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# KOREA ARBORETA AND GARDENS INSTITUTE

## ANNUAL REPORT 2020



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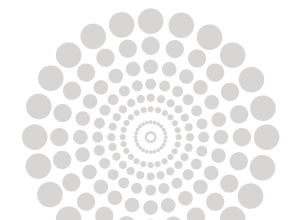
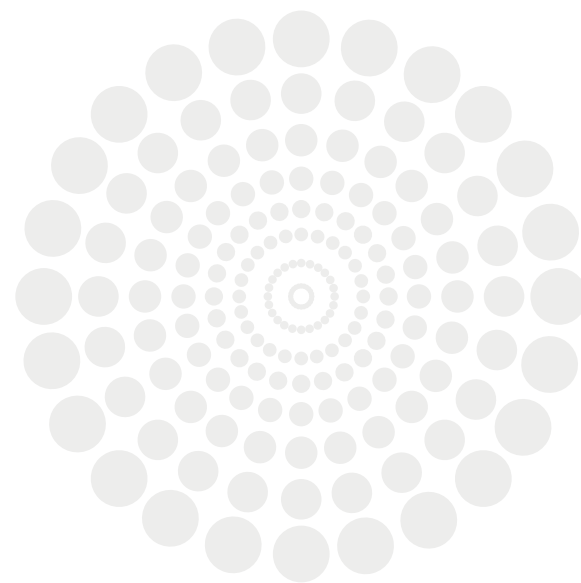
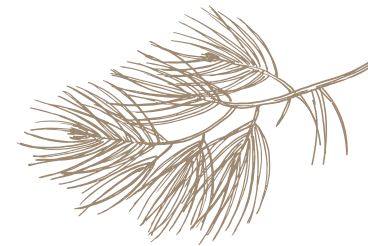
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# KOREA ARBORETA AND GARDENS INSTITUTE

ANNUAL REPORT 2020



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According to the OECD Environmental Outlook, global forest biodiversity is expected to decrease significantly by 2050 due to climate change. The 'Analysis of Climate Change Prospects on the Korean Peninsula,' published by the Korea Meteorological Administration, predicts that climate change will accelerate and expects severe damage to occur in the 21st-century.

Many countries around the globe are making efforts to conserve forests' biological resources, which are experiencing serious harm due to climate change and development. In addition, each country is responding sensitively to secure biological sovereignty. Botanical gardens are expected to play more a consolidated role globally in an attempt to solve these problems.

In order to achieve the goals of the Convention on Biological Diversity(CBD) and Global Strategy for Plant Conservation(GSPC), strategic planning and management system is required.

Korea is creating national arboreta for each climate and vegetation zone in order to conserve forest biological resources and improve people's quality of life through the exhibition, education, and health functions of arboreta in the Baekdudaegan (high mountainous), central temperate, and coastal areas along the ecological axis of the Korean Peninsula.

「Korea Arboreta and Gardens Institute」 operates the national arboreta created in different climate and vegetation zones to preserve valuable forest biological resources. We will play a pivotal role in promoting ecosystem health as a safety net for forest biological resources on the Korean Peninsula.

Operating primarily in the Baekdudaegan National Arboretum(alpine region), the Korea Arboreta and Gardens Institute opened the Sejong National Arboretum(Urban area) in 2020, laying a foundation to manage forest resources by climate zone. In addition, the Saemangeum National Arboretum(coastal region) will open in 2027, further establishing the regional conservation and management

system of the biological resources of forests. In this way, we plan to further expand the industrial use of these resources and provide public services.

In addition, we are carrying out various activities to fulfill the goal of 'public engagement' with the global plant conservation strategy, including the pursuit of such tasks as the conservation of forest biological resources, operation of expert training programs, and establishment of domestic and overseas conservation networks. Our organization also plans to expand its gardening program, including "planterior" gardening, from 2021 so as to reach people's lives more intimately.

「Korea Arboreta and Gardens Institute Annual Report 2020」 summarizes and introduces the significant achievements of the institution and the results of core projects over the past year. We hope this publication will help people understand the function and value of our institution.

We are also looking forward to achieving meaningful network activities with relevant domestic and foreign organizations. If you have any ideas for what we can do with our functions, please feel free to contact us.

Our executives and staff will strive constantly to provide customer-oriented and multi-dimensional arboretum-based cultural services, promote diversity of biological resources, and create new value.

