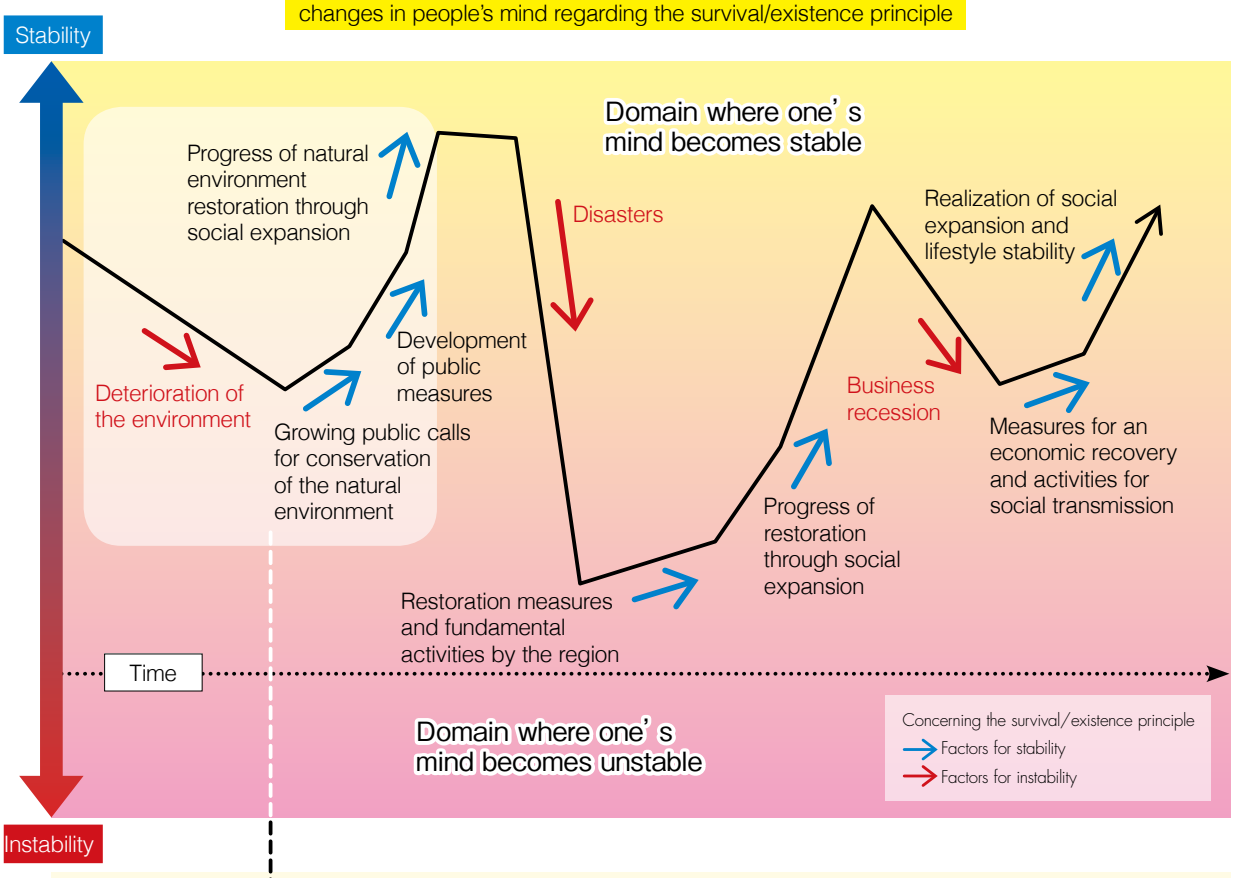

Note: Provided by Toyooka City

Desire for a stable life

Examples of activities for the stability of a better survival/existence principle

Left: Exchange project for environmental greening between Yamamoto-cho, Watari-gun, Miyagi (an area affected by the Great East Japan Earthquake) and Machida City, Tokyo
Center: Conservation of an important cultural landscape (cultural property), and a rice terrace in Obasute, Chikuma City
Right: Revitalization of the regional economy using the regional characteristics

Figure: Image of the relationship between efforts and changes in people's mind regarding the survival/existence principle




## Analysis methodology used in this project

[Analysis]

・Analyze the relationship between numerical changes and factors affecting the stability/instability of the activities.
・Analyze the structural connections among the parties from specific examples of the activities and identify other connection factors (challenges and exchanges, etc.).

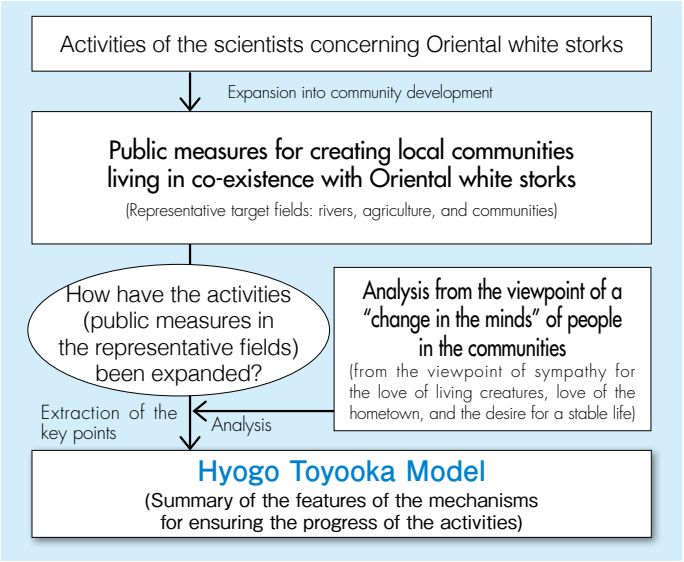
Features of the requirements for the progress of activities that emerged from the analysis

→ **Hyogo Toyooka Model**

## 4. Process of the assessment

In this project, activities carried out in the Toyooka region and the expansion of these activities were classified and assessed according to the flow in the diagram below.
In addition, based on the assessment results, "recommendations for the further development of the activities" are summarized for the Investigation Committee on the Reintroduction of Oriental White Storks.
In this document, an outline of the analysis and the summary of and recommendations for the Hyogo Toyooka Model will be introduced.

**《Viewpoint of the analysis》**




**[Background to the activities]**

In addition to the regional characteristics such as the geography, history/culture, nature, disasters, industry, etc., it is considered that communities formed through a lifestyle facing the natural environment of the Toyooka region have had a great impact on the progress of the activities to create local communities living in co-existence with Oriental white storks carried out in the Toyooka region. Therefore, the background to the progress of the activities was classified.

**[Classification of the activity results]**

The development and results of activities carried out in the representative fields (rivers, agriculture, and communities) were classified. Regarding the background of activities in each field, events that have an impact on the region (e.g. flooding of the Maruyama River, etc.), social trends for nature restoration, and the time relationship with the related laws and regulations were described.
In addition, related government agencies carry out self-inspection of activities in each representative field and identify the remaining issues and additional issues at present time, to examine future direction.

**[Analysis of the activities]**

Key points of the expansion and connection of the activities in the representative fields were extracted by analyzing them from the viewpoint of "sympathy for the love of living creatures, love of the hometown, and the desire for a stable life". The key points could be divided into 4 processes, i.e. "awareness", "sharing of a future image", "transition to a social movement", and the "cycle of sympathy".

**[Evaluation of the progress of the activities]**

In order to objectively understand the progress of public measures carried out by the government agencies related to the Toyooka region, an evaluation was implemented in comparison with the "Aichi Biodiversity Targets" adopted in the CBD-COP10. In addition, by comparing each target with the results of self-inspection by related government agencies and summarizing them, the direction of future activities over the next 10 years was classified.

**[Summary of the Hyogo Toyooka Model]**

Features of the mechanisms to ensure progress of the activities were compiled.

**[Recommendations for making further progress in relation to the activities]**

## 5. Use of the achievement summary

The achievement summary will be continuously disseminated through public relations materials created by the cooperative collaborator/parties i.e. (Agency for Cultural Affairs, Ministry of Agriculture, Forestry and Fisheries, Ministry of Land, Infrastructure, Transport and Tourism, Ministry of the Environment, Hyogo Park of the Oriental White Stork, and Toyooka City), on their websites and at conferences.
The achievement summary is scheduled to be announced at CBD-COP12 (October 2014, Korea) as a case of activities responding to the "Aichi Biodiversity Targets".

**《Reference: Aichi Biodiversity Targets and national targets towards the achievement of the Aichi Biodiversity Targets, etc.》**

○Aichi Biodiversity Targets (from CBD-COP10 adoption)

| | |
|---|---|
| Strategic Target A | Respond to the underlying reasons for the loss of biodiversity by mainstreaming biodiversity in each government and each society |
| Target 1 | People need to recognize the values and actions in relation to biodiversity. |
| Target 2 | Integrate the values of biodiversity into national/regional plans and into the national accounts and reporting systems where appropriate |
| Target 3 | Abolish or reform subsidies and other incentive systems that have an adverse effect on biodiversity, and develop and apply positive incentive systems |
| Target 4 | Implementation by all parties involved of plans for sustainable production and consumption |
| Strategic Target B | Reduce direct pressures on biodiversity and promote the sustainable use of biodiversity |
| Target 5 | Reduce the loss of natural habitats such as forests by at least half and close to zero if possible, and noticeably reduce their degradation and fragmentation |
| Target 6 | Sustainable harvesting of marine resources |
| Target 7 | Sustainably manage agriculture, aquaculture and forestry |
| Target 8 | Reduce pollution to harmless levels |
| Target 9 | Regulate and eradicate invasive alien species |
| Target 10 | Minimize the adverse effects on ecosystems that are vulnerable to climate change or acidification of the oceans, such as coral reefs |
| Strategic Target C | Improve the status of biodiversity by safeguarding ecosystems, species, and genetic diversity |
| Target 11 | Conserve 17% of inland areas and 10% of ocean areas as protected areas, etc. |
| Target 12 | Prevent the extinction or decline of threatened species |
| Target 13 | Maintain the genetic diversity of crops and livestock animals, and minimize their loss |
| Strategic Target D | Enhance the benefits Enhance the benefits received from biodiversity and ecosystem services to public/everyone biodiversity and ecosystem services |
| Target 14 | Provide, restore, and conserve the benefits of nature |
| Target 15 | Contribute to climate change mitigation and adaptation through the restoration of at least 15% of degraded ecosystems |
| Target 16 | Enforce and operate the Nagoya Protocol on ABS |
| Strategic Target E | Strengthen implementation through participatory planning, knowledge management, and capacity building |
| Target 17 | The contracting parties shall develop and implement an effective national strategies of participatory. |
| Target 18 | To respect and mainstream and mainstream traditional knowledge |
| Target 19 | Improve knowledge and scientific technology for biodiversity |
| Target 20 | Significantly increase financial resources from the current level for the effective implementation of the national strategy |

