

**Biodiversity is conserved by farm management  
practices that produce high-quality tea  
-GIAHS Project Action Plan-**



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Association for Promotion of GIAHS “*CHAGUSABA* in Shizuoka”

## 1. Introduction

This document introduces the framework of the project to be implemented by the Association for Promotion of ‘GIAHS CHAGUSABA in Shizuoka’, under the GIAHS Initiative of the Food and Agriculture Organization of the United Nations (FAO).

The Association was established in 2012 by four cities, Kakegawa City, Kikugawa City, Shimada City and Makinohara City, and one town, Kawanehon Town, in Shizuoka Prefecture which has the highest peak Mt. Fuji in Japan.

These cities and town are located in the southern foothills of the Southern Alps of Japan, Midwestern area of Shizuoka Prefecture on the Pacific Ocean side of Japan’s main land Honshu.

The application area produces high-quality tea, has biodiversity that is nurtured by Chagusaba, and is blessed with world-class resources, including tea culture of Fukamushi-Sencha, longer steamed sencha, and Temomi, hand-made method of green tea, traditional activities, beautiful scenery of Satoyama landscapes, and communities and people actively working to hand down these assets to future generations. (Semi-natural grasslands that are maintained for tea cultivation are known as “Chagusaba.”)

Nevertheless, with the aging of society and the stagnation of prices for tea products, the vitality of agricultural communities in the application area is being lost.

Therefore, the designation as Globally Important Agricultural Heritage System (GIAHS) will ensure the pride of farmers who preserve Chagusaba and provide them with incentive to conserve Chagusaba for future generations.

In response to the launch of the ‘CHAGUSABA’ GIAHS project, we present this Action Plan to FAO, and this plan set out the vision and basic framework of future GIAHS-related efforts.

## 2. Overview of the site

### a) Food and livelihood security

The site area is located in Shizuoka Prefecture, which is called the “Capital of Tea” as it is the greatest tea-producing region in Japan, where tea-related businesses and facilities have been flourishing ever since. This area represents a primary location of tea production in Shizuoka Prefecture (See Photo 1).

The annual output of tea is 31.9 billion yen, and tea is a major agricultural product in this area. *Chagusaba* is widely spread from the mountains and hills at the foot of the Southern Alps to highland areas in river basins, and the taste and aroma of the green tea produced differs according to geography and climate. About 8300 households grow tea in this area, which represents 78% of the area’s farmers, who largely depend on tea for income. The ratio of tea output to gross agricultural output in major cities and towns of the site are as follows: Kawanehoncho, 91.8%; Shimada, 68.8%; Makinohara, 59.2%; Kikugawa, 56.1%; and Kakegawa, 37.8%. The annual output of the industry relevant to tea is about 1 trillion yen in whole Shizuoka Prefecture including this area.



**Photo1:A typical landscape in Shizuoka Prefecture;  
Landscape of Mt. Fuji from tea field.**

### b) Diversity of agriculture

The site area occupies a variety of elevations, from 0 to 3000 m or more above sea level. Because of the diversity of land features and climates, this area produces 61 agricultural commodities. Many varieties of tea are produced in this area, where native varieties differ among the mountains. About 80% of the tea currently grown in Japan is represented by just one variety – ‘Yabukita.’ However, farmers promote 13 additional varieties, and some native tea plants are also being commercialized. (See Table 1 and Photo 2) Tea is grown primarily in mountainous areas, on hill slopes, and in highlands along river basins. Rice is grown in

lowlands with abundant water, and lettuce and carrots are subsidiary crops of rice paddies. Sweet potatoes, radishes and onions are grown in sand dunes near the coast, and horticultural products such as melons, strawberries, and ornamental flowers flourish under the warm climate.

Table.1 The variety of tea in this area.

Early variety	Yamanoibuki
	Ohiwase
	Sayamakaori
	Tsuyuhikari
	Saemidori
	Sohu
Medium variety	Yamakai
	Yabukita
	Kosyun
Late variety	Kanayamidori
	Okuhikari
	Sawamizuka
	Harumidori
	Okumidori



*Yabukita*

It was selected from native varieties.



*Tsuyuhikari*

Has a rich aroma and full-bodied flavor



*Kosyun*

Has a refreshingly cool aroma



*Yamanoibuki*

Has a light and sweet aroma and is less bitter

**Table 1 and Photo 2: Varieties of tea in this area**

### 3 Background of the GIAHS application

#### a) Codependence between agricultural production and biodiversity

“*Chagusaba*”(“semi-natural grasslands”) represents an exemplary system of traditional agricultural techniques, where grasslands are maintained around tea fields to supply mulch that improves the quality of tea cultivation. *Chagusaba* is a rare example of codependence between agricultural production and biodiversity, each of which enhances the other’s value (See Photo 3).

### b) Semi-natural grasslands have decreased

For more than 10,000 years, *Chagusaba* areas have been maintained through human activity. However, the area of the semi-natural grasslands has been reduced with the modernization of agriculture. This disuse has led to a serious and rapid decline in the biodiversity of *Chagusaba*.

Despite the modernization of tea cultivation (mechanization of harvesting methods and infrastructure improvement of tea field) and tea processing, the traditional agronomic method reflected in *Chagusaba* continues to be practiced. Farmers consider *Chagusaba* to be important for high-quality tea production. The active use of the grass has enabled *Chagusaba* to be maintained and as a result its rich, wild flora, including rare species, still exists today. The biodiversity of *Chagusaba* is conserved by periodic mowing of the grass and the exclusion of both the grazing by livestock and prescribed burning (See Photo 4). Over 300 species of meadow plants alone have been recorded in *Chagusaba* areas (See Photo 5). Thus *Chagusaba* is an extremely unique global example of an agricultural landscape in which green tea production is integrated with the grassland management.



