

1. Regional Profile

Geographical Location	Country and Region	Nishiyama area, Nagaokakyo City, Kyoto Prefecture, Japan, East Asia												
	Longitude and Latitude	North Latitude 34°55'37", East Longitude 135°41'44" (Nagaokakyo City hall)												
	Geographical Conditions	<ul style="list-style-type: none"> • Urban neighborhood area • About 35 km in a straight line from the nearest sea • About 380 km in a straight line from Tokyo (capital) • About 10 km in a straight line from Kyoto City (prefectural capital) 												
Natural Environment	Topography and Altitude	<ul style="list-style-type: none"> • A ridge that is about 600 meters high runs through most of the Nishiyama area. The eastern side is precipitous terrain. There is gently sloping hilly land under the terrain, and a plain stretches out. Rivers, on the whole, run east and join the Katsura River. 												
	Climate	<ul style="list-style-type: none"> • There is no meteorological observation facility in the city. In the adjacent city of Kyoto, however, the average yearly temperature is 15.6°C, and annual precipitation is 1,545 mm. • The climate is classified under the Koeppen Climate Classification as Cfa (humid subtropical climate). 												
	Vegetation and Soil	<ul style="list-style-type: none"> • Regarding the vegetation in the Nishiyama area, about 64 percent is secondary forest (Japanese chinquapin, evergreen oak forest; konara oak, sawtooth oak forest; and Japanese red pine forest), about 20 percent is bamboo trees, and about 16 percent is artificial forest. • The soil is brown forest soil. 												
	Biodiversity and Ecosystem	<ul style="list-style-type: none"> • The diverse forest environments in the Nishiyama area provide habitats for many kinds of animals and plants. However, the recent devastation of forest and farmland has caused deterioration in the area's biodiversity. • Mountainous districts and the forest in the Nishiyama area have high significance as a constituent of the extensive green space which surrounds the Kyoto Basin and as an ecological network. • Ground water nurtured by the rich forest in the Nishiyama area has been known to be a source of rich and high-quality water for a long time. 												
Social Background	Population and Changes in Population	<ul style="list-style-type: none"> • The population of Nagaokakyo City which is known as a bed town of Kyoto and Osaka, grew greatly in the 1960s and 1970s. The population of the city as of 2005 is 78,335. • In accordance with the above-mentioned population increase, newly developed residential areas were made at the foot of the mountains close to the Nishiyama area, and now many commuters to Kyoto and Osaka live in such residential areas. 												
	History and Culture	<ul style="list-style-type: none"> • The Nishiyama area, which is very close to former Japan's capitals of Nagaokakyo and Heiankyo has attracted people since olden times as an area to produce food (such as bamboo shoots) and obtain a fuel supply (firewood). • In particular, the bamboo groves that are still used to produce bamboo shoots are valuable as a distinctive landscape in the area 												
	Local Economy (Major Industries, Livelihood (including data and forecasts))	<ul style="list-style-type: none"> • Nagaokakyo City was a farming village until the early 20th century. But the development of the residential area expanded from the 1960s, and now the major industries of the city are the commerce and service industries. • The number of workers in each industry sector in 2005 is as follows. <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Primary Industry (agriculture, forestry and fishery)</td> <td style="text-align: center;">446</td> <td style="text-align: center;">1.2%</td> </tr> <tr> <td>Secondary Industry (mining, manufacturing and construction)</td> <td style="text-align: center;">10,151</td> <td style="text-align: center;">27.6%</td> </tr> <tr> <td>Tertiary Industry (commerce, tourism and others)</td> <td style="text-align: center;">26,120</td> <td style="text-align: center;">71.1%</td> </tr> <tr> <td>Total*</td> <td style="text-align: center;">36,717</td> <td style="text-align: center;">100.0%</td> </tr> </table> <p><i>*Note: As the percentages of workers in Primary Industry, Secondary Industry, and Tertiary Industry are rounded off to one decimal place, they may not add up to 100.0%.</i></p>		Primary Industry (agriculture, forestry and fishery)	446	1.2%	Secondary Industry (mining, manufacturing and construction)	10,151	27.6%	Tertiary Industry (commerce, tourism and others)	26,120	71.1%	Total*	36,717
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2. Use and Management of Natural Resources in the Region