**RYU, Kwang-Su**

Korea Arboreta and Gardens Institute  
Chairperson



History

~ 2017

Established and incorporated the Korea Institute of Arboretum Management

2018

Officially opened Baekdudaegan National Arboretum

2020

Officially opened Sejong National Arboretum

2021 ~

Change the name of the organization to the Korea Arboreta and Gardens Institute

Waking phase

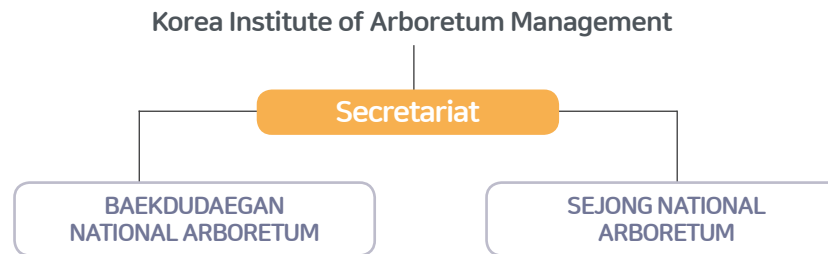


\* 2018.05 officially opened



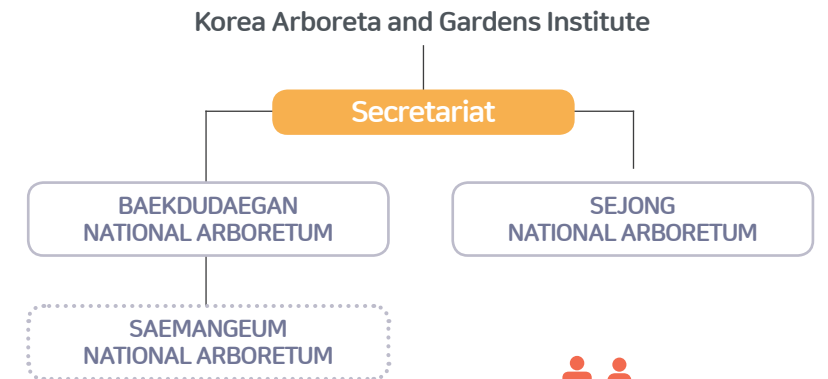
235 people

Spring phase



469 people

Growth phase



More than 1,000 people

Characterization by Organization



01 BAEKDUDAEGAN NATIONAL ARBORETUM

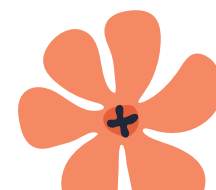