## ○National targets towards the achievement of the Aichi Biodiversity Targets

| Strategic Targets | National Targets | Key action goals | | Aichi Targets |
|---|---|---|---|---|
| **Strategic Target A** Respond to the underlying causes of the loss of biodiversity | **A-1** Achieve the "mainstreaming of biodiversity across the society", etc. | A-1-1 | Enhance and strengthen publicity, education, and public awareness on biodiversity | 1 2 3 4 |
| | | A-1-2 | Promote initiatives to visualize biodiversity services through the economic assessments | |
| | | A-1-3 | Promote the formulation of Regional Biodiversity Strategies and practical initiatives by local municipalities. Formulate and revise the Strategies on Regional Biodiversity by 2013 | |
| | | A-1-4 | Promote the formulation of strategies and plans by the national government and local municipalities that incorporate the consideration of biodiversity, give consideration to the effects of incentives on biodiversity, and implement incentives that take biodiversity into consideration | |
| | | A-1-5 | Establish and announce policies for sustainable business activities and encourage their implementation | |
| **Strategic Target B** Improve initiatives to minimize initiatives human-induced pressures that degrade ecosystems and promote sustainable use | **B-1** Reduce the rate of the loss of natural habitats, as well as their degradation and fragmentation | B-1-1 | Establish methods and baselines for determining the rate of the loss of natural habitats and their state of degradation and fragmentation by the midterm evaluation of the Aichi Biodiversity Targets (that is scheduled to be in 2014 or early 2015) | 5 |
| | | B-1-2 | Carry out initiatives to reduce the degradation and fragmentation of natural habitats by 2020, etc. | |
| | | B-1-3 | Overhaul the enforcement status of the Wildlife Protection and Hunting Management Law by 2015, etc. | |
| | | B-1-4 | Promote initiatives to prevent damage to agricultural crops and measures to combat damage to forests caused by wildlife, etc. | |
| | **B-2** Engage in agriculture, forestry, and fisheries that ensure the conservation of biodiversity in a sustainable manner | B-2-1 | Promote initiatives that seek a balance between production-related activities and the conservation of biodiversity, such as the maintenance of sustainable agricultural production and the management of production bases, etc. | 6 7 |
| | | B-2-2 | Continuously exhibit the multifunctionality of forests, and promote monitoring surveys on forests, etc. | |
| | | B-2-3 | Promote initiatives that seek a balance between sustainable agriculture and the conservation of biodiversity, etc. | |
| | | B-2-4 | Implement initiatives to create Satoumi areas that are in harmony with nature | |
| | **B-3** Improve upon the state of contamination from nitrogen, phosphorous, and other pollutants, conserve marine organisms, and increase productivity, etc. | B-3-1 | Eliminate nutritive salts and organic pollutants from river basin areas while also implementing the seventh total pollutant load elimination by March 2015 | 8 |
| | | B-3-2 | Examine environmental standardization with respect to lower levels of Dissolved Oxygen (DO) for the conservation of aquatic life and water transparency for the conservation of aquatic plants by 2014, etc. | |
| | | B-3-3 | Carry out investigations and studies aimed at establishing management policies in order to maintain habitat environments | |
| | **B-4** Identify invasive alien species, organize information pertaining to the routes by which the species establish themselves, examine the priority for the control of these species, and systematically promote the control of their populations, based on the results of an examination of the enforcement status of the Invasive Alien Species Act | B-4-1 | Create a list of invasive alien species and organize information pertaining to the routes by which the species establish themselves by 2014, etc. | 9 |
| | | B-4-2 | Establish the conceptual basis for the order of priorities for the control of species, promote efforts such as their systematic control, and formulate the "Action Plan to Prevent Damage from Alien Species" (tentative name) by 2014 | |
| | | B-4-3 | Regulate or eradicate high priority invasive alien species, while also making progress in restoring the habitation status of rare species as well as restoring ecosystems to their original state through these activities | |
| | **B-5** Promote initiatives towards minimizing human-induced pressures | B-5-1 | Identify human-induced pressures on ecosystems that are vulnerable to climate change such as coral reefs, seagrass beds, tidal flats, islands/islets, and subalpine/alpine areas by 2013. Establish the ecologically permissible values for these human-induced pressures and institute initiatives in order to achieve these ecologically permissible values by 2015 | 10 |
| **Strategic Target C** Improve the status of biodiversity by safeguarding ecosystems, species, and genetic diversity | **C-1** Appropriately conserve and manage 17% of inland areas and 10% of ocean areas | C-1-1 | Sort out methods, baselines, and the current status in order to determine the status of conservation and management by the midterm evaluation for the Aichi Biodiversity Targets (that is scheduled to be in 2014 or early 2015) | 11 |
| | | C-1-2 | Examine areas to identify regions that are conducive to the conservation of biodiversity and promote their appropriate conservation and management | |
| | | C-1-3 | Examine the implementation methods for ecological networks and move forward with developing the formulation of these at various different spatial levels, etc. | |
| | | C-1-4 | Select important marine areas and examine the needs and methods for conservation by 2014 | |
| | **C-2** Prevent the extinction of species that are highly endangered and maintain the genetic diversity of crops, livestock animals, and other organisms | C-2-1 | Collect knowledge concerning threatened species, and organize and periodically review the Red Lists, etc. | 12 13 |
| | | C-2-2 | Designate national endangered species of wild fauna and flora and promote initiatives for their conservation and propagation, etc. | |
| | | C-2-3 | Promote infrastructure development in order to prevent the extinction or decline of threatened species, etc. | |
| | | C-2-4 | Promote the return to the wild and ex-situ conservation of species such as the Japanese crested ibis and the Tsushima leopard cat, etc. | |
| | | C-2-5 | Create networks for the conservation of plant genetic resources, etc. | |
| **Strategic Target D** Enhance the benefits received from biodiversity and ecosystem services | **D-1** Strengthen the benefits received from biodiversity and ecosystem services through the conservation and restoration of ecosystems | D-1-1 | Establish sustainable forest management and promote the development and conservation of diverse and healthy forests, etc. | 14 |
| | | D-1-2 | Conserve and use the environment in rural areas and utilize regional resources through the sustainable operation of agriculture, etc. | |
| | | D-1-3 | Promote the SATOYAMA Initiative both domestically and overseas | |
| | | D-1-4 | Designate the Sanriku Reconstruction (Fukko) National Park and promote the restoration and regeneration of forests that protect the coasts by 2013, etc. | |
| | | D-1-5 | Implement initiatives to create Satoumi areas while living in harmony with nature | |
| | | D-1-6 | Undertake considerations for developing new policies to make use of the arrangements for biosphere reserves (UNESCO Eco-Parks) | |
| | **D-2** Contribute to climate change mitigation and adaptation through the restoration of at least 15% of degraded ecosystems | D-2-1 | Determine the methods and baselines in order to assess the status of ecosystem conservation and restoration by the midterm evaluation of the Aichi Biodiversity Targets (that is scheduled to be in 2014 or early 2015), etc. | 15 |
| | | D-2-2 | Promote measures for the conservation and restoration of ecosystems, thereby contributing to climate change mitigation and adaptation | |
| | | D-2-3 | Promote forest sink measures such as by properly carrying out forest operations, establish green corridors, etc. | |
| | **D-3** Conclude the Nagoya Protocol and implement domestic measures | D-3-1 | Conclude the Nagoya Protocol as quickly as possible, and steadily put into practice the obligations in the Protocol through efforts such as promotion/education and setting up checkpoints to monitor the use of genetic resources by 2015 at the latest | 16 |
| | | D-3-2 | Promote support for developing countries that aim to implement the Protocol through the Global Environment Facility (GEF), the Nagoya Protocol Implementation Fund, and so on | |
| **Strategic Target E** Steadily promote policies based on the National Biodiversity Strategy of Japan, strengthen the scientific grounds that will serve as the foundation and promote capacity building in the field of biodiversity | **E-1** Promote measures based on the National Biodiversity Strategy of Japan, etc. | E-1-1 | Revise the National Biodiversity Strategy of Japan over 2015 and 2016 as needed | 17 |
| | | E-1-2 | Contribute to the achievement of Target 17 around the world through the use of the Global Environment Facility (GEF), the Japan Biodiversity Fund, and other mechanisms | |
| | **E-2** Respect traditional knowledge, strengthen the scientific grounds, strengthen the connections between science and policy, and efficiently mobilize the resources (funds, human resources, technologies, etc.) needed to achieve the Aichi Biodiversity Targets | E-2-1 | Reevaluate the wisdom of traditional lifestyles and cultures and techniques for resource usage, pass them down to future generations and promote their use | 18 19 20 |
| | | E-2-2 | Enhance data on the natural environment, continuously update them, and improve the rate of dissemination of information from them, etc. | |
| | | E-2-3 | Enhance scientific knowledge related to marine life and ecosystems | |
| | | E-2-4 | Carry out comprehensive evaluations related to biodiversity and perform a midterm evaluation related to Japan's national targets | |
| | | E-2-5 | Actively take part in and contribute to the IPBES and set in place a domestic structure for this purpose | |
| | | E-2-6 | Assess the extent to which resources have been mobilized in Japan and improve the reporting system to the Secretariat of the Convention on Biological Diversity | |

* The target year for the national targets of B-5, D-3, and E-1 is 2015, and for the other national targets is 2020. Regarding the target year for the key action goals, it is the same as that of the national targets if the target year is not written.

Source: A brochure entitled "Achievements of the Tenth and Eleventh meetings of the Conference of the Parties to the Convention on Biological Diversity (COP 10 and 11) and the Aichi Biodiversity Targets" issued by the Ministry of the Environment (March 2013)

# Analysis of the activities

- Regarding the expansion and connection of activities in the representative fields (rivers, agriculture and communities), the key points of the expansion of measures and the connections among parties due to the activities were identified by analyzing them from the viewpoint of "sympathy for the love of living creatures, love of the hometown and the desire for a stable life".
- The key points of the "expansion" of measures were identified by collecting representative indicators and records of activities in the three fields.
- The key points of the "connections" among the parties were identified from specific examples in the three fields.
- Points that are to be reflected in the Hyogo Toyooka Model were extracted from the key points identified regarding the "expansion" of the measures and the "connections" among the parties.

***Extraction of the key points of the "expansion" of the measures***

Extracted from representative indicators and activity records of the three fields

[Representative indicators]

- Rivers .....Change in the size of the area of wetlands* in the riverine zone (nationalized territory) of the Maruyama River
- Agriculture .....Rice acreage under Stork Friendly Farming
- Communities ..... Level of recognition of the development of local communities living in co-existence with Oriental white storks

***Extraction of the key points of the "connections" among the parties***

Extracted from specific examples from the three fields

[Specific examples]

- Rivers .....Wetland improvements achieving a balance between water control and environmental conservation and ecological network formation
- Agriculture .....Activities for the establishment of Stork Friendly Farming
- Communities ..... Nature restoration in the Tai District

***Extracted points to be reflected in the Hyogo Toyooka Model***

***Extraction of the points to be reflected in the Hyogo Toyooka Model***

The following five points were extracted:

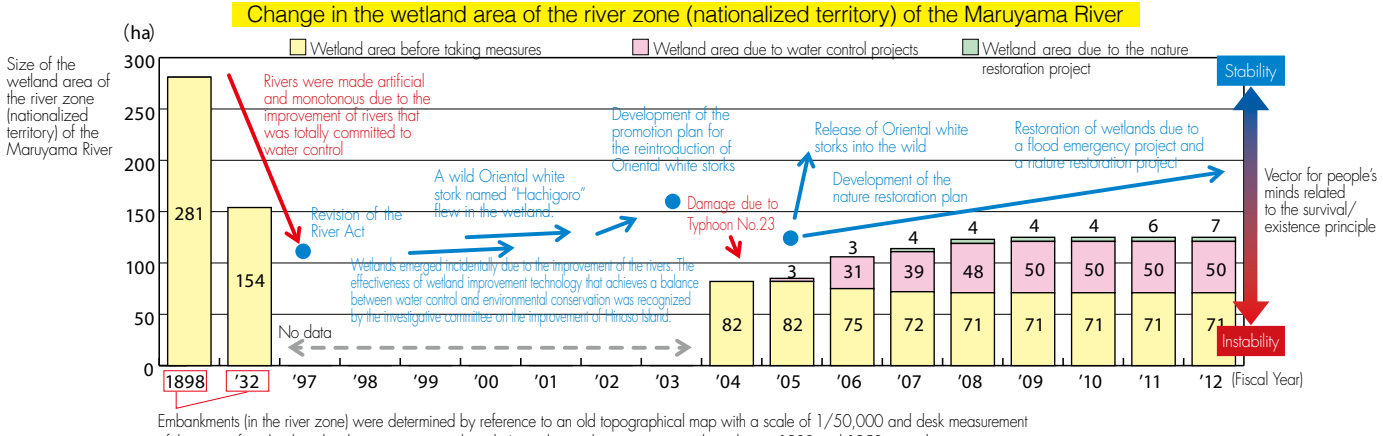
① Acceptance, active use and development of social trends
② Design of the structure through collaboration among scientists, government agencies, and the communities
③ Design of the process
④ Use of accidental natural phenomena after their transition to promotion factors
⑤ Understanding the traditional regional communities

<Four processes>
A. Process of awareness
B. Process of sharing a future image
C. Process of the transition
D. Process of the reinforcing cycle of sympathy

## Analysis of the expansion viewed from the representative indicators, and analysis of the connections viewed from specific examples

### ■ Activities in relation to rivers

1. Analysis of the expansion of measures viewed from a representative indicator (size of the wetland area of the Maruyama River)




Embankments (in the river zone) were determined by reference to an old topographical map with a scale of 1/50,000 and desk measurement of the area of wetlands within this zone was conducted. According to the measurement, the values in 1932 and 1950 were the same.