(1) Use and Management of Natural Resources in the Past and Present

1) Land Use Related to the Use and Management of Natural Resources in the Past and Present

- The total area of Nagaokakyo City is 19.18 square kilometers. About 800 hectares, or about 40 percent, of the total area is forest area, and about 450 hectares, or about 25 percent, is farmland.
- Of the municipal area of Nagaokakyo City, most of the mountainous district in the west of the area (Nishiyama area) is used in ways that are related to the natural environment, and consists of mountains, forests, and farmland. On the other hand, most of the flat terrain in the eastern part of the area is used for housing and other city-related purposes.
- The Nishiyama area is designated as a suburban green conservation area. An notification must be made to the governor of Kyoto whenever anyone wishes to construct a building on the land or change the land's characteristics.

2) Objectives and Details of the Current Use and Management of Natural Resources

- Forestry products such as lumber, coal, and compost used to be produced in the secondary forest of broad-leaved trees, but the production quantities have dropped substantially recently. There also used to be mass circulation of natural products from secondary forests and farmland (for example, the grass cut from the forest and woods used to be used as compost), but now there is no such circulation.
- Of Nagaokakyo City's bamboo groves of about 215 hectares, about 80 hectares, or about 40 percent, is agricultural bamboo grove (Moso bamboo groves grown to produce bamboo shoots). The bamboo shoots produced in the area are cultivated in a traditional way called the "Kyoto-shiki Nanka Saibai-ho" method, and the quality is said to be the highest in Japan. The bamboo shoots are shipped to Japanese restaurants in Kyoto and Osaka.
- The conifer forests planted between the 1950s and 1970s are not sufficiently managed or used due to a slump in the forestry industry.



Picture: View of the Nishiyama area from the eastern part of Nagaokakyo City
(Source: *Nagaokakyo-shi Keikan Keikaku* [Landscape planning of Nagaokakyo City])

(2) Problems Associated with the Use and Management of Natural Resources and their Impact on Biodiversity

- In secondary forests of broad-leaved trees, the degree of utilization has substantially fallen because the spread of fossil fuel reduced the demand for firewood and coal, and the spread of chemical fertilizers reduced the demand for compost from forests. Vegetation succession also has been proceeding, which has tended to cause deterioration in wildlife habitats.
- In bamboo groves, agricultural bamboo groves have been devastated due to a lack of successors of bamboo producers and the problem of producers aging, and the devastation is expanding to the surrounding areas. Such functions for public interest as watershed protection and prevention of landslide also have deteriorated, which worsens the habitats for wild animals and plants.
- In planted forests of conifer, activities including tree thinning have not been managed properly due to the slump in the forestry industry, and this has damaged such functions for public interest as watershed protection and prevention of landslide and worsened the habitats for wild animals and plants.
- The above-mentioned lack of adequate management of forests has caused an increase in the damage from monkeys, wild boars, and deer, leading to a vicious cycle by intensifying the slowdown of agriculture and forestry as well as deteriorating the living environment of the neighboring residential areas.

(3) Regional Plans and Other Measures toward a Resolution of the Above Problems

- In the Nishiyama area, a wide variety of efforts such as forestry management, biodiversity conservation, passing down of traditional culture, and environmental learning are being conducted by various parties such as citizens' organizations, companies, and administrative bodies.
- In 2005, the Nishiyama Forest Improvement Promotion Conference, was established with the participation from the above-mentioned bodies to carry out forest conservation and management based on the Nishiyama Forest Improvement Plan.
- Private companies also join in the conference through the Kyoto ModelForest activity mapped out by the Kyoto prefectural government.

3. Details

(1) Overview

In the Nishiyama area of Nagaokakyo City, a wide variety of efforts such as forestry management, biodiversity conservation, passing down of traditional culture, and environmental learning are being conducted by various parties such as citizens' organizations, companies and administrative bodies.

After the Nishiyama Forest Improvement Promotion Conference was established in 2005, the division of roles and cooperation has been promoted among the above-mentioned bodies and organizations, activating efforts to preserve and manage forests.