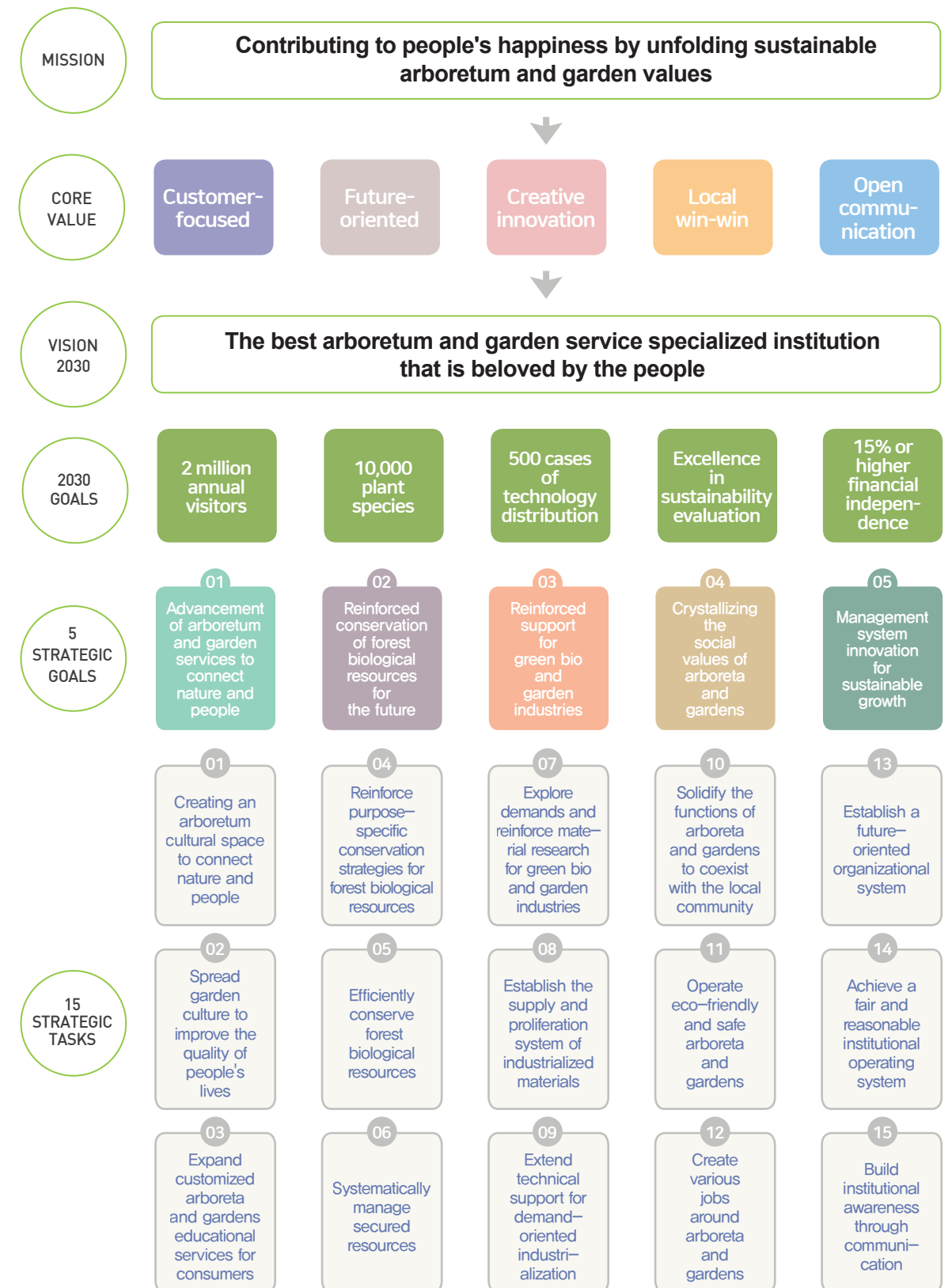
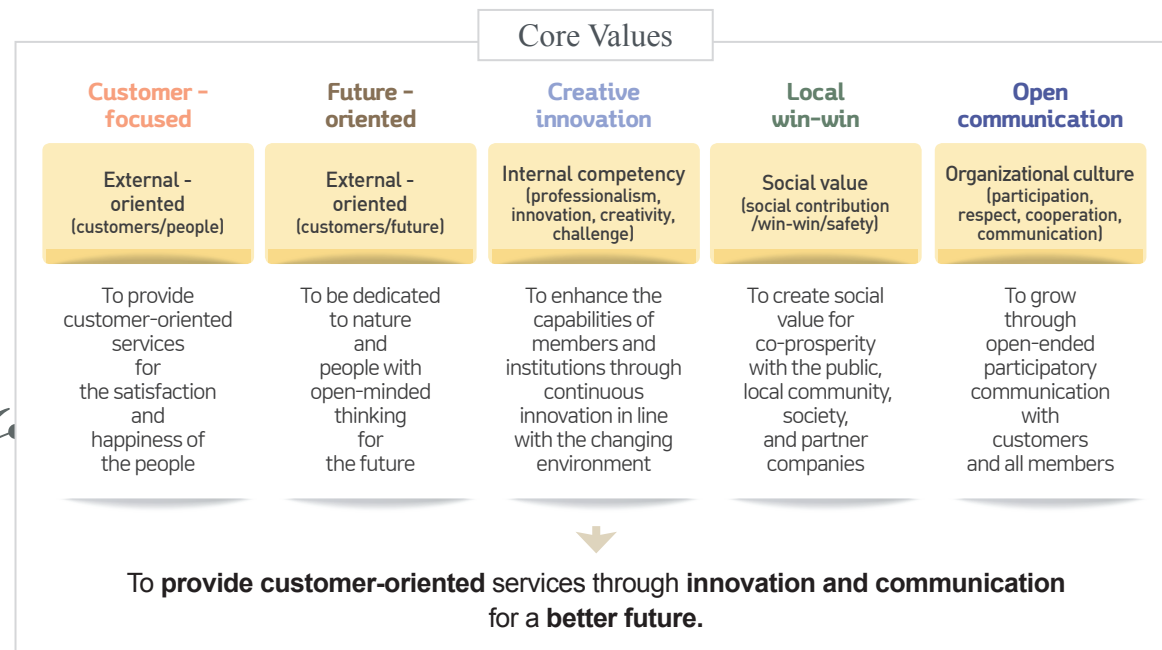
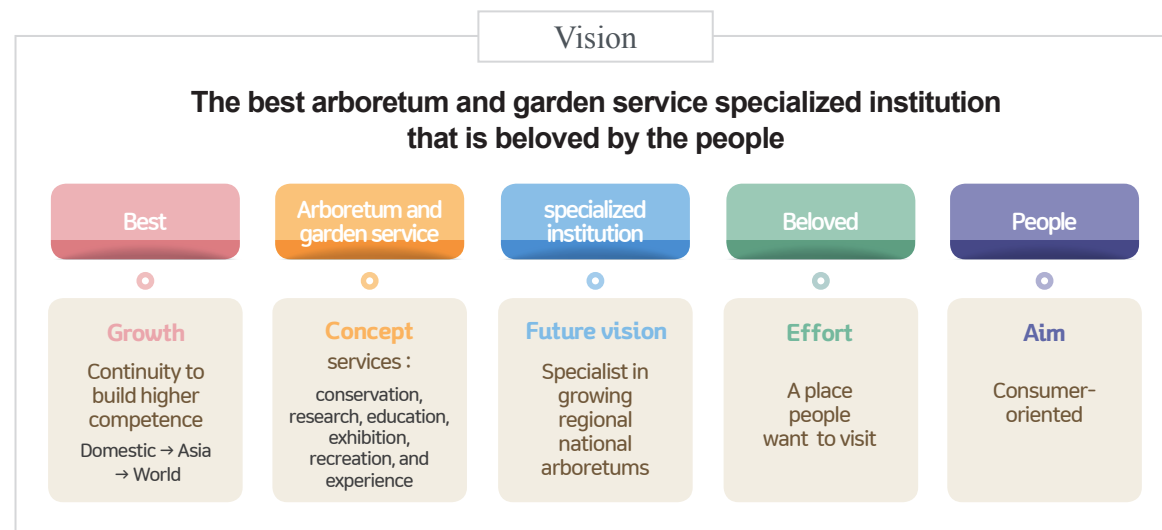
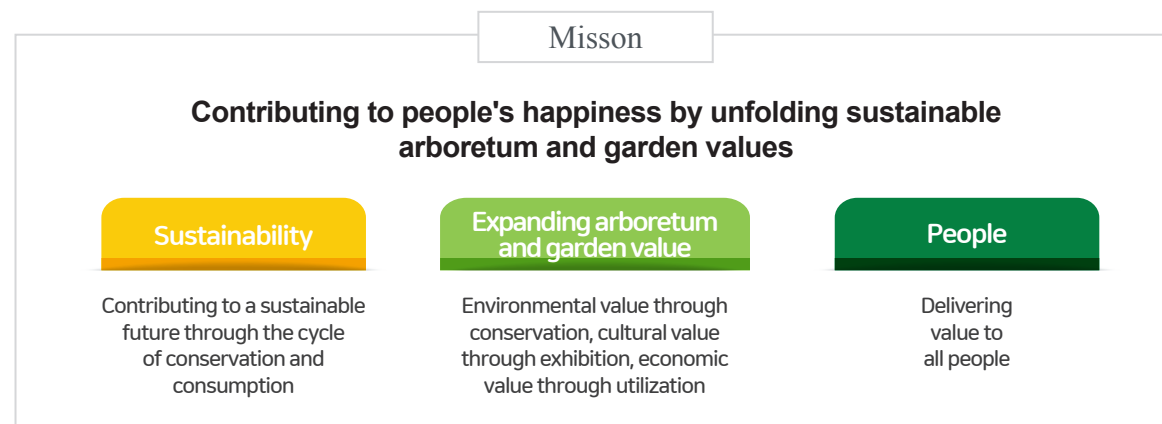
- Reinforced conservation of forest biological resources (alpine region)
- Storage for conservation of wild plant seeds (Seed Vault)
- A study on industrialization of wild plant