**Photo 3: Landscape of a tea field and *Chagusaba***



**Photo 4: Grasses in *Chagusaba* are harvested between autumn to winter.  
Farmers traditionally cover furrows in green-tea fields with grasses.**



(*Adenophora* var.  
*japonica*)  
Tsuriganeninjin



(*Platycodon*  
*grandiflorus*)  
Kikyo



(*Dianthus superbus*)  
Kawaranad



(*Butastur indicus*)  
Sashiba

**Photo 5: Plant species of *Chagusaba***

### c) Inheritance of the Hand-Kneading

Traditional manufacturing processes for Japanese tea consist of “unraveling” and “kneading” with bare hands, a technique called “hand kneading.” (See Photo 6) While hand kneading was first developed in Kyoto, over 30 styles of hand kneading were further developed in Shizuoka to accommodate various land conditions and tea-leaf quality. Much hand kneading is mechanized today, but professionals called *Chashi* maintain the 3 styles of hand-kneading tradition through organized preservation groups in this area.



**Photo 6: Hand-kneading: Traditional technique of manufacturing process of green tea**

#### d) For future generations

Although *Chagusaba* requires labor-intensive management, this system can produce high-quality tea that trades at a high price. This good economic return has been a motivation for farmers' efforts to conserve and manage *Chagusaba*. In recent years, however, high market prices for quality tea have not been stable. This reality adversely affects farmers' willingness to invest the time required to produce high-quality tea, causing abandonment of labor-intensive *Chagusaba*. *Chagusaba* can be conserved only through healthy farm management for tea production. We expect that the certification of GIAHS will help to build a framework in which farmers' efforts to produce quality tea can be appropriately rewarded and that adding value to the farmers' work will facilitate conservation of *Chagusaba* and its biodiversity.

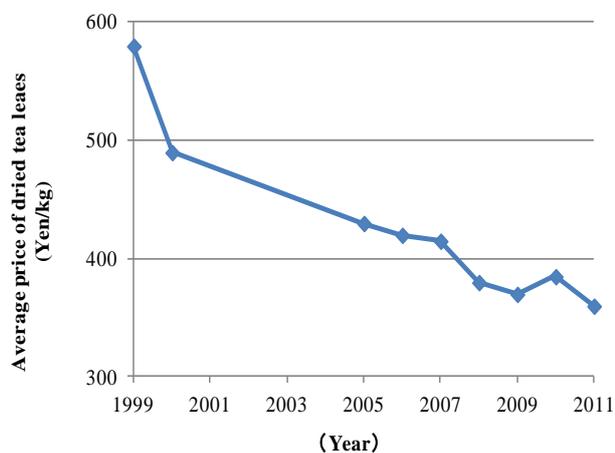
### 4 Prospects and challenges

#### a) Declining prices of green tea leaves

The biodiversity of the grasslands in Japan is in a critical situation, because semi-natural grasslands have decreased rapidly. And it is hardly seen the rich biodiversity in traditional grassland maintained within inhabited villages without *Chagusaba*. Therefore, *Chagusaba* is important in order to conserve biodiversity in grasslands and Japanese traditional land use.

High-quality tea produced using *Chagusaba* has generally traded at a high price. These factors have provided motivation for farmers' efforts to conserve and manage *Chagusaba*, and such agricultural operations have been sustainably maintained. However, the consumption of green tea and the price of tea have also decreased (See Graph 1),

and high-quality tea produced using *Chagusaba* is no longer guaranteed a high rate of return. This situation adversely affects farmers' willingness to invest the time required to produce high-quality tea, and results in abandonment of labor-intensive *Chagusaba* management. In fact, in some areas a lack of successors to aging farmers makes maintaining these preservation efforts difficult.



**Graph 1: Decrease of price of tea leaves.**

## **b) Potential and opportunities for sustainability and management of GIAHS**

Farmers believe that *Chagusaba* is property inherited from ancestors, and such beliefs, along with efforts to produce high-quality tea, have helped to preserve *Chagusaba* and biodiversity of semi-natural grasslands. If the region earns GIAHS certification, a global honor, it would solidify the pride of farmers who maintain the *Chagusaba*. This recognition would motivate farmers to commit to long-term management and preservation of this unique and historic land-use practice.

Conservation of *Chagusaba* is only possible through equitable assessment of quality tea. If the conservation of biodiversity through farmers' efforts becomes widely known due to GIAHS certification, consumer appreciation of the tea produced in these systems is likely to increase.

*Chagusaba* has not been managed and conserved for the sake of biodiversity, but rather for the sake of high-quality tea production. It is due to the unique characteristics of *Chagusaba* that biodiversity is conserved as a result of improving agricultural productivity. On the other hand, awareness of *Chagusaba* as an important area for conservation of biodiversity is not sufficiently widespread among farmers and consumers. Registration with GIAHS would help consumers understand the relationship between green-tea production and biodiversity, and in turn focus the attention of farmers on biodiversity as they tend the *Chagusaba*.

The close relationship between the tea industry and biodiversity could become widely known through recognition of *Chagusaba* as GIAHS; tea sales could be improved by environmental branding, and promotion of agrotourism using *Chagusaba* as a resource could be enhanced. Japanese tea and plants in *Chagusaba* also represent Japanese culture. By raising the international profile of this relationship through GIAHS recognition, international exchange could be advanced and the knowledge system represented by *Chagusaba*, in which agriculture and biodiversity coexist, could gain global visibility.