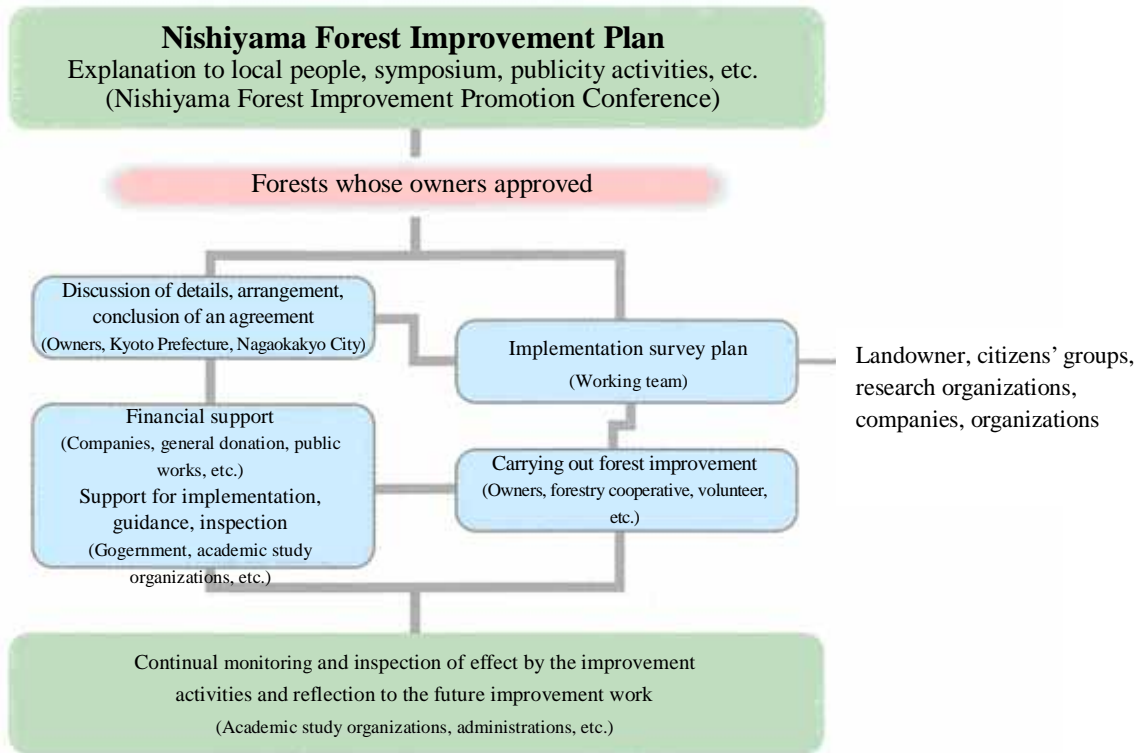
The following are the efforts made at the Nishiyama Forest Improvement Promotion Conference and the Kyoto ModelForest activity which cooperates with the conference. Other efforts also are mentioned.

Location	Nishiyama area, Nagaokakyo City, Kyoto Prefecture
Involved Parties	* <i>Many various bodies are involved. Please refer to the following figure as many and various bodies are involved.</i>
Background and history	<p>[Activities before the establishment of the conference]</p> <ul style="list-style-type: none"> • In the Nishiyama area, various parties in the area were environmentally conscious, and there was a basis that activities by volunteer organizations as well as city measures had been carried out. • In addition to that, Nagaokakyo City mayor took the leadership, the Kyoto prefectural government urged activities, and a local company (Suntory Holdings Ltd.) made a designated donation to the city. These things provided an opportunity to establish the conference. <p>[Activities after the establishment of the conference]</p> <ul style="list-style-type: none"> • In June 2005, parties that were interested in creating forests in the area established the Nishiyama Forest Improvement Promotion Conference. • In fiscal 2005, a forest improvement project started in a model forest with an area of 9.2 hectares. • In February 2006, the conference and other interested parties mapped out the Nishiyama forest improvement plan.
Purpose and objectives	<p>[Purposes of the Nishiyama Forest Improvement Plan: Realization of multiple function of forests through cooperation and creation of good environment]</p> <ul style="list-style-type: none"> • The purposes are to conserve greenery, cultivate water resources, prevent disasters, secure biodiversity, provide ideal landscapes, form recreational spaces, and prevent global warming by improving the scarce forests in Nishiyama—which can provide a rich natural environment in the area neighboring the city of Kyoto and Osaka. These purposes can be achieved by improving important green resources in Nagaokakyo with cooperation from the forest owners, residents in the area, environmental organizations, companies, academic experts, and administrative bodies. And the purposes are to fulfill various functions that forests have and create a beautiful and good environment.