02 SEJONG NATIONAL ARBORETUM

- Reinforced conservation of forest biological resources (temperate forest)
- A study on garden plants in the living area

03 SAEMANGEUM NATIONAL ARBORETUM

- Reinforced conservation of forest biological resources (coastal region)
- A study of coastal, island areas and halophytes



## Reinforcing conservation of forest biological resources for the future

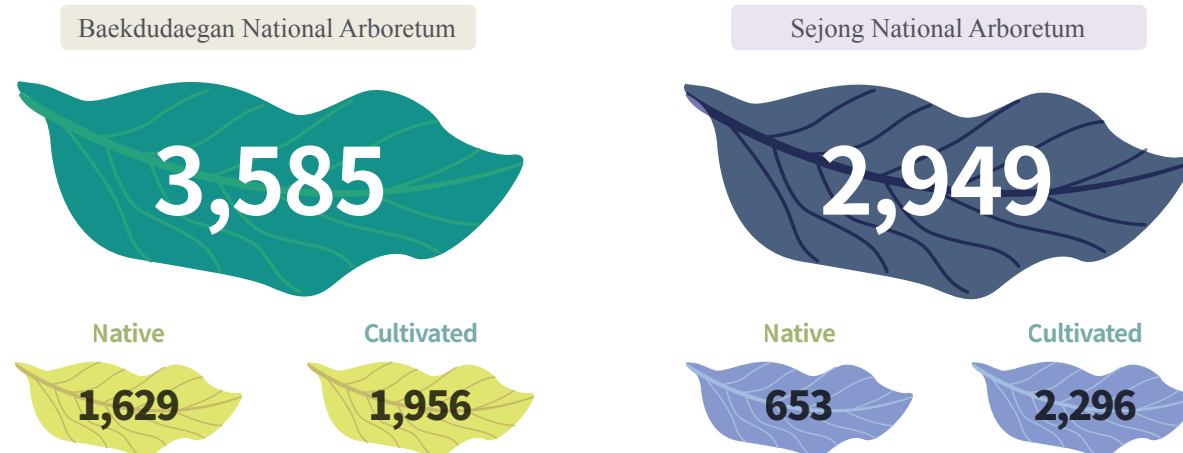
### Reinforcement of conservation strategies for future forest biological resources