Source: Materials provided by the Toyooka Rivers and National Roads Office of the Ministry of Land, Infrastructure, Transport and Tourism

*A wetland area excluding the water surface area when the water depth increases by 50 cm from the normal water level

### Change in the size of the wetland area in the river zone (nationalized territory) of the Maruyama River

The wetland area was reduced to 82 ha by 2004 compared with 281 ha in 1898 and 154 ha in 1932 (the population of Oriental white storks in the Toyooka region in 1930 was 100, which is regarded as the peak) and again in 1950. The wetland area has increased through wetland improvements due to the water control projects implemented since 2005 and reached 127 ha by 2012 combined with improvements made through nature restoration projects.

### Consideration of the factors causing the change in the wetland area of the river zone (nationalized territory meaning state-owned land) of the Maruyama River

As areas along the Maruyama River suffered from repeated flood damage, river improvements gave priority to water control, such as the use of concrete bank protection. Due to these improvements, the size of the wetland area of the Maruyama River decreased by half from 154 ha in 1932 to 82 ha in 2004.

On the other hand, the current emphasis on the river environment has been strengthened nationwide by citizens since around 1970. Since 1989, public objections to existing river projects that gave priority to water control and water utilization, such as opposition campaigns against the construction of a dam across the mouth of the Nagara River, etc., have reached a peak. Based on this, the River Act was revised in 1997. (Environmental conservation became a basic purpose in addition to water control and water utilization.) Hearings to obtain the opinions of residents are required under the revised act at the time of developing plans for river projects. However, as there are many cases of contradictions between water control and environmental conservation in the existing river projects (construction of dams, etc.), it was difficult to achieve a balance between them in most rivers.

The river controller (the state) planned to acquire Hinoso Island (a sandbank) in order to excavate the entire island to improve the safety of water control in the Maruyama River that the community residents had asked for. However, with the current trend emphasizing the river environment, the method of excavation became a point of dispute as rare and precious organisms were identified one after another on Hinoso Island and in the surrounding area. Then the river controller (the state) organized an "Investigative Commission on the Improvement of Hinoso Island" consisting of multiple parties including community residents who are former landowners of Hinoso Island, citizen's groups, academic experts, and fisheries cooperatives, etc., to examine the changes, impacts, and effects of the various excavation methods using landscape simulations and 3D fluid dynamics simulations.

Since a wetland emerged unexpectedly in the Nogami area in the Maruyama River due to a river improvement project carried out separately, it was suggested that a balance between water control and environmental conservation can be achieved depending on the excavation method. In the investigative commission, an examination was started focusing on this viewpoint and the effectiveness of wetland improvement techniques as a way of achieving a balance between water control and environmental conservation has been recognized.

On the other hand, the Act for the Promotion of Nature Restoration was enacted in 2002. In addition, with the recognition of the value and the importance of wetlands by the government and community residents due to the coming of a wild Oriental white stork named "Hachigoro" to the wetland, the "Promotion Plan for the Reintroduction of Oriental White Storks" aiming at reintroducing Oriental white storks was developed in March 2003 by Hyogo prefecture, and the Liaison Council for the Promotion of the Reintroduction of Oriental White Storks was organized with the participation of multiple parties. In this plan, promotion for the improvement of the rivers such as the regeneration of wetlands, etc., was determined in the field of rivers. The river controllers (the state and the prefecture) have worked together to develop a plan for restoration of the natural water systems of the Maruyama River since 2003.

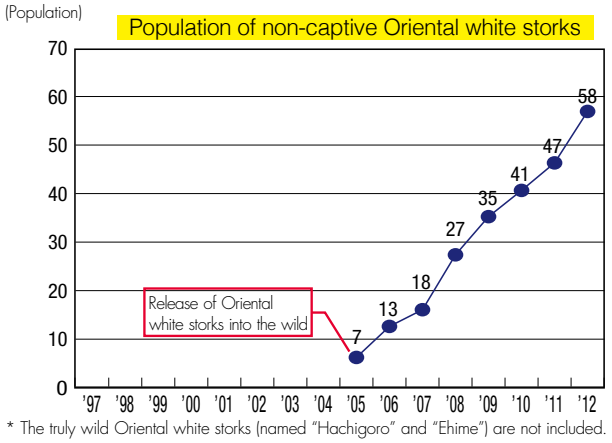
During the implementation of activities by multiple parties towards the objective of the release of Oriental white storks into the wild scheduled for 2005, the Toyooka region suffered unprecedented damage due to Typhoon No.23 in October 2004.

As Typhoon No.23 created a massive flood causing tremendous damage to community residents, opinions were voiced that the improvement of rivers should give priority to water control. However, the citizens took the reintroduction of Oriental white storks as a symbol of disaster restoration, and continued to conclude that they wanted to "conserve the environment and landscape of the Maruyama River" and to "promote the reintroduction of Oriental white storks". As a result, the Plan for Nature Restoration of the Water System of the Maruyama River was developed in November 2005 through the establishment of a cooperative structure between the national government and the prefecture and with the participation of multiple parties, including citizens and academic experts.

In addition, in the special emergency project for countermeasures against serious disasters involving rivers implemented in association with the damage caused by Typhoon No.23, improvement of the river was actively carried out using various methods including wetland improvements, etc. As a result, the size of the wetland area of the Maruyama River increased to 127 ha by 2012.

Because of the activities carried out in the Toyooka region for the reintroduction of Oriental white storks that had become extinct in the wild, Oriental white storks became a symbol of the viewpoint of the community residents (love of the hometown and love of living creatures) which enabled the parties to share a common future image that they wanted to create and restore the area where "Oriental white storks can live". It can be considered that this image became a strong driving force in combination with the organization of the Liaison Council for Promotion of the Reintroduction of Oriental White Storks.

With the recognition of the value of the region, the restoration of wetlands along rivers was carried out through acceptance of the opinions of the community residents.



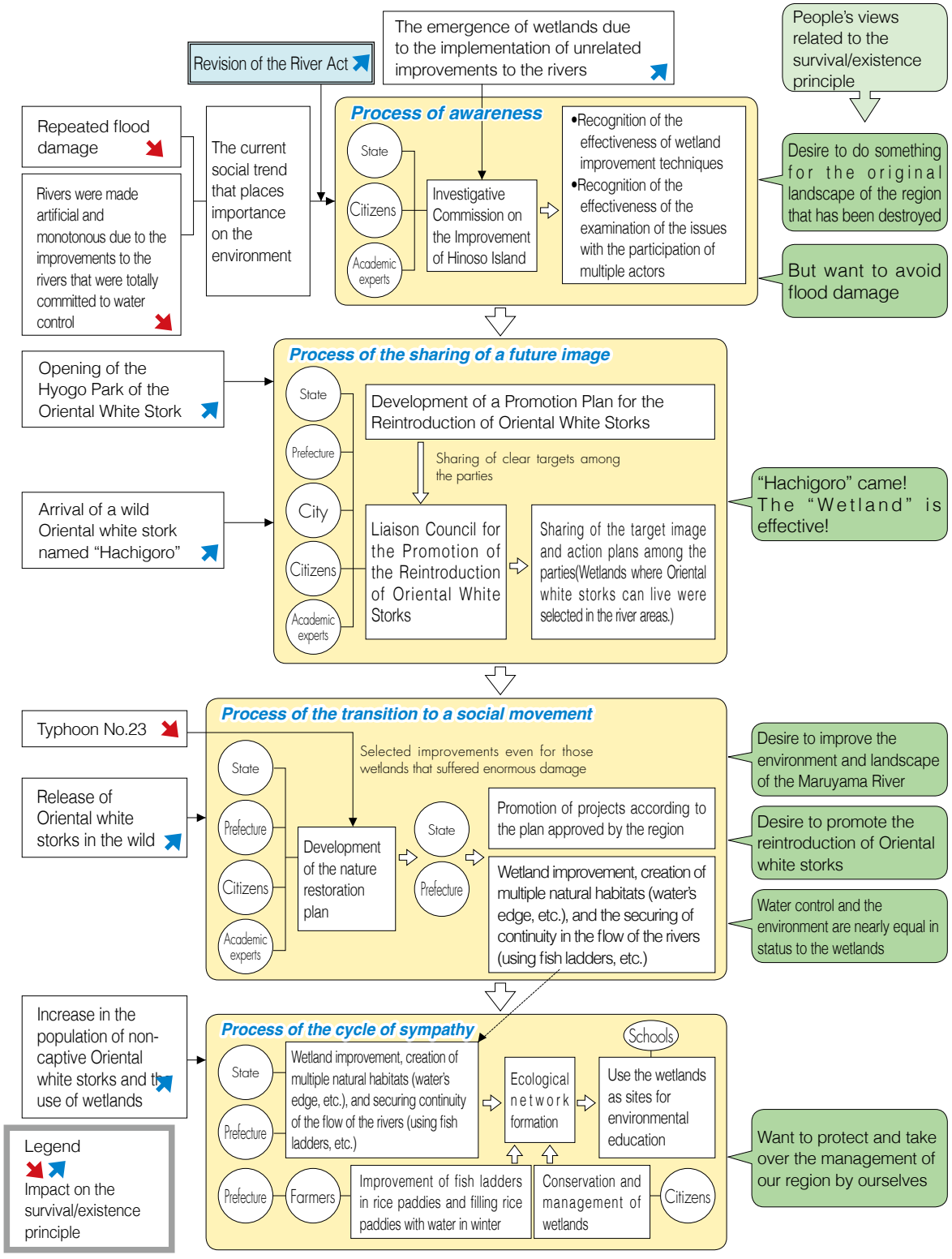

* The truly wild Oriental white storks (named "Hachigoro" and "Ehime") are not included.