Main contents	<p>* The following are some representative activities. Many other activities have been carried out.</p> <p>[Improvement of forests under private ownership while dividing roles between the conference and city government]</p> <ul style="list-style-type: none"> • To improve forests under private ownership, the conference and the Nagaokakyo City government (Farmland Policy Planning Division) concluded an agreement and exchanged a memorandum with private owners of forests to give them a free hand in managing forests and bamboo groves. • In order to improve forests in consideration of biodiversity, advance biological research and monitoring are conducted centering on the Organization to Preserve the Nature of Otokuni, which is a member of the conference's natural environment special panel. <p>[Preservation and revitalization of bamboo groves which are the area's unique landscape: Activities of the NPO Take no Gakko (Bamboo school)]</p> <ul style="list-style-type: none"> • The NPO <i>Take no Gakko</i> (Bamboo school), which is one of the organizations that participate in the conference, usually manages bamboo groves at the feet of mountains in Nishiyama area. It also makes proposals to the conference on how to manage groves and carries out co-hosted events. <p>[Cooperation with Kyoto Model Forest activity]</p> <ul style="list-style-type: none"> • The aim of the Kyoto Model Forest activity is to stop the devastation of forests in Kyoto Prefecture. This is a system to raise funds and introduce the efforts of residents of the prefecture, companies, universities, and citizens' organizations for privately owned forests (See the next page and after for details of the system.) • The Nishiyama Forest Improvement Promotion Conference, which formed an agreement with several private companies based on the system, receives financial and labor support.
Main achievements	<ul style="list-style-type: none"> • In areas where the forest improvement activities were conducted, the landscape significantly improved, emphasizing to people the great changes that can be produced by such efforts. There also are data indicating that biodiversity improved in some areas. (For example, the number of rare species of plants including <i>Platanthera minor</i> increased.) • Through the efforts to preserve and revitalize bamboo groves, there is a growing understanding about the traditional Kyoto-shiki Nanka Saibai-ho method of producing Kyoto bamboo shoots which are of the highest quality in Japan. This growing understanding also includes an awareness of the bamboo grove landscape that was created by such efforts.

Outline of the Nishiyama forest improvement promotion conference

- Establishment June 2005
- Members Kyoto University, Nagaokakyo City forestry cooperative, Okukaiin-ji temple property ward, Choho-ji temple property ward, Yanagidani Kannon Yokoku-ji temple, the headquarters of the Seizan Jodoshu sect Komyo-ji temple, Satoyama revitalization citizens' forum, organization to grow Genji firefly, Suntory Holdings Ltd., Nagaokakyo City Board of Education, Kyoto prefectural government's Yamashiro broad area promotion bureau, Kyoto prefectural government's Kyoto forestry office
** In addition to the above-mentioned conference members, local representatives, nonprofit organizations, companies, and Kyoto prefectural government's ModelForest Promotion Section join the planning organizations, the Working Team Meeting and the Special Panel.*
- Target area Forests covering an area of about 800 hectares stretching to the west of Nagaokakyo
- Source of revenue Donations from companies, environment funds, city government's general revenue source, subsidy, others
- Details of project Improving forests under private ownership based on the Nishiyama Forest Improvement Plan
- Method Refer to the chart below.