The Korea Arboreta and Gardens Institute is carrying out various activities to establish and strengthen forest biological resource conservation. First, we have prepared a collection strategy that reflects the institution's mission and vision and the characteristics of each arboretum in order to systematically secure and preserve forest biological resources ex-situ. We have collected seeds from Baekdudaegan, the largest and longest mountain range in Korea, and pursued species diversity by gathering seeds and specimens from unsecured species such as Poaceae and Cyperaceae. In addition, for purposes of efficiency, we have strengthened the management of confirmed specimens and collection history information of living organisms and seeds. We have also prepared a non-face-to-face collection plan to respond to COVID-19 by nurturing local experts preemptively, collecting seeds and specimens from four countries—Kazakhstan, Kyrgyzstan, Uzbekistan, and Tajikistan—and preparing and distributing regional collection manuals in English and Russian.

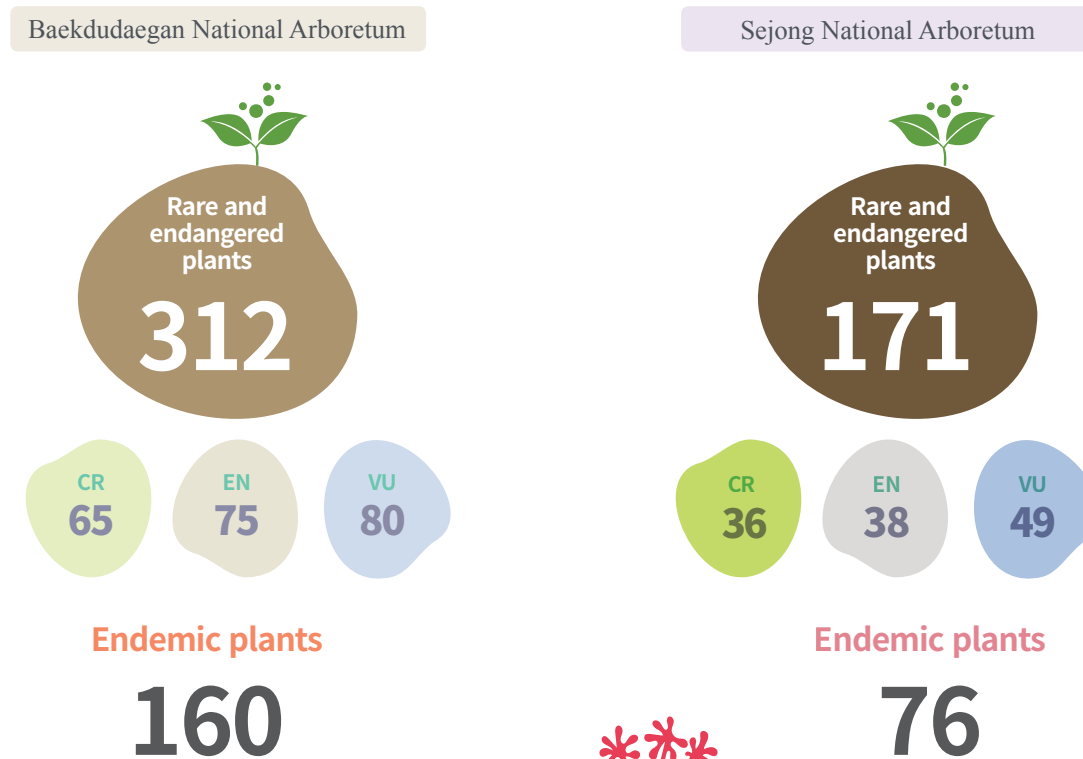
In addition, we are responding to climate change by establishing a research system for systematic conservation plans and preparing for the multilateral restoration of damaged areas by such means as developing diagnostic evaluation items for each damage type and securing and analyzing materials for the restoration foundation.