Source: Materials provided by the Hyogo Park of the Oriental White Stork

## 2. Analysis of the connections among parties viewed from a specific example (achieving a balance between water control and environmental conservation)

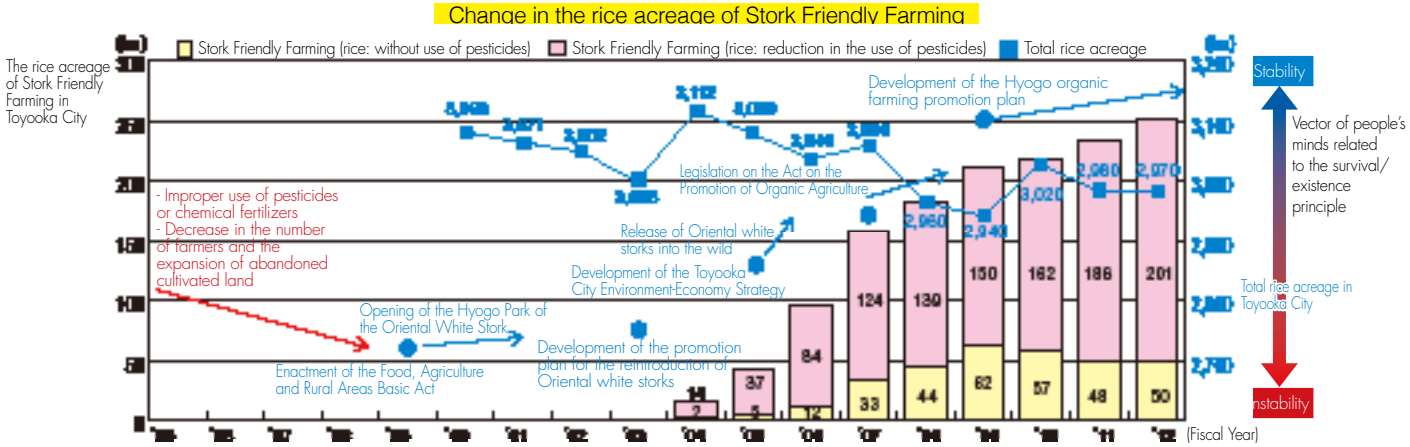
Specific example: Connections among parties shown in the "wetland improvement for achieving a balance between water control and environmental conservation, and the formation of ecological networks"

Through the discussions held by the Investigative Commission on Improvement of Hinoso Island, the effectiveness of wetland restoration by cutting down the flood channel and improving the flood control basin, as a method of achieving a balance with environmental conservation and to lower the river level in event of a flood, was recognized by the community residents as well. Despite the tremendous damage caused by Typhoon No.23, a nature restoration plan was developed that reflected the citizens' views, and the created wetlands became part of the formation of an ecological network and are used as sites for environmental education.



## ■ Activities in relation to the field of agriculture

### 1. Analysis of the expansion of measures viewed from a representative indicator (rice acreage of Stork Friendly Farming)




Source: Materials provided by Toyooka City

#### Trends in the rice acreage of Stork Friendly Farming

The rice acreage of Stork Friendly Farming has increased rapidly since the release of Oriental white storks into the wild, which has now reached approximately 250 ha in Toyooka City (340 ha in the Tajima area).

The rice acreage of Stork Friendly Farming has been on an increasing trend since 2004, but the rate of expansion has been slow since 2009.

The rice acreage of pesticide-free production has declined slightly after peaking at 62 ha in 2009 and was 50 ha in 2012.

#### Consideration of the factors for the change in the rice acreage of Stork Friendly Farming

In the 1960s, when Oriental white storks had become extinct in the wild, infrastructure development was carried out for reformation into dry rice fields and the efficiency of the production was promoted using pesticides and chemical fertilizers in order to increase the rice harvest, against the background of the enactment of the Agricultural Basic Act in 1961 and the institutionalization of the agricultural field improvement projects in 1963. On the other hand, some agricultural activities had negative impacts on biodiversity during this period, such as due to the improper use of pesticides and fertilizers and the improvement of agricultural land and water channels that placed the priority on economy and efficiency.

From the consumer or consumer's viewpoint of rice distribution, production adjustment had been officially implemented since FY1971 in response to the trend towards excess demand for rice due to bumper crops since 1967. Under this situation, a system for voluntarily marketed rice using the advantages of private distribution was set up in 1969 against the background of the trend towards an increase in high-quality rice associated with the improvement of people's dietary life.

After 1961, when the Agricultural Basic Act was enacted, despite the rapid growth of the economy, the area of agricultural land, the number of people engaged in agriculture, and the food self-sufficiency ratio steadily declined across the country. In 1999, the Food, Agriculture and Rural Areas Basic Act was enacted for the purpose of thoroughly reviewing and restructuring agricultural measures.

One of the characteristics of the Food, Agriculture and Rural Areas Basic Act enacted in 1999 when the Hyogo Park of the Oriental White Stork opened is the conservation of the natural environment had become one of the multiple functions of agriculture.

Before the enactment of the Food, Agriculture and Rural Areas Basic Act, Hyogo prefecture developed promotion measures for organic farming in 1992. In addition, in Toyooka City, rice-duck farming was introduced in the Shounji area during the same period towards the opening of the Hyogo Park of the Oriental White Stork. The relationship between agriculture and the environment started to draw attention in this period.

From the viewpoint, with the increase in demand for the safety and security of food, the prefecture started a certification system for organic products in 1993, and the state started a national certification system for organic agriculture (Organic JAS) in 2001.

In addition, because of the agreement on agriculture in the GATT Uruguay Round in 1993 and the substantial relaxation of rice distribution regulations by the Act on Stabilization of Supply, Demand and Prices of Staple Food in 1995, it can be considered that the importance of the production of agricultural products with high market competitiveness started to be recognized in this period due to the large scale production of homogeneous agricultural products.

As social background of above events, the reintroduction of Oriental white storks formulated in 2003 involved the promotion of organic farming, developed paddy fields with rich ecosystem, created rice-crop diversion biotope for paddy field and nature restoration projects for living in co-existence with Oriental white storks, and provided subsidies (given by the state and the prefecture) for winter flooded paddy fields and postponement due to mid-summer drainage.

Stork Friendly Farming has been expanded thanks to the attention from the general public regarding the release of Oriental white storks into the wild in 2005, the increase in environmental awareness in agriculture, and the consumers' demand for the safety and security of food. However, behind the expansion, there have been various efforts made through collaboration between the prefecture, the city, and JA Tajima for the development of the understanding of the farmers, such as the systematization of Stork Friendly Farming, the holding of lectures by inviting experts on

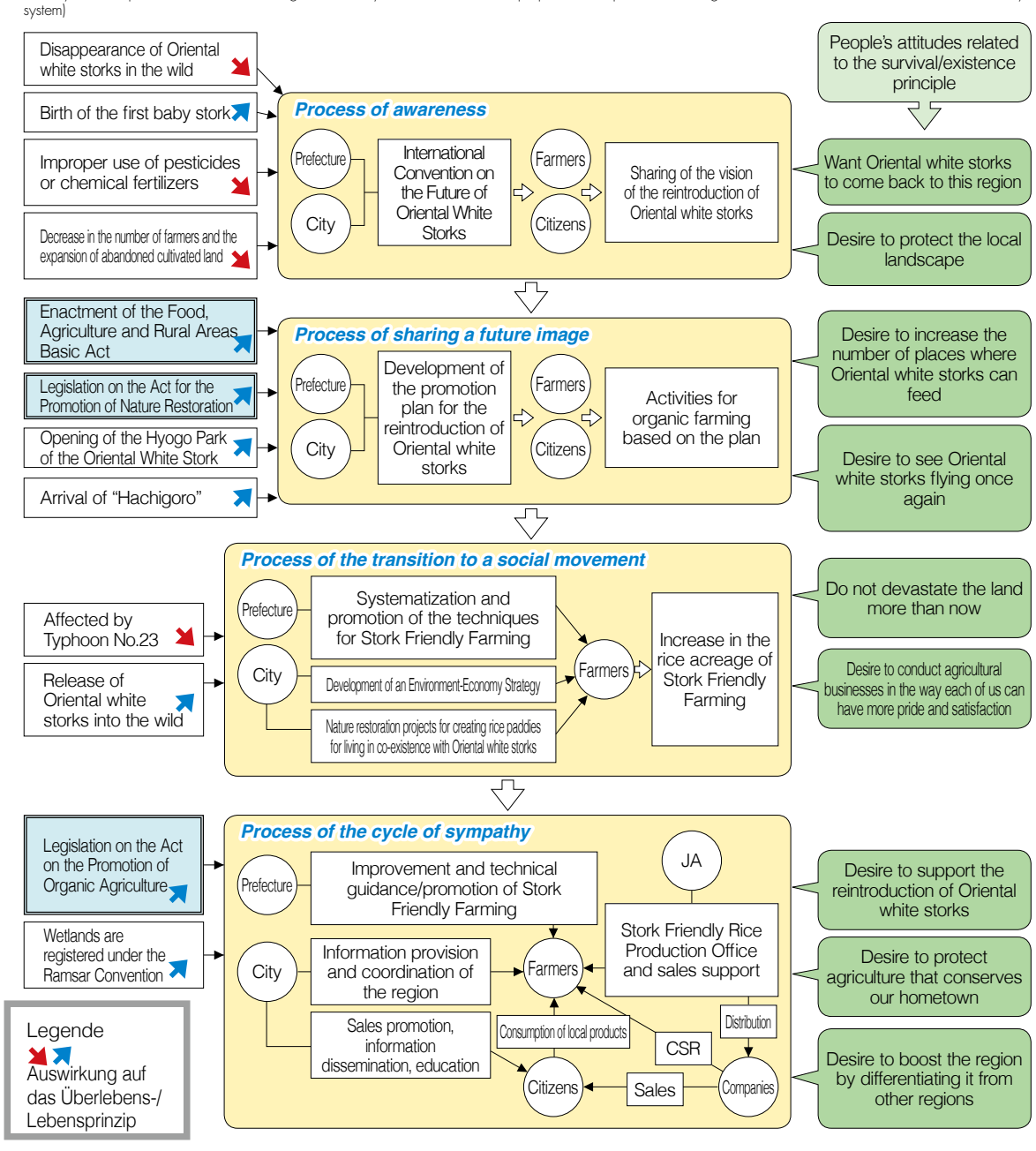
organic farming, and the holding of explanatory meetings about Stork Friendly Farming in each region, etc.
Moreover, it was confirmed that Oriental white storks have a minimal impact on agriculture (trampling on seedlings in the rice fields, etc.) through a survey implemented in association with the arrival of a wild Oriental white stork named "Hachigoro" in 2002, which became an opportunity to weaken the image held by the farmers that Oriental white storks are harmful to agriculture.

From the economic aspect, the rice acreage of Stork Friendly Farming has increased rapidly, as the certification system for a brand called "Dance of the storks" was established by the city in 2003 and the promotion of organic farming to achieve a balance between biodiversity and an increase in farmers' profits was included in the Toyooka City Environment-Economy Strategy developed in 2005.

## 2. Analysis of the connections among the parties viewed from a specific example (Stork Friendly Farming)

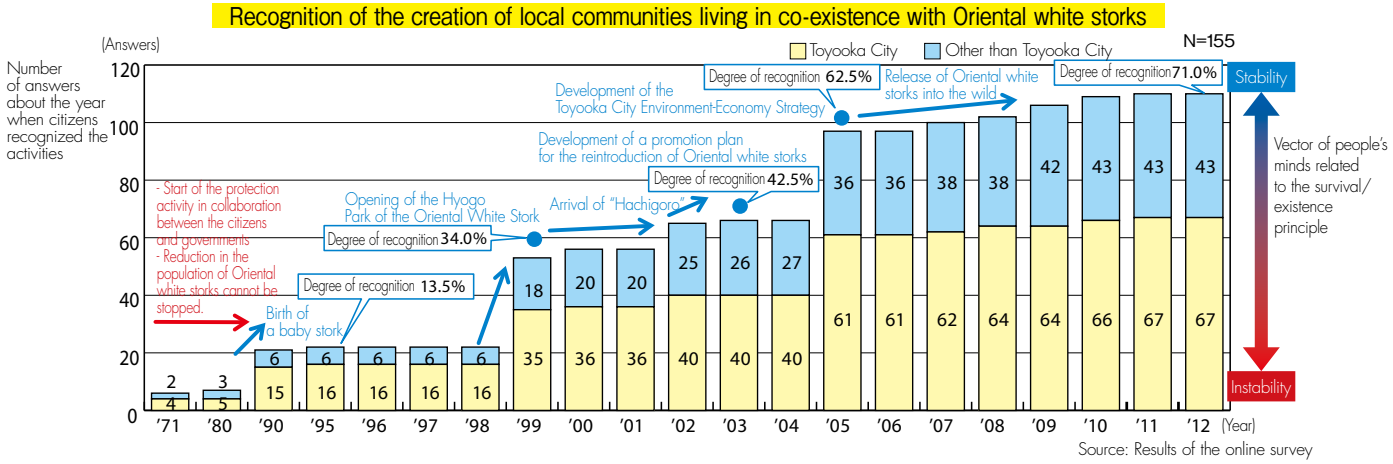
### Specific example: Connections among the parties shown in "Stork Friendly Farming"

Stork Friendly Farming has been promoted through collaboration between the prefecture, the city, and JA. The prefecture has systematized and popularized techniques, the city has provided information to the farmers by holding study sessions and taken on a coordinating role in the region, and JA has provided support for the organization and sales.
The city and the prefecture have worked together to carry out nature restoration projects in rice paddies for living in co-existence with Oriental white storks (subsidy system)



## ■ Activities in relation to communities

### 1. Analysis of the expansion of measures viewed from a representative indicator (Recognition of the creation of local communities living in co-existence with Oriental white storks)




Source: Results of the online survey

#### Period when the activity to create local communities living in co-existence with Oriental white storks was acknowledged by citizens

An online survey* about the "period when the activity to create local communities living in co-existence with Oriental white storks were acknowledged by the general citizens" were conducted among citizens in Toyooka City and the Tajima region in order to identify the degree of extension and recognition of the measures taken.