Outline of Kyoto ModelForest Activity

Outline

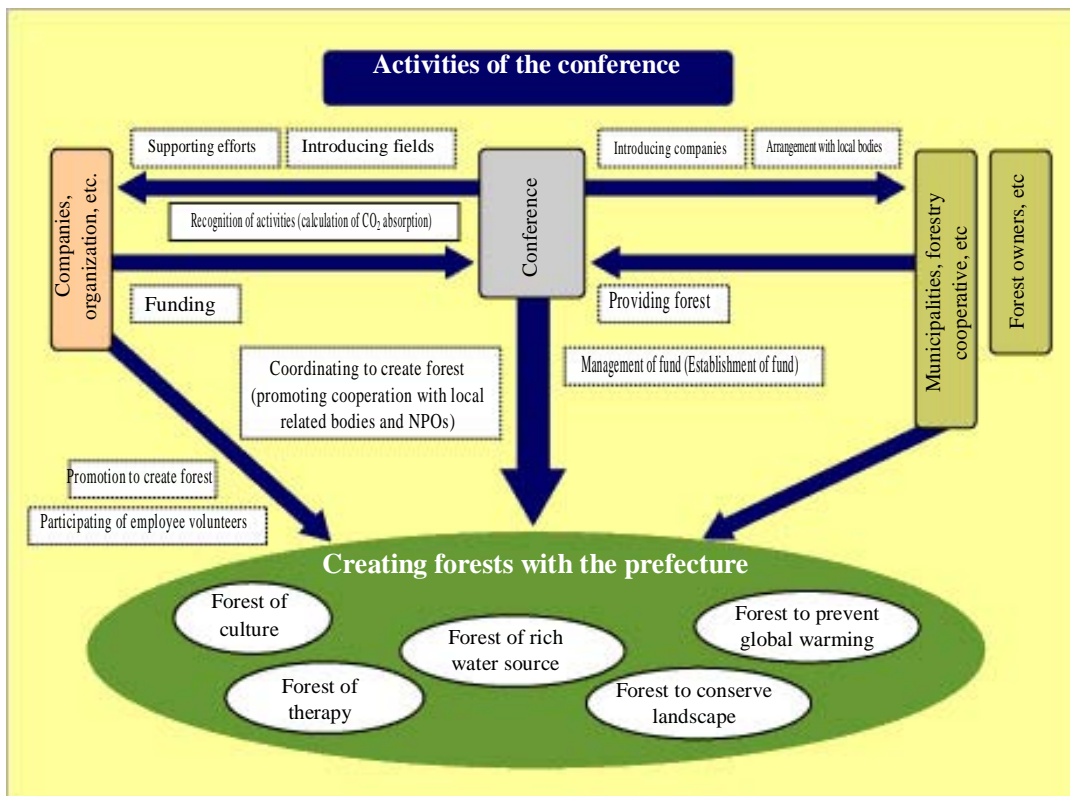
- The Kyoto prefectural government promotes the ModelForest activity which involves not only those who are related to the forestry industry but also Kyoto Prefecture residents, companies, universities, and citizens' organizations.
- As a nucleus of the Kyoto ModelForest activity, the incorporated body Kyoto ModelForest Association was established in November 2006.

Operation of Kyoto ModelForest Association

- 1) Helping companies and organizations that wish to join in activities to find fields
- 2) Creating structures to create forests with related local Involved Parties
- 3) Collecting donations to create forests and giving support to activities using donations.
- 4) Holding experience classes on forest maintenance for Kyoto Prefecture residents and companies and organize tours to forestry sites.
- 5) Carrying out awareness raising activities by holding symposiums to create forests and using Web site.
- 6) Providing information on volunteer activities that are related to forests and events about creating forests.

Approval of carbon dioxide absorption to companies that participated in the forest improvement project

- According to the Kyoto prefectural government's regulations to take measures against global warming, contractors whose operation scale is larger than a certain level are obliged to announce their plans to cut greenhouse gas emissions.
- As a measure to achieve the target in the above-mentioned plans, they are approved to incorporate CO2 absorption through improving forests. The Kyoto ModelForest Association is designated by the Kyoto prefectural government as an organization to approve CO2 absorption.
- When business operators—who are obliged to create a plan to cut greenhouse gas emissions based on the regulations to tackle global warming participate in the ModelForest activity—improve forests by planting trees, removing undergrowth, and thinning out forests, they are given CO2 absorption approval.



(2) Details of the Use and Management of Natural Resources from the “Five Perspectives” of the Satoyama Initiative

The table below shows the primary relevance of this case to the five perspectives.

Details are given below the table for the perspectives which have high relevance (items with the “⊙” mark in the table).