## Plants in the introduction Arboretum



## Rare and Endangered / Endemic plants





STRATEGIC GOAL

## Reinforcing conservation of forest biological resources for the future

PROJECTS

- Stable conservation of forest biological resources
- Systematic management of secured resources

DESCRIPTION

The Korea Arboreta and Gardens Institute possesses a global seed vault, a permanent underground tunnel-based wild plant seed storage facility, which is intended to prepare for potential extinction of wild plant species due to unforeseen global catastrophes such as climate change or warfare.

Accordingly, we stored 92,681 seeds of 4,084 species by 2020 to fulfill our mission of 'Preserving Species Diversity through Safe Storage of Wild Plant Seeds Worldwide.' In addition, we have strengthened the security and stability of seed storage by introducing a black box system.

In order to foster the seed vault as a hub for wild forest plants in Asia, we are expanding our range of cooperative institutions, by such methods as operating a seed conservation council. In addition, we have tried to promote biodiversity by consigning and storing seeds from various institutions including domestic and foreign arboreta, research institutes, and universities.

MAJOR ACHIEVEMENTS

### Seeds in the seed vault

#### Species

# 4,084

1,365  
Collected

3,695  
donated

#### Individuals

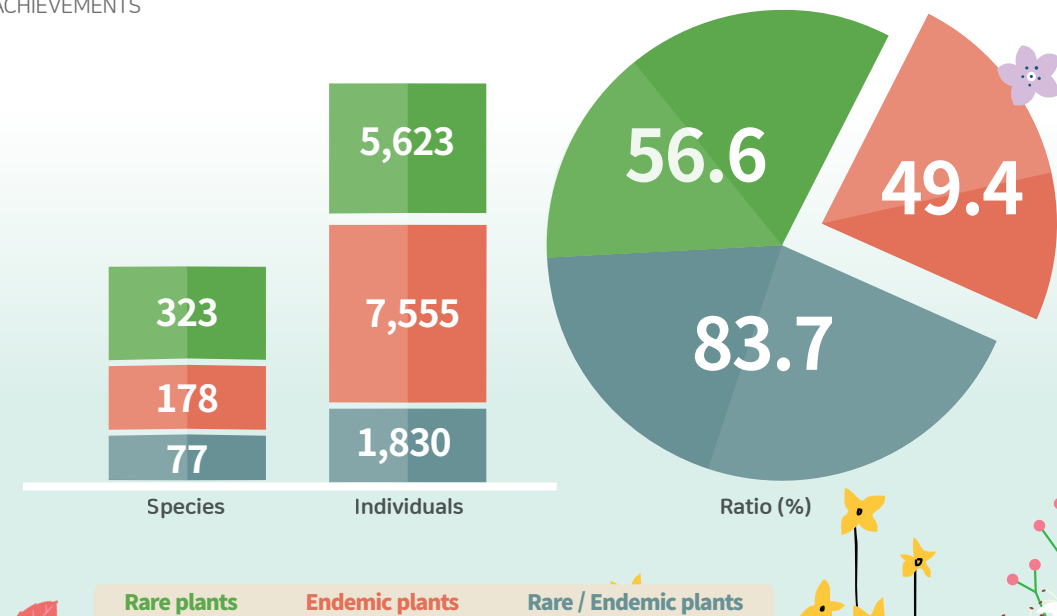
# 92,681

26,859  
Collected

65,822  
donated

MAJOR ACHIEVEMENTS

### Storage of rare and endangered / Endemic plants



Seed Vault

STRATEGIC  
GOAL

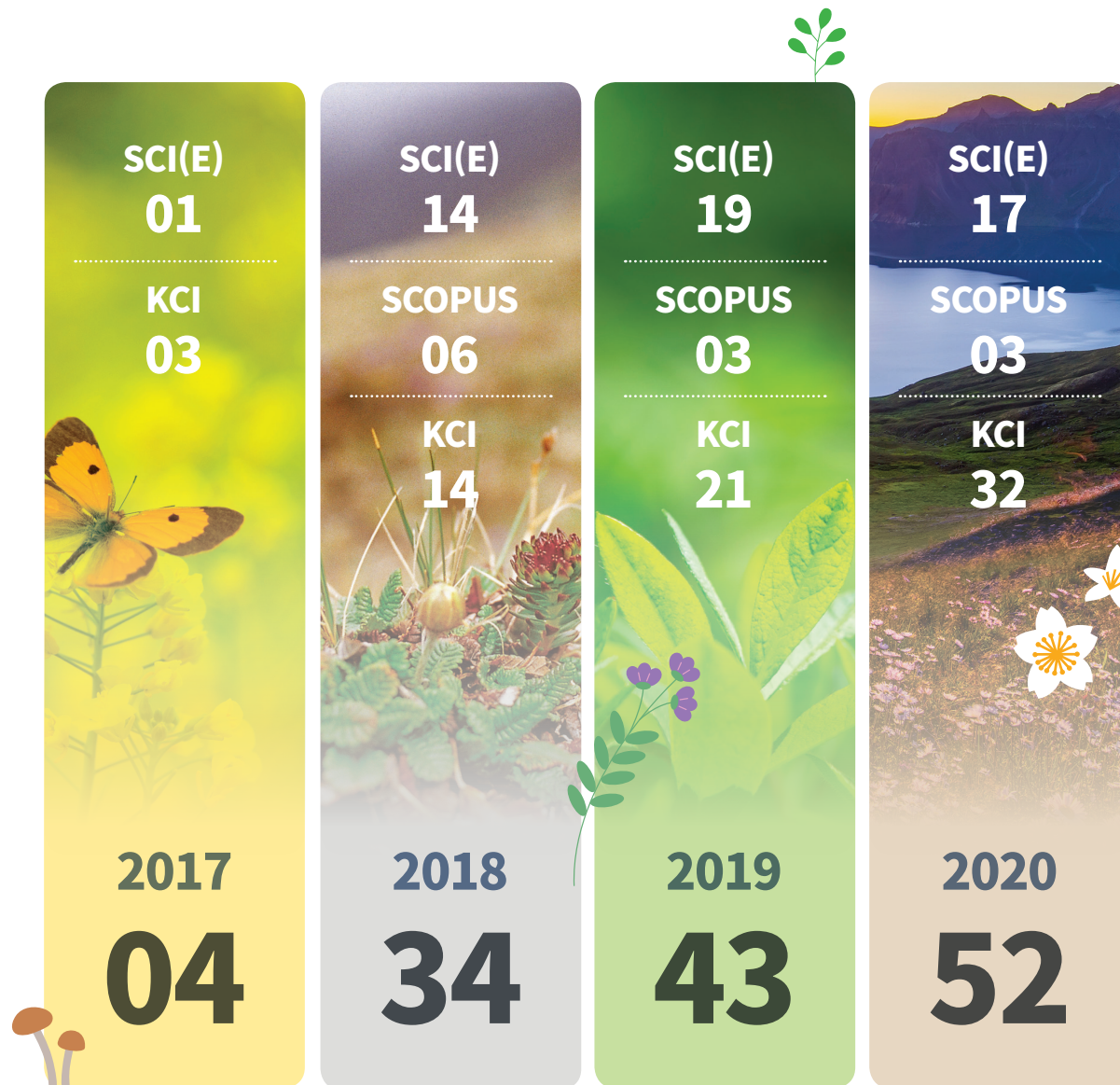
## Reinforcing support for green bio-industrialization

PROJECTS

## Reinforcing demand-oriented industrial support

MAJOR  
ACHIEVEMENTS

## Research publications

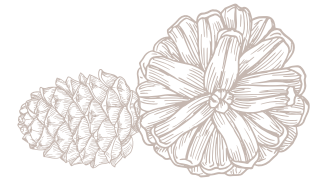


DESCRIPTION

The Korea Arboreta and Gardens Institute conducts various research projects in areas such as ecology, seed physiology, genetics, discovery, and utilization of forest biological resources, in addition to forest biological resource conservation research. We aim to establish a foundation for the industrialization of forest biological resources, create new value for forest biological resources, enhance industrial utilization, and support the industrialization of technology and regional coexistence-based research.