After the collaborative activity to protect Oriental white storks was started in 1955 by citizens and governments, the visibility of the activity was not so well promoted for a certain period. However, the visibility increased to 13.5% in 1989 when the first baby Oriental white stork was born.

Moreover, the visibility increased more in 1999 when the Hyogo Park of the Oriental White Stork opened (13.5% → 34.0%) and in 2005 when Oriental white storks were released into the wild by the Hyogo Park of the Oriental White Stork (42.5% → 62.5%).

Subsequently, the visibility slightly increased and was recognized as being over 70.0% in 2012.

#### Situation of the use of Oriental white storks for PR

In the living environment, there are many means of using the image of Oriental white storks such as in public projects and transportation networks in the Toyooka region. This shows that Oriental white storks have penetrated into the citizens' lives.


*Online survey
-An online survey is a questionnaire survey using the Internet.
- Target: Tajima region (Toyooka City, Asago City, Yabu City, Kami-cho, Shinonsen-cho)
- Question: When do you think that these activities were recognized by the citizens?

#### Consideration of the factors regarding the period when the activity to create local communities living in co-existence with Oriental white storks was acknowledged by citizens

Activities for the protection of Oriental white storks were started in 1955 in cooperation between the citizens and local governments, and the Oriental white stork was designated as a special national treasure in 1956. However, since the population of Oriental white storks has decreased steadily, artificial incubation was started in 1965. The number of newspaper reports in 1988, the last year of the period when artificial breeding had continuously failed, was about 60, but it increased significantly to 130 in 1989 when the first baby stork was born, which raised the visibility of the "creation of local communities living in co-existence with Oriental white storks".

The recognition of Oriental white storks by the citizens has expanded more due to the opening of the Hyogo Park of the Oriental White Stork in 1999, which has attracted many visitors. In addition, teachers and staff of the prefectural university of the Hyogo Park of the Oriental White Stork gave lectures and accepted school visits. With the nurturing of "Oriental white stork park volunteers", which started in 2000 in the Hyogo Park of the Oriental White Stork, the activities by the citizens in relation to Oriental white storks were started.

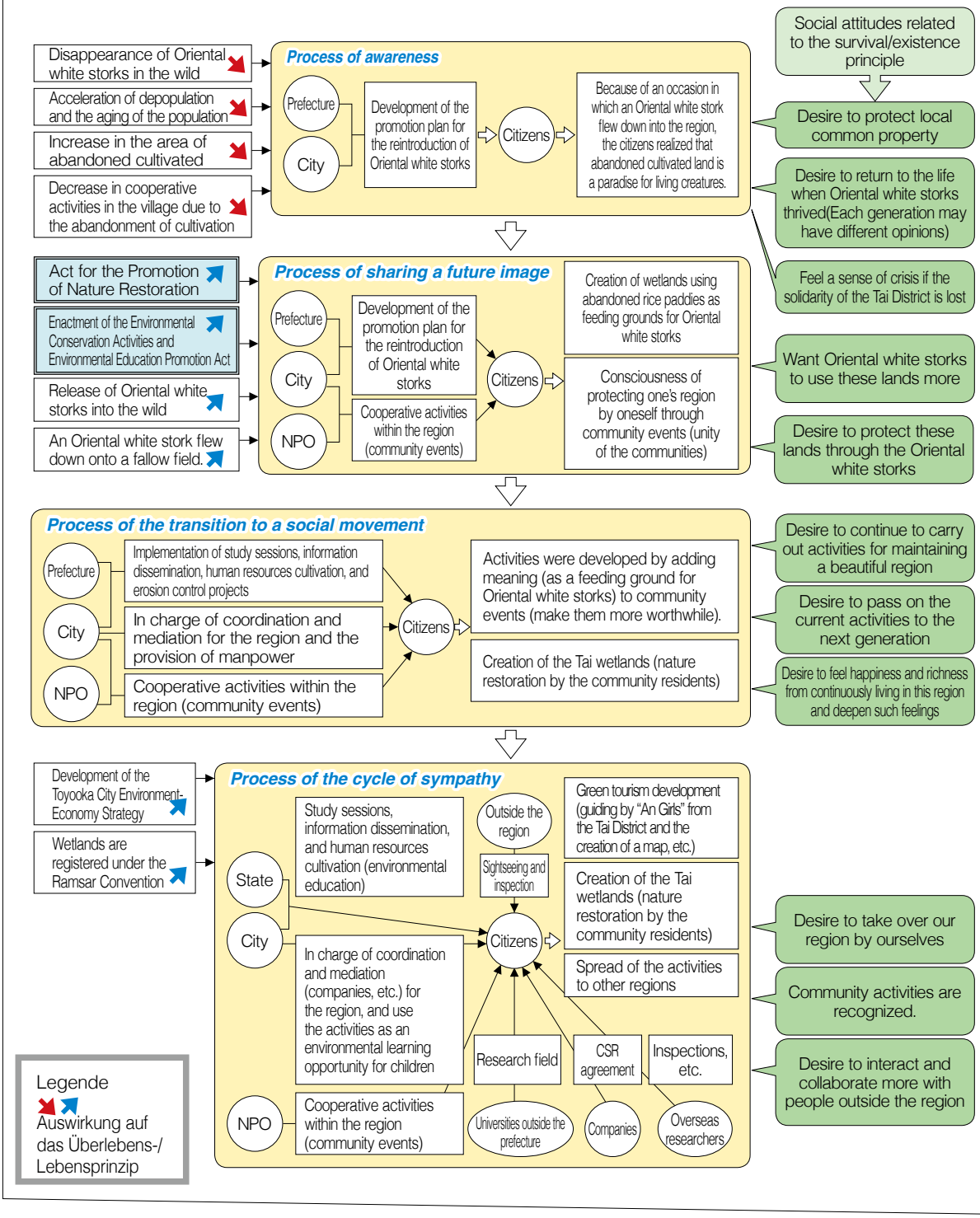
People were thrilled and took great pleasure in watching the Oriental white storks flying into the wild when they were released in 2005. It can be considered that sympathy for creating local communities where Oriental white storks can thrive was expanded among multiple parties/collaborator (citizens, companies, and other universities in Japan, etc.). This pleasure can be considered to have become the driving force (awareness and challenging, etc.) for the citizens seek a balance between "nature restoration" for the creation of local communities where Oriental white storks can thrive and the value of the "regeneration of community living" that returned along with the Oriental white storks.

Activities for environmental education have been actively implemented before the release of Oriental white storks. Even after the release, the prefecture and the city consistently disseminated information on various occasions for the acceptance of Oriental white storks, such as through citizen education, human resources development, interaction with community residents and companies, and international conventions (Conference of the Parties to the Convention on Biological Diversity (CBD-COP10)), etc.

## 2. Analysis of the connections among the parties viewed from a specific example (Nature restoration in the Tai District)

### Specific example: Connections among the parties revealed in the “nature restoration in the Tai District”

Because of an occasion in which an Oriental white stork that bred in the Toshima wetland close to the Tai District flew down onto an abandoned rice paddy in the Tai District to use as its feeding ground, the citizens became aware of the value of creating local communities where Oriental white storks can thrive and recognized that even abandoned cultivated land can be used.
Taking this opportunity, activities for the conservation of biodiversity have been started in the Tai District through cooperation among the communities, NPOs, and the local governments. The activities have expanded outside the prefecture, such as in collaboration with universities and with visitors from overseas through information dissemination, etc.
In contrast to the revitalization activities using traditional arts or specialty products implemented throughout the country, these citizens have promoted revitalization activities through the conservation of the local nature. It can be said that the citizens in the Tai District were determined to expand the richness of this area because they feel that it is worth it for them to live in this area continuously.



## ■ Summary of the analysis of the activities

### 1. Classification of the key points of the expansion of measures and the connections among the parties

IThe key points of the expansion of measures and the connections among the parties emerged from the analyses of each field and are described as follows:

#### Field of rivers

**[Key points of the expansion of measures]**

1. Developed against the background of nationwide trends including the revision of the River Act, etc.
2. Even disasters were used as an opportunity.
3. Sharing of the purpose with the parties (clear symbols and principles, and the existence of a common future image)
4. Establishment of wetland improvement techniques as a means to achieve a balance between water control and environmental conservation
5. Collaborative structure design for activities and examinations (development of plans with the participation of multiple parties)

**[Key points of the connections among the parties]**

6. Common recognition of the effectiveness of the wetland improvement techniques, and recognition of the effectiveness of the examinations with the participation of multiple parties
7. Arrival of "Hachigoro" in the wetland
8. Sharing of the future image among the concerned parties

#### Field of agriculture

**[Key points of the expansion of measures]**

1. Consensus on the sense of direction between the reintroduction of Oriental white storks and the social trends, ensuring the safety and security of food
2. Systematization, technical guidance, and public awareness of Stork Friendly Farming by the local governments
3. Emergence of the awareness of a proactive relationship among the farmers because an Oriental white stork flew down onto a rice paddy
4. Establishment of a relationship of trust between the local governments and the community residents by cooperatively and continuously holding briefing sessions about Stork Friendly Farming
5. Creation of a support system for the conservation of the biodiversity of paddy fields (Nature restoration project for creating paddy fields for living in co-existence with Oriental white storks)
6. Exercise of the synergistic effects between environmental conservation and economic activities by creating agricultural brands

**[Key points of the connections among the parties]**

7. Awareness of the relationship between the disappearance of Oriental white storks and agriculture based on the scientific analysis
8. Cycle of sympathy for the future goals of conservation and the restoration of the habitat of Oriental white storks and conservation of the local landscape
9. Promotion of these activities against the background of the regional characteristics, such as the connections among the communities, in an integrated manner
10. Involvement of multiple parties such as farmers, governments, companies, and citizens engaged in production, sales, and consumption

#### Field of communities

**[Key points of the expansion of measures]**

1. Education to obtain the understanding of the communities for the reintroduction of Oriental white storks
2. Presence and public awareness of a community-based research institution called "Hyogo Park of the Oriental White Stork" located in the prefectural university
3. Consensus formation among multiple parties in the Liaison Council for the Promotion of the Reintroduction of Oriental White Storks
4. Cultivation of next-generation leaders in charge of the creation of local communities where Oriental white storks can thrive
5. Connections between activities (economy) and environmental creation