Five Perspectives	Relevance to this Case	
	Degree of Relevance	Summary of Relevance
1) Resource use within the carrying capacity and resilience of the environment		<ul style="list-style-type: none"> • In the forests in the Nishiyama area, vegetation succession has been proceeding as the management and amount of utilization by humans fall short of the resilience of the environment, which has caused various problems. • To improve forests under private ownership, the conference and the Nagaokakyo City government (Farmland Policy Planning Division) concluded an agreement and exchanged memorandum with private owners of forests to give them a free hand in handling and trimming the trees. • In order to improve forests in consideration of biodiversity, nonprofit organizations which join the conference conduct prior and follow-up biological surveys. <p><i>* Details to follow.</i></p>
2) Cyclic use of natural resources	○	(No items warranting special mention)
3) Recognition of the value and importance of local traditions and cultures		<ul style="list-style-type: none"> • Production of bamboo shoots using a traditional method and activities to conserve the ecosystem, landscape, and water resource are conducted through the activity. <p><i>* Details to follow.</i></p>
4) Natural resource management by various participating and cooperating entities		<ul style="list-style-type: none"> • The Nishiyama Area Forest Improvement Conference is composed of various interested parties including forest owners, residents in the area, environment organizations, companies, academic experts, and administrative bodies. • The Nishiyama Area Forest Improvement Conference forms an agreement with private companies through the Kyoto ModelForest activity and receives financial support and labor. <p><i>* Details to follow.</i></p>
5) Contributions to local socio-economics	○	(No items warranting special mention)

1) Resource use within the carrying capacity and resilience of the environment

[Forest improvement to solve the problems caused by lack of usage of forest]

- In the forest of the Nishiyama area, vegetation succession has been proceeding as the management and amount of utilization by human fall short of the resilience of the environment, causing various problems such as a deterioration in the public functions to conserve headwater and prevent disasters, damaging the landscape and deteriorating biodiversity.
- In order to cope with these problems, the conference and the Nagaokakyo City government (Farmland Policy Planning Division) concluded an agreement and exchanged a memorandum with private owners of forests to give them a free hand in handling and trimming the trees to improve forests under private ownership.
- Actual operations are entrusted to a forestry association. (As there is no forestry operator in the city, forestry associations in the neighboring areas are asked to carry out the operations.)
- Forest improvement is carried out on secondary forests, artificial forests, and bamboo groves. The operations involve thinning out a forest, trimming branches of trees, etc. In order to enhance the effect of this work, the project makes efforts to improve woodland paths.
- The size of improved forests in each fiscal year is mentioned below. For the four years from fiscal 2004 to fiscal 2007, a total of about 140 hectares of forest were improved.



Pictures: Forest environment before and after improvement project
(Source: Material from the Nishiyama Forest Improvement Promotion Conference)



Pictures: Forest environment before and after improvement project
(Source: NPO corporation Take no Gakko Website)

[Consideration to biodiversity in forest improvement project]

- In order to improve the forest while giving consideration to biodiversity, an organization to preserve nature of Otokuni, a member of the conference's Natural Environment Special Panel, carries out biological surveys.
- When a biological survey is carried out prior to a forest improvement project and some problems are found with the project, the way that project is operated and its methods are changed.
- A monitoring survey is conducted on the project area to examine the improvement effects of biodiversity in forest improvement project and obtain knowledge about the work in the future.
- At this point, there is no concrete outcome produced by the survey, but there is cooperation between operators and biodiversity experts, and knowledge to promote effective forest improvement in the future has been accumulated.

3) Recognition of the value and importance of local traditions and cultures

[Passing down on traditional method to grow bamboo shoots]

- As mentioned above, the bamboo shoots produced in the area are cultivated in a traditional way called the Kyoto-shiki Nanka Saibai-ho method, and their quality is said to be the highest in Japan. The bamboo shoots are shipped to Japanese restaurants in Kyoto and Osaka. The bamboo groves that have been passed down to the present generation are valuable as the area's unique landscape of industrial culture.
- The NPO Take no Gakko, which is one of the organizations that participate in the conference, is an organization that preserves the production of valuable bamboo shoots as well as the ecosystem, a landscape, and water resource that have been cultivated through the production. The school usually manages bamboo groves at the feet of mountains and makes proposals to the conference on how to manage groves and carries out co-hosted events.

Activities of NPO corporation Take no Gakko

- Preservation of bamboo ecosystem in devastated bamboo groves and headwater conservation.
- Preservation and passing down of the *Kyoto-shiki Nanka Saibai-ho* method
- Raising awareness on environmental problems, production of teaching materials and publication to learn about environmental issues, holding lecture meetings and concerts, accepting of eco-tours
- Utilization of bamboo resources
- Establishment of facilities for bamboo grove therapy and for people with disabilities.
- Beautification of bamboo groves and their surrounding areas
- Sales of bamboo-related special local products
- Creation of bamboo culture and artistic interests, and international exchange through such culture
- Others: Various operations that are required to accomplish the purposes of the corporation.