MAJOR  
ACHIEVEMENTS

## Patents and technology transfers





STRATEGIC GOAL

## Advancement of arboretum services to connect nature and people

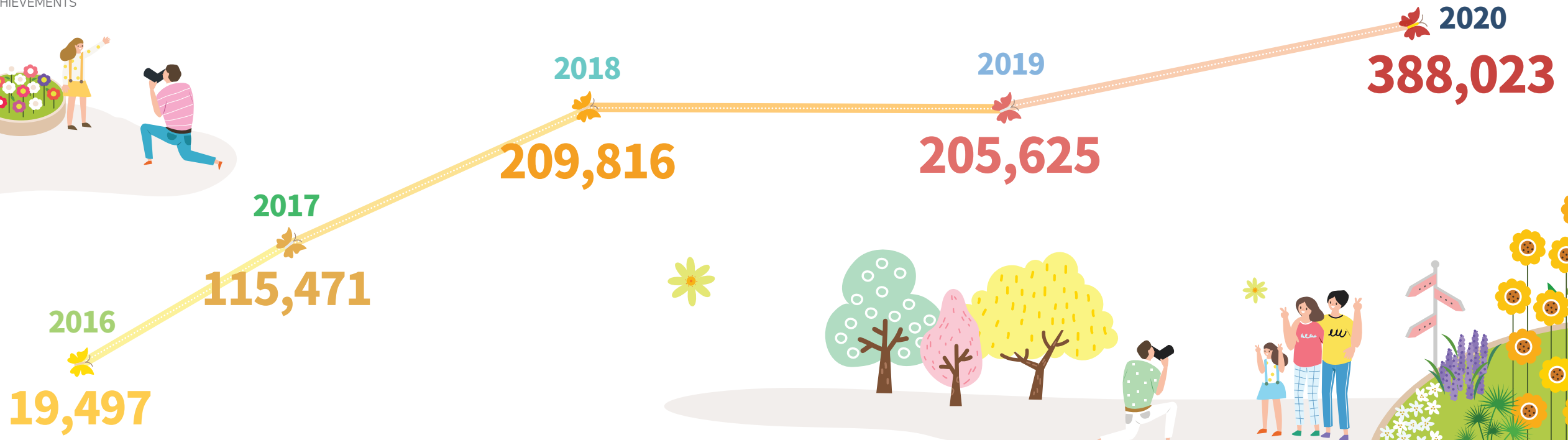
PROJECTS

- Creating a complex cultural space to connect nature and people
- Extending arboretum and garden culture to improve quality of life

MAJOR ACHIEVEMENTS

### Arboretum visitors

TOTAL  
**938,432**



#### DESCRIPTION

We have continually improved exhibition garden landscaping through use of the four seasons exhibition greenhouse, the largest glass greenhouse for plant exhibitions in Korea, and have provided the most distinguished customer-oriented exhibition by collecting, propagating, and displaying plant species that are not easily accessible to the general public, including rare and endemic plants. In addition, various cultural events such as contests, special exhibitions, performances, and festivals have been held to provide new and diverse public attractions.

In festivals such as the Bonghwa Native Plant Festival, we realized a local win-win relationship, enhanced the industrial value of native plants, and promoted the rural economy by producing and supplying plants necessary for arboretum operation and management through contract cultivation with local farmers and dissemination of technology.



STRATEGIC GOAL

## Advancement of arboretum services to connect nature and people

PROJECTS

### Expansion of customized customer/education services

DESCRIPTION

We have provided high-quality forest education services by operating customized arboretum education programs, and have extensively planned and operated education and experience programs for various subjects customized for children, elementary students, teenagers, social welfare facilities, teachers, and public officials, including diverse subjects and garden stays.

In addition, we have pursued social value as a public institution by planning and providing various educational programs for those with accessibility difficulties, providing cultural benefits to groups such as the elderly, the disabled, island region residents, and the underprivileged. We have also achieved social value as a public institution through application of professional human resources by planning and operating specialized education to pursue sustainable development in the forest sector, nurturing experts in the fields of arboreta, garden, forestry, ecology, and performing maintenance education through monitoring training for botanical experts.

MAJOR ACHIEVEMENTS

Number of educated beneficiaries

115,100

30,992

33,787

33,483

16,838

MAJOR ACHIEVEMENTS

Training of professional human resources

764

514

141

109

2020

2019

2018

2017





Medicinal Plants Garden (12,323m<sup>2</sup>)



Rainbow Garden (3,960m<sup>2</sup>)



Butterfly Garden (690m<sup>2</sup>)



Baekdudaegan Native Wildflower Garden (13,127m<sup>2</sup>)



Wildflower Hill (26,822m<sup>2</sup>)



Lawn Hill (12,352m<sup>2</sup>)



Rock Garden (16,424m<sup>2</sup>)



Baekdudaegan Native Plant Garden (17,232m<sup>2</sup>)



Alpine House (11,500m<sup>2</sup>)



Alpine Wetland Garden (10,329m<sup>2</sup>)





Garden Square (26,822m<sup>2</sup>)



Wild Flower Garden (11,400m<sup>2</sup>)



Aquatic Plant · Garden Walk (57,200m<sup>2</sup>)



Tactile Garden (9,400m<sup>2</sup>)



Korean Traditional Garden (32,100m<sup>2</sup>)



Four Seasons Garden - Special exhibition hall (2,200m<sup>2</sup>)



Four Seasons Garden - Mediterranean Plant Garden (2,200m<sup>2</sup>)



Four Seasons Garden - Tropical Plant Garden (2,800m<sup>2</sup>)



Rare & Endemic Plant Garden (9,500m<sup>2</sup>)



Four Season Conservatory (10,096m<sup>2</sup>)



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