**[Key points of the connections among the parties]**

6. Value of the region realized by the occasion of the arrival of an Oriental white stork
7. Involvement of multiple parties such as NPOs, universities, and companies in community activities
8. The local governments are in charge of mediation and coordination to connect multiple parties within the region.
9. Obtain the sympathy of multiple parties and their cycle of sympathy by promoting the story about the reintroduction of Oriental white storks

## 2. Extraction of key points of the public measures in the "Hyogo Toyooka Model"

Based on the key points of the expansion of measures and the connections among the parties in each field in relation to the reintroduction of Oriental white storks, five points to be reflected in the "Hyogo Toyooka Model" are extracted.

| Key points of the expansion of measures and the connections among parties in each field | Points to be reflected in the "Hyogo Toyooka Model" |
|---|---|
| Rivers① Developed against the background of nationwide trends including the revision of the River Act, etc.<br>Agriculture① Consensus on the sense of direction between the reintroduction of Oriental white storks and the social trend of ensuring the safety and security of food<br>Agriculture⑧ Cycle of sympathy for the future goals of conservation and restoration of the habitat of Oriental white storks and conservation of the local landscape | **❶ Acceptance, active use and development of social currents**<br>•Various laws and regulations were established in response to the concerns of the citizens for environmental deterioration under rapid economic growth.<br>•Since people in the Toyooka region were quick to feel such changes in the world, the environment where they live, and the movements of the government, they started to develop activities integrating Oriental white storks that used to inhabit the region as a symbol. |
| Rivers⑤ Collaborative structure design for activities and examination (plan development with the participation of multiple parties)<br>Rivers⑥ Common recognition of the effectiveness of the wetland improvement techniques, and recognition of the effectiveness of the examination with the participation of multiple parties<br>Agriculture② Systematization, technical guidance, and public awareness of Stork Friendly Farming by the local governments<br>Agriculture⑩ Involvement of multiple parties such as farmers, governments, companies, and citizens engaged in production, sales, and consumption<br>Communities② Presence and public awareness of a community-based research institution called "Hyogo Park of the Oriental White Stork" located in the prefectural university<br>Communities⑦ Involvement of multiple parties such as NPOs, universities, and companies in the community activities<br>Communities⑧ The local governments are in charge of mediation and coordination to connect multiple parties within the region. | **❷Design of the structure through collaboration among scientists, government agencies, and the communities**<br>•The involvement of various parties was necessary to promote the "creation of local communities where Oriental white storks can thrive".<br>•A collaborative structure design was implemented so as to ensure that the involvement of the parties became the driving force of the activities. |
| Rivers①～⑧ The analysis results of the connections among the parties shown in "wetland improvement achieving a balance between water control and environmental conservation and the formation of ecological networks" provided in the field.<br>Agriculture①～⑩ The analysis results of the connections among the parties shown in "Stork Friendly Farming" provided in the field.<br>communities①～⑨ The analysis results of the connections among the parties shown in the "nature restoration in the Tai District" provided in the field. | **❸ Design of the process (* The process extracted from the specific examples is provided on the next page.)**<br>•From the viewpoint of how people realize, translate into a movement, and find sympathy, strategically-sustainable activities were established and developed. |
| Rivers② Even disasters were used as an opportunity.<br>Gewässer⑦ Arrival of "Hachigoro" in the wetland.<br>Agriculture③ Emergence of the awareness of a proactive relationship among the farmers because an Oriental white stork flew down onto a rice paddy<br>Communities⑥ Value of the region realized by the occasion of the arrival of an Oriental white stork | **❹ Use of accidental natural phenomena after their transition to promotion factors**<br>•By connecting incidental natural phenomena, such as the coming of "Hachigoro" and the damage due to Typhoon No.23, etc., and turning them into a turning point for creating better communities and sympathy for positive feelings (pleasure and surprise), movements towards the achievement of the goals were taken. |
| Rivers② Even disasters were used as an opportunity.<br>Agriculture⑨ Promotion of activities against the background of the regional characteristics, such as the connections among the communities, in an integrated manner<br>Communities⑥ Value of the region realized by the occasion of the arrival of an Oriental white stork | **❺Understanding of the regional traditional community**<br>•While making sure not to create discrepancies, the activities were carried out with the understanding of the spiritual nature and the connections among traditional communities of villages that have maintained their lives using the blessings of nature and sometimes feeling of its force. |

## 3. Classification of the process to expand the cycle of sympathy

From the key points of the expansion of measures and the connections among the parties in each field, the expansion phage of the cycle of sympathy was classified into 4 processes.

| Key points of the expansion of measures and the connections among actors in each field | Process | Summary of the key points of the expansion and connections |
|---|---|---|
| Rivers① Developed against the background of nationwide trends including the revision of the River Act, etc.<br>Agriculture① Consensus on the sense of direction between the reintroduction of Oriental white storks and the social trend for ensuring the safety and security of food<br>Agriculture⑦ Awareness of the relationship between the disappearance of Oriental white storks and agriculture based on scientific analysis<br>Communities② Presence and public awareness of a community-based research institution called "Hyogo Park of the Oriental White Stork" located in the prefectural university | Awareness | •Transition of the social currents to regional issues<br>•Awareness of a crisis of changes in the regional environment according to scientific theory and analysis by a community-based research institution established in the prefectural university<br>•Value of the region realized through the activities for the reintroduction of Oriental white storks |
| Rivers③ Sharing of the purpose with the parties (clear symbols and principles, and the presence of a common future image)<br>Rivers⑥ Common recognition of the effectiveness of the wetland improvement techniques, and recognition of the effectiveness of the examination with the participation of multiple parties<br>Rivers⑦ Arrival of "Hachigoro" in the wetland<br>Rivers⑧ Sharing of the future image among the concerned parties<br>Agriculture③ Emergence of the awareness of a proactive relationship among the farmers because an Oriental white stork flew down onto a rice paddy<br>Agriculture⑧ Cycle of sympathy for the future goals of conservation and restoration of the habitat of Oriental white storks and conservation of the local landscape<br>Communities① Education for obtaining the understanding of the communities for the reintroduction of Oriental white storks<br>Communities③ Consensus formation between multiple parties in the Liaison Council for the Promotion of the Reintroduction of Oriental White Storks | Sharing of a future image | •Sharing of the future image among multiple parties by setting goals using a symbol (the Oriental white stork), which is a species representing the richness of the regional biodiversity |
| Rivers② Even disasters were used as an opportunity.<br>Rivers④ Establishment of wetland improvement techniques as a means to achieve a balance between water control and environmental conservation<br>Rivers⑤ Collaborative structure design for activities and examinations (plan development with the participation of multiple parties)<br>Agriculture② Systematization, technical guidance, and public awareness of Stork Friendly Farming by the local governments<br>Agriculture④ Establishment of a relationship of trust between the local governments and the community residents by cooperatively and continuously holding briefing sessions about Stork Friendly Farming<br>Agriculture⑤ Creation of a support system for the conservation of the biodiversity of rice paddies (Nature restoration project for creating rice paddies for living in co-existence with Oriental white storks)<br>Agriculture⑨ Promotion of the activities against the background of the regional characteristics, such as the connections among the communities, in an integrated manner<br>Communities④ Cultivation of next-generation leaders in charge of the creation of local communities where Oriental white storks can thrive<br>Communities⑦ Involvement of multiple parties such as NPOs, universities, and companies in the community activities<br>Communities⑧ The local governments are in charge of mediation and coordination to connect multiple parties within the region. | Transition to a social movement | •Development and exploration of the techniques for biodiversity conservation (wetland improvement and Stork Friendly Farming)<br>•Implementation of community-based promotion/education and technical guidance<br>•Development of a collaborative structure among multiple parties (citizens, farmers, research institutions, governments, and companies, etc.)<br>•Cultivation of next-generation leaders for community creation |
| Agriculture⑥ Exercise of the synergistic effects between environmental conservation and economic activities by creating agricultural brands<br>Agriculture⑩ Involvement of multiple parties such as farmers, governments, companies, and citizens engaged in production, sales, and consumption<br>Communities⑤ Connections between activities (economy) and environmental creation<br>Communities⑥ Value of the region realized by the occasion of the arrival of an Oriental white stork<br>Communities⑨ Obtain the sympathy of multiple parties and their cycle of sympathy by promoting the story about the reintroduction of Oriental white storks | Cycle of sympathy | •Exercise of the synergistic effects between biodiversity conservation and community creation by creating regional brands<br>•Promotion of the story about biodiversity conservation (reintroduction of Oriental white storks) |

# Summary of the Hyogo Toyooka Model

## About activities carried out in the Toyooka region

The Oriental white stork, the symbol of the activities, is a special national treasure and a cultural property. Through the process of the activities for the reintroduction of Oriental white storks, people in the Toyooka region feel that living creatures are inseparable from the regional culture.

Against the background of international and nationwide trends towards reaffirming the importance of co-existence with nature, people in the Toyooka region have aimed to create sustainable communities symbolized by a special bird for the region, the Oriental white stork, and by achieving a balance between the conservation of biodiversity and regeneration and revitalization of the communities.

The characteristics of the activities in the Toyooka region are to promote these activities on the basis of science by setting up a community-based research institution in the prefectural university for the reintroduction of Oriental white storks, to organize a structure that can assess the data obtained through the investigative research, and to design a system that does not depend on unilateral policy development by the government, but on mutual coordination among scientists, governments, and communities based on the keyword of "sympathy" through recognition that the driving force for the development of communities is the local community itself.

Activities in the Toyooka region are carried out based on the preparations made by and the determination of the community residents to continue to live in this region. The citizens in the Toyooka region have even used disasters as an opportunities to create better communities, and have dealt with repeated flooding of the Maruyama River with the spirit of "overcoming disasters". At the same time, the citizens have come to appreciate the richness of the region through co-existence with nature that is symbolized by the reintroduction of Oriental white storks, and consider it as a source of pride for the region. Sympathy for these activities has spread to companies and industries within and outside the Toyooka region, and they have become involved in the activities to achieve the means to contribute to regional economic sustainability, including agriculture.

This could not have been achieved if the citizens had not changed their concept of values regarding the richness of the region from a "simple quantitative expansion" to a "qualitative expansion", which can be said to be the means for achieving the transition from a "growth strategy" to a "maturation strategy" as a form of survival strategy for local cities. In Japan, which is now facing the rapid depopulation of its society, this may be one of the goals that local cities should aim for.

Therefore, the Hyogo Toyooka Model can be described as:

- ***A model for creating sustainable communities by using local natural resources***

  A model for creating communities that use Oriental white storks as a symbol and position co-existence with nature in their policies, in order to attain both a "comfortable life" and "spiritual richness" with sustainability and economic vitality through regional nature and culture, based on the preparation and determination to "live in one's hometown"

- ***A model that induces the "cycle of sympathy", which converts people's attitudes into a driving force***

  A model that promotes the cycle which has created good synergy with the inclusion of public measures through accidental and inevitable disrupting factors that act as catalysts and has expanded activities by inducing the cycle of sympathy based on the axes of "sympathy for life" (Biophilia) and "love of the hometown" (Topophilia) that is present in people's minds

- ***A collaborative model between "science", "governments", and "communities"***

  A collaborative model formed by multiple parties to realize the vision of the residents by playing their individual roles under the governmental target of the "development of communities" based on the science concerning Oriental white storks, and by linking the "regeneration of the population of Oriental white storks" with the "restoration of the region"

## Five aspects of the activities

In the preceding chapter the "Analysis of the activities", the points of the activities to be reflected in the "Hyogo Toyooka Model" were classified by extracting key points regarding the "expansion" of measures and the "connections" among the concerned parties, targeting the representative fields (rivers, agriculture, and communities) of public measures in relation to the reintroduction of Oriental white storks (p.19).