Figure: Holding a concert in a bamboo grove

(Source: NPO *Take no Gakko* Website)

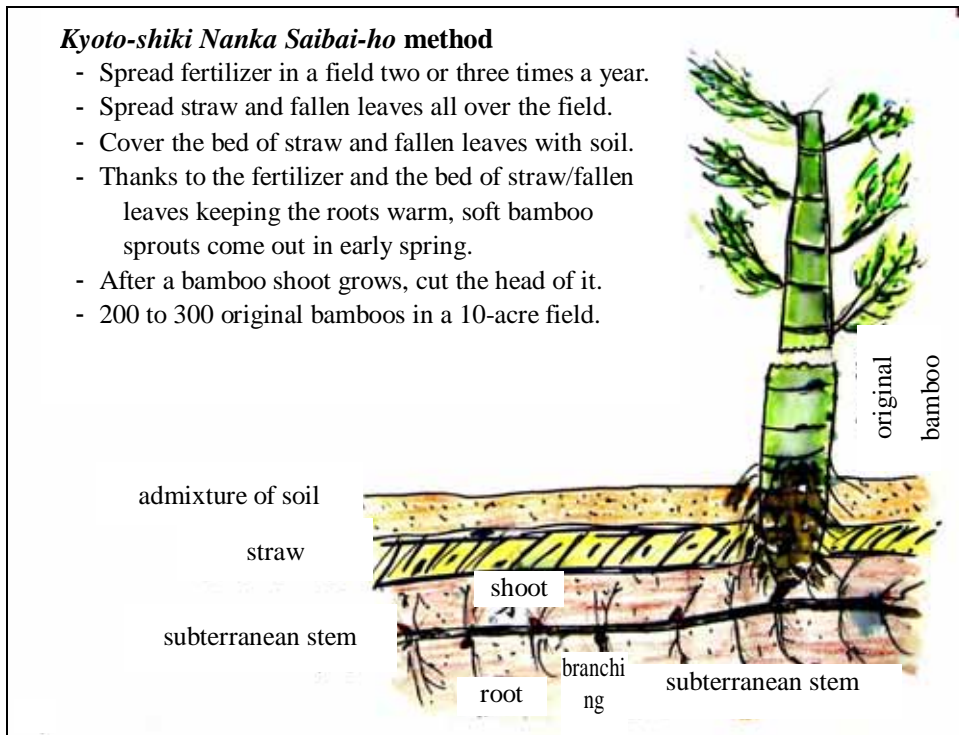


Figure: Chart outlining the *Kyoto Nanka-shiki Saibai-ho* method (Source: NPO *Take no Gakko* Website)

4) Natural resource management by various participating and cooperating entities

[Involvement and cooperation of diversified parties in the city]

- The forests in the Nishiyama area have been properly managed and utilized by humans through economic activities such as those conducted in the forestry industry and collecting firewood and charcoal by owners. But it became difficult to maintain the forests through such economic activities due to changes in the situation surrounding agriculture and forestry. Consequently, such management has been abandoned and the forest environment has been devastated.
- Meanwhile, forests in the Nishiyama area have various functions for public interest such as biodiversity conservation, preservation of landscape, headwater conservation, and prevention of disaster, and the beneficiaries reach to wide downstream areas.
- Based on the above-mentioned issues, the Nishiyama Area Forest Improvement Conference was established with various participants such as local residents, environmental organizations, companies, academic experts, and administrative bodies to restore the soundness of the forest environment.
- The concrete matter about the conference is stated in the “3-1) Overview.”

[Cooperation with companies through the structure of Kyoto ModelForest activity]

- The Kyoto ModelForest activity is a structure which has a similar background and purposes to those of Nishiyama Forest Improvement Promotion Conference. As the Kyoto ModelForest activity targets a large area throughout the Kyoto prefecture and is a large-scale effort, by collaborating with the activity, this project can collaborate with the large scale activity with entities and companies outside the area.
- The Nishiyama Area Forest Improvement Conference, which concluded an agreement with private companies through the structure of the Kyoto ModelForest activity, receives financial support and labors.
- The concrete issue about the Kyoto ModelForest activity is stated in the “3-1) Overview.”

End