Activities for the reintroduction of Oriental white storks in the Toyooka region have been expanded mainly by the "design of the structure through collaboration between scientists, governments, and the communities" and the "design of the process." Behind the expansion, it can be said that the "acceptance, active use and development of social trends" such as the revision of laws and regulations and the "use of accidental natural phenomena after their transition to promotion factors", such as damage to food crops due to Typhoon No.23 and the arrival of Hachigoro, are the characteristics. In addition, "understanding the regional traditional communities" was important in the process of accepting the activities for the reintroduction of Oriental white storks by the communities and formulating the connections among the parties.

Points of the activities for the reintroduction of Oriental white storks carried out in the Toyooka region are separated into the following 5 categories and their relationship can be classified as in the figure below.

## Five points of the activities for the reintroduction of Oriental white storks carried out in the Toyooka region (from p.19)

### ❶ Acceptance, active use and development of social trends

- Various laws and regulations were established in response to the concerns of citizens about environmental deterioration in the period of rapid economic growth.
- Since people in the Toyooka region were quick to appreciate the trends in the world, the changes in the environment where they live, and the movements of the national government, they started to develop activities using Oriental white storks, which used to inhabit the region, as a symbol of their vision.

### ❷ Design of a structure through collaboration between scientists, government agencies, and the communities

- The involvement of various parties was necessary to promote the "creation of local communities where Oriental white storks can thrive."
- A collaborative structure design was implemented so as to ensure that the involvement of various parties became a driving force for the activities.

### ❸ Design of the process

- From the viewpoint of how people come to a certain realization, translate this into a social movement, and express sympathy, then it was possible for strategically-sustainable activities to be established and developed.

### ❹ Use of accidental natural phenomena after their transition to promotion factors

- Movements towards the achievement of the targets were led by connecting incidental natural phenomena, such as the arrival of "Hachigoro" and the damage due to Typhoon No.23, etc., as a turning point for creating better communities and sympathy for positive feelings (pleasure and surprise).

### ❺ Understanding the regional traditional communities

- While making sure not to create discrepancies, activities were carried out by understanding forces of nature and connections of the traditional communities of villages that have maintained their lives both by using the blessings of nature and feeling its disruptive forces.

**Relationship diagram of the five activity points**

[Background] Domestic and international movements concerning biodiversity and nature restoration (Rio Declaration, revision of the River Act, and the agreement on agriculture in the Uruguay Round, etc.)

❶ Acceptance, active use and development of social trends

❷ Design of the structure through collaboration between scientists, government agencies, and the communities

❸ Design of the process

| Four processes | Key points of the connections and their expansion |
|---|---|
| Awareness | • Transition of social currents into regional issues<br>• Awareness of the critical changes in the regional environment through scientific theory and analysis by a community-based research institution established in the prefectural university<br>• Values of the region pursued through the activities for the reintroduction of Oriental white storks |
| Sharing of a future image | • Sharing of a future image with multiple parties by setting the goal of using a single species (Oriental white stork) as a symbol representing the richness of the regional biodiversity |
| Transition to a social movement | • Development and exploration of the technologies for biodiversity conservation<br>• Implementation of community-based promotion/education and technical guidance<br>• Development of a collaborative structure among multiple parties<br>• Cultivation of the next-generation leaders for community creation |
| Cycle of sympathy | • Exercise of the synergistic effects operating between biodiversity conservation and community development by creating regional brands<br>• Promotion of the story about biodiversity conservation |

Inspirational events in the communities (the arrival of "Hachigoro," Typhoon No.23, etc.)

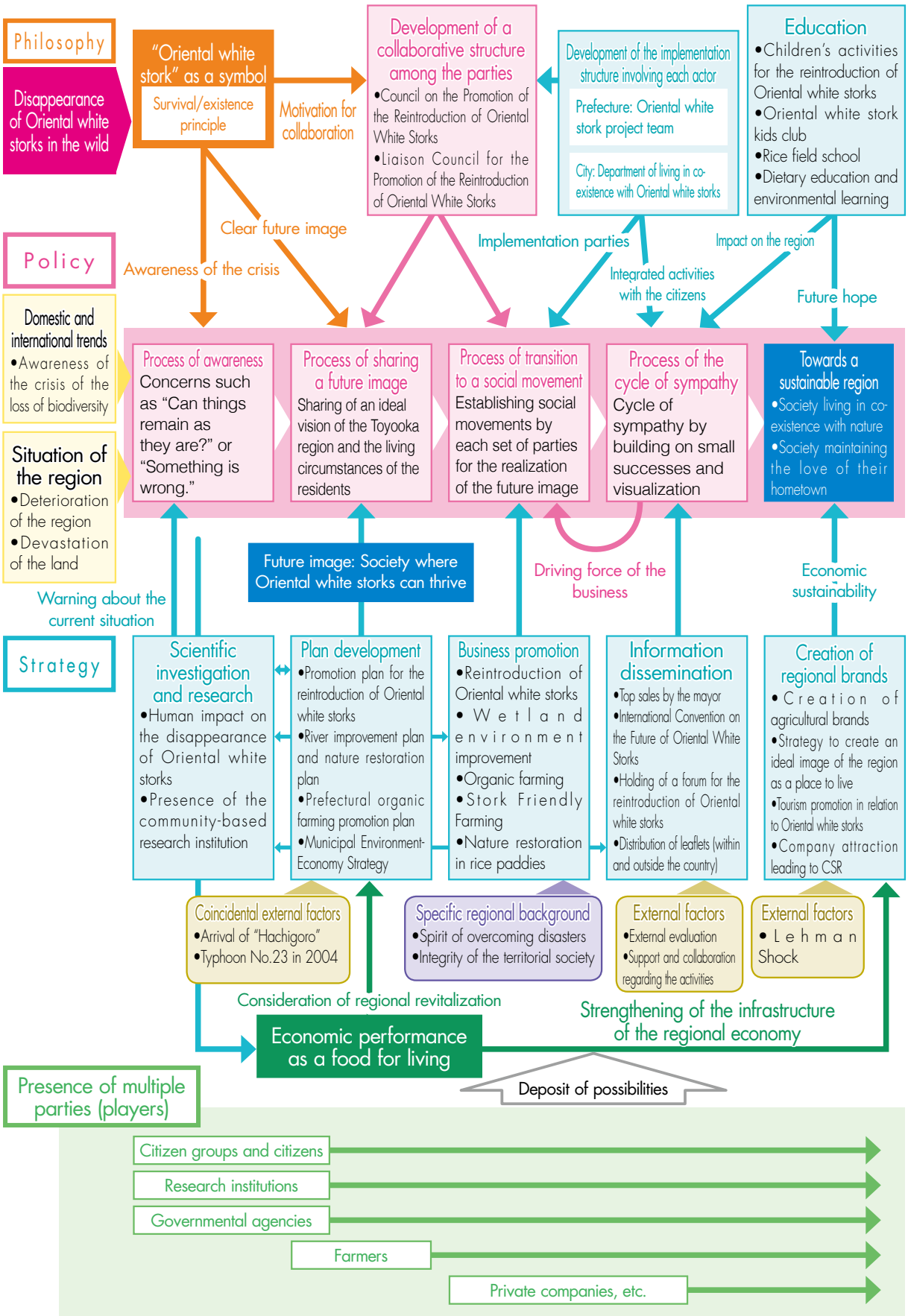
❹ Use of accidental natural phenomena after their transition to promotion factors

❺ Understanding the regional traditional communities

- Characteristics of a region that has embraced "living with nature" (the natural environment, history of overcoming disasters, and customs/habits)
- The last area where Oriental white storks lived

## Chart of the process of the development of the activities

The chart below illustrates the process and the mechanisms of the involvement of multiple parties and the expansion of the activities



## Process and mechanism of development

Regarding the "design of the process", which is one of the five points of the activities for the reintroduction of Oriental white storks carried out in the Toyooka region, the phases of the process in which a cycle of sympathy expanded were classified into four categories from the key points of the expansion of measures and the connections among the parties in each field (rivers, agriculture, and communities) (p.20).

**[Awareness]**
As the first phase, the phase of the "awareness" concerning the situation of the region is important. In the activities carried out in the Toyooka region, a community-based research institution called the Hyogo Park of the Oriental White Stork located in the prefectural university played a particularly significant role.

**[Sharing of a future image]**
In launching the activities for the reintroduction of Oriental white storks, the phase was shifted to the "sharing of a future image." The involvement of multiple parties was achieved by setting the goal of using Oriental white storks as a symbol of a productive hometown.

**[Transition to a social movement]**
In order to create conditions in which multiple parties can be involved in the reintroduction of Oriental white storks, the phase of the "transition to a social movement" is necessary. The improvement of wetlands and the development of the techniques and their promotion/education for Stork Friendly Farming were implemented. In this phase, a collaborative structure among multiple parties (citizens, farmers, research institutions, government agencies, and companies) was established.

**[Cycle of sympathy]**
In order to expand the activities for the reintroduction of Oriental white storks and create sustainable communities, a "cycle of sympathy" is necessary. The production of synergistic effects between the conservation of biodiversity and community creation was aimed at by creating agricultural brands using Stork Friendly Farming, and the promotion of the story about the reintroduction of Oriental white storks was conducted both within and outside the region.

Based on this, the mechanism including the relationship between the "process" of the activities for the reintroduction of Oriental white storks in the Toyooka region and the developed "strategy" is shown in the "chart on the process of activity development" (p.23).

# Recommendations for making further progress in relation to the activities

The targets of the activities for the reintroduction of Oriental white storks in the Toyooka region have not been achieved completely at the present moment. They are in the process of completion with some issues to be resolved.
"Recommendations for making further progress in relation to the activities", which classify issues and considerations at the current phase in developing the activities for the reintroduction of Oriental white storks carried out in the Toyooka region, and promoting the conservation of biodiversity in the future through cooperation between the Toyooka region and other regions, are summarized for the Investigation Committee on the Reintroduction of Oriental White Storks as follows:

## Overview of the past activities in the Toyooka region

As one of significant results of the activities carried out in the Toyooka region, "design of the collaborative structure for the activities and the examination" in the early stage can be described. In creating local communities where Oriental white storks, a bird endemic to the region, can live with community residents, the assumptions about issues to be expected and the parties and departments/agencies of the governments to address such issues were examined. Then the Liaison Council for the Promotion of the Reintroduction of Oriental White Storks was organized by gathering such parties and departments/agencies of the governments together in order to share the target image and clarify their roles.
According to the analysis of the activities, though it may not have been intended originally, the activities can be separated into four main processes: (1) Process of awareness; (2) Process of sharing a future image; (3) Process of the transition to a social movement; and (4) Process of the cycle of sympathy. These four processes are closely related to the shift in the "mind" of community residents in relation to the survival/existence principle, and the love of the hometown and hope for the future felt by the residents who have made preparations and shown the determination to continue to live in the region have become the driving force. The activities in each process are linked to the cycle of sympathy resulting from the coincidence of natural phenomena and strategic approaches to such a "mind" or "attitude" through public measures using such phenomena as the momentum for these activities.

It can be considered that the activities carried out in the Toyooka region have been expanded and developed into the participation of and collaboration among multiple parties through these four processes with the feeling of the love of their hometown and hope for the future as the driving force. In addition to the design of the collaborative structure of the activities and the examination, this design process will be especially helpful when starting any new activities in other regions.

Even after suffering tremendous damage due to the Great Hanshin-Awaji Earthquake in January 1995, Hyogo prefecture continued the project to establish the Hyogo Park of the Oriental White Stork, which became an important base for the reintroduction of Oriental white storks. In addition, even after suffering tremendous damage due to Typhoon No.23 in 2004 (flooding of the Maruyama River), the region selected a method for the improvement of wetlands that achieves a balance between water control and environmental conservation by not focusing only on water control. The Ministry of Land, Infrastructure, Transport and Tourism strongly promoted the improvement of wetlands by taking this damage as an opportunity.
Behind them, there was the strong will of the concerned parties in the region, and there were also the regional characteristics of having a culture and history of co-existence reflecting the harsh natural phenomena and environment. People having made the preparations and with the determination to continue to live in the region share the future image symbolized by the Oriental white stork, the pride of the region, which aims for the "creation of an environment in which Oriental white storks can thrive." The parties in the region continue to make efforts towards achieving such a future image. This can be considered as a reference for a survival strategy of local communities, since the deterioration in local cities is being taken up as a current issue around Japan.
In Japan, the concentration of the population in large urban areas has accelerated due to the declining birth rate and the aging of the population. In this situation, local cities are passing through the transition stage from a strategy of growth through social capital improvements to a maturation strategy based on natural capital. They have to select a "Gray infrastructure" or a "Green infrastructure." However, if the maturation strategy is selected, the process will not be easy. Considerable human effort and funds will be necessary. The most important condition is the preparation and the determination to continue to live in the area as an individual and a community. People's feeling of love for their hometown, pride in their hometown, and sharing of a hopeful future image is the first step towards the maturation of such communities. It can be considered that this selection process will create new forms of happiness, which will make local cities survive in the face of the depopulating society. This will furthermore be linked to the development of Japan in the future.

## Issues and points to be noted in proceeding with future activities

### [Viewpoint①]Impact on human society

[Activity fields] Science and communities

Due to the start of the reintroduction of Oriental white storks and the increase in the population of non-captive Oriental white storks, there may be an impact resulting from the close distance between wild animals and human living areas/society.
For example, in addition to actual cases such as traffic accidents and coming into contact with animal protection nets, there are risks of the spread of intermediate disease organisms such as bird flu or inflicting harm on people directly. Moreover, there is concern that Oriental white storks will become a common bird and be buried in people's memories due to the increase in non-captive Oriental white storks, and the continuous improvement and maintenance of the natural environment and social environment that Oriental white storks can thrive in may be neglected.
In order to address this, it is necessary to share issues through cooperation among the concerned parties including those in the field of science (prefectural university and research institution) and local governments, and to disseminate appropriate information in the communities.

### [Viewpoint②]Impact and responsibility for the migration of Oriental white storks outside the Toyooka region

[Activity fields] Science and communities

As Oriental white storks fly outside the Toyooka region (within and outside the country), it is necessary to disseminate and collect information both within and outside the country on the ecology of Oriental white storks and issues described in viewpoint (1), etc., as part of the position on the reintroduction of wild organisms that have disappeared (reintroduction in accordance with the IUCN guidelines).
Moreover, as the present Oriental white storks in Japan are descended from a limited pedigree, it is necessary to prevent genetic deterioration due to crossing with other Oriental white storks flying over from the continent, and to understand the situation of these Oriental white storks.
As a pioneer that has responsibility for their reintroduction, the research institution specializing in the reintroduction of Oriental white storks should play the central role in addressing these issues by establishing a nationwide network of research institutions and related parties throughout the country regarding monitoring, the prediction of impacts, information dissemination, and the examination of countermeasures, etc.

### [Viewpoint③]Trade-off*1 between the conservation/creation of a habitat for Oriental white storks and short-term profits, convenience, and development in human society

[Bereiche] Rivers, agriculture, and communities

In proceeding with the creation of a society living in co-existence with Oriental white storks, there is the possibility of a trade-off between conservation/creation of the habitat for Oriental white storks and social capital goods.
For example, in the field of rivers, though a balance between water control and environmental conservation can be achieved by the creation of wetlands, the surrounding area of the rivers may become a temporary place for construction-generated soil if a disaster restoration project is developed within a limited period. As a result, a trade-off having an impact on the natural environment (a temporary reduction in wetlands, etc.) will result.
In addition, in the field of agriculture, there is a possibility that damage to agricultural products will increase due to an increase in wild animals including Oriental white storks more than is currently expected.
Moreover, in the field of communities, in the case of the implementation of the improvement/development of the social infrastructure, there will be a trade-off with the conservation of the habitat for Oriental white storks using plain areas (conversion of rice paddies, etc.).
Measures, plans, and rules that simulate such trade-offs must be prepared.

[Example] Field of rivers
A method having little impact on the habitat of Oriental white storks will be selected using the results of research on the environmental impact and through collaboration with scientists. After consultations with experts, projects will be implemented by taking into consideration the habitat.

[Example] Field of agriculture
To provide scientific evidence at the time of holding discussions, it is desirable that investigations and research on the qualitative evaluation of wetlands as feeding sites and the current evaluation and the improvement of the environmental capacity of the Toyooka region be conducted.
[Example] Field of communities
Regarding the trade-off with social capital goods, rules for planning and coordination including the prevention of urban sprawl (disorderly expansion of urban areas) and restrictions on the conversion of farmland will be prepared by predicting events that will occur in the future.

### [Viewpoint④]The understanding and misunderstandings of citizens who have observed the current situation of the progress of the development of communities through the activities for the reintroduction of Oriental white storks

[Activity field] Communities

There is a risk of giving the impression to people within and outside the Toyooka region that the reintroduction is easy or the communities will become activated by the reintroduction of Oriental white storks if they have little recognition of the efforts of the original predecessors and background and issues regarding the necessity of the reintroduction, and look only at the positive side of the development of communities through these activities for the reintroduction of Oriental white storks.
Originally, the reintroduction of Oriental white storks is an activity that was carried out for the realization of a "society living in co-existence with nature." Therefore, it is necessary to disseminate and inform people of the fact that this activity has required an enormous amount of money, labor, and time.

### [Viewpoint⑤]Adjustment to the existing system for the development of the activities

[Activity field] Agriculture and communities

In order to operate eco-friendly farming and use abandoned cultivated land, the water rights need to be acquired. Since this may result in the emergence of new interests, it is necessary to make careful adjustments with the concerned organizations.
Similarly, regarding the improvement of wetlands using abandoned paddy fields, issues of property rights and land utilization plans are expected to arise. It is necessary to make careful adjustments with regard to property rights and the existing systems/plans.

### [Viewpoint⑥]Continuous collection of index data for the evaluation of the activities

[Activity field] Agriculture and communities

Based on the PDCA cycle*2, it is necessary to continuously classify and evaluate the implementation status and project effects in order to introduce new measures and improvement measures.
In the field of agriculture, since the rate of expansion of rice paddy acreage of Stork Friendly Farming has slowed recently, numerical data for the amount of crop yields and the production costs by farmer and by district are necessary in order to perform a factor analysis.
In the field of communities, indices concerning the awareness and actions of the citizens and dynamic data on tourists are necessary as a means of comprehensive evaluation.
However, under current conditions, the amount of index data that can be used to evaluate the measures and has been measured over time is insufficient. Especially in the field of communities, additional measurement and collection need to be implemented.
For example, in the field of communities, the evaluation of the activities by the citizens (almost equal to the degree of recognition or satisfaction), changes in the environmental trends, the effects of environmental education, the purpose of visits by tourists, and the amount of consumption within the city need to be measured and collected. In the field of agriculture, numerical data by farmer and by district concerning the amount of crop yields, the motivation for the activities, and the production costs, etc., also need to be measured and collected.

*1 Trade-off: a relationship in which one loses something when one gains something
*2 PDCA cycle: A management method that continuously improves the process by repeatedly conducting actions consisting of 4 phases (Plan → Do → Check → Act)

### [Viewpoint⑦]Nationwide brand competition

[Activity fields] Agriculture and communities

With the expansion of the activities for the reintroduction of Oriental white storks across the country, it is assumed that the brand value of Stork Friendly Rice and other agricultural products may decline relatively. The development of agricultural brands not only by Stork Friendly Farming, but also by farming methods co-existing with the natural environment has been implemented nationwide. Therefore, it is predicted that brand competition in this field will increase. It is necessary to develop a strategy for the expansion of demand while maintaining the quality and the brands, so as not to reduce the impact of all brands due to excessive competition.

## Towards nationwide development in the future

### Roles of the parties in relation to the Toyooka region with growing expectations

Oriental white storks from the Toyooka region flew over 200 municipalities in Japan, and they flew to Korea in March 2014. In addition, activities in Noda City, Chiba and Echizen City, Fukui have rapidly shifted from captive breeding to the release of Oriental white storks. The expected roles of the parties in relation to the Toyooka region that has implemented activities for the reintroduction of Oriental white storks ahead of the country have become greater.

The roles of Hyogo prefecture and the University of Hyogo that have research institutions, including the Hyogo Park of the Oriental White Stork, and have led investigations and research, and Toyooka City that has supported the reintroduction of Oriental white storks in the region and has developed it as a symbol of community development, are especially important.

### Need for a national network and the role of being the front runner

Expectations for the Hyogo Park of the Oriental White Stork are to classify the results of the release of Oriental white storks and its process and to create a manual as a reference for other areas. Consultations from an ecological viewpoint are also expected.

In the field of science concerning Oriental white storks, the "Inter-institutional Panel on Population Management of the Oriental White Stork" (IPPM-OWS) was established in December 2013 by domestic organizations engaged in the breeding of Oriental white storks for mutual collaboration.

The expected roles of Hyogo prefecture and Toyooka City, as the front runners among governments to promote the reintroduction of Oriental white storks, are to create a network of local municipalities that will conduct activities for the reintroduction of Oriental white storks (e.g. Japan Municipal Network for the Promotion of the Reintroduction of Oriental White Storks (tentative name)) and to play a central role as an organizer in collaboration with IPPM. Sharing of the issues and know-how of the parties and departments/agencies of the governments by using such a network and contributing to the development and the deepening of nationwide activities are also expected.

On the other hand, with the expansion of activities across the country, there could be concern that the originality and leadership of the activities in the Toyooka region may become overlooked. As a region with a history in relation to Oriental white storks, the parties in relation to the Toyooka region must continue to carry out activities towards higher goals and make efforts to remain the leading communities involved.

### Maintenance of biodiversity through the maturation of the regional communities

Activities for the reintroduction of Oriental white storks can be considered as of both the "SATOYAMA initiative type" that maintains biodiversity by means of people's involvement and of the "Living model of biodiversity" that is linked to the creation of communities and their way of living.

To ensure that the Oriental white stork, a bird of the region, continues to inhabit the region will form the basis of the sustainability of the communities, including the people and other living organisms. This is not viewed only from the perspective of the conservation of special national treasures or endangered species, but also indicates the way forward for communities and the way of living for Japan in the future, as well as the means for individual involvement in community creation in every community.

### Necessity of continuous collaboration among the concerned ministries and agencies

The current situation has been achieved thanks to the continuous support of the Agency for Cultural Affairs since 1963 and support from other concerned ministries and agencies for Hyogo Prefecture in conducting activities for the conservation of a special national treasure, Oriental white storks. However, reintroduced Oriental white storks do not stay in specific areas but fly from place to place both within and outside the country. Therefore, the creation of a national network of activities as well as continuous collaboration among the concerned ministries and agencies (Agency for Cultural Affairs, Ministry of Agriculture, Forestry and Fisheries, Ministry of Land, Infrastructure, Transport and Tourism, and Ministry of the Environment) and their support are essential.


Investigation Committee on the Reintroduction of Oriental White Storks

Shiro Wakui (Professor at Tokyo City University) ◎
Akira Furukawa (Professor at Kwansei Gakuin University) ○
Hisashi Nagata (Associate professor at Niigata University)
Takeshi Fujie (Associate professor at Shiga University)
Yumiko Oyama (Director at Tansei Institute Co., Ltd.)

◎: Chairman ○: Vice-chairman

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