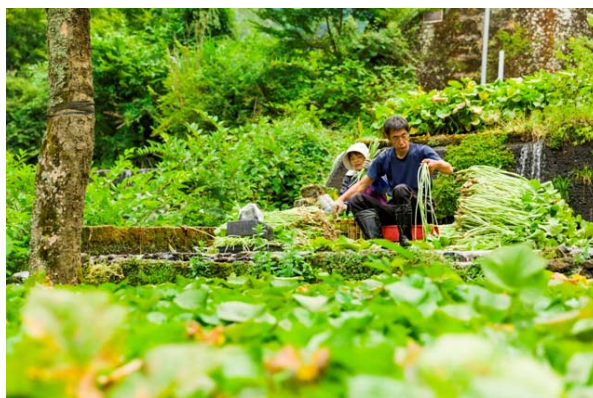


Traditional WASABI Cultivation in Shizuoka

Action Plan for the Proposed GIAHS Site



Period: Fiscal 2017-2021 (5years)

Shizuoka WASABI Association for Important
Agricultural Heritage Systems Promotion

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1. Threats and Issues for the Conservation and Succession of Agricultural Systems

(1) Food and Livelihood Security

- A. Wasabi production makes use of mountainous environments for production land and supports human livelihood in these regions. However, the production environment is declining because of increased wildlife damage from deer and wild boar, and new insect pest outbreaks, causing problems for farm management.
- B. In wasabi cultivation, it is necessary to produce superior seedlings that have not contracted viruses, but the seedling producers are aging, and there are concerns that the seedling supply will decrease drastically in the future.
- C. Wasabi fields and the village-vicinity mountains that surround them, both of which have excellent landscape, are expected to attract tourists when they are certified as agricultural heritage systems and receive more recognition; however, no sightseeing reception structure is developed that covers wasabi cultivation, while protecting landscapes and culture.
- D. In Japan's major wasabi production region, processed goods industries and diversification of income sources are flourishing; however, regarding agricultural heritage system certification and promotion of wasabi cultivation system conservation and succession activities, the awareness has not been created beyond Shizuoka Wasabi Association for Important Agricultural Heritage Systems Promotion (SWA) members and related parties.
- E. Wasabi cultivation is difficult to mechanize, and new locations suitable for wasabi fields are difficult to find, so producers have a strong sense of ownership toward their fields. This situation creates a barrier to expand the scale of their operations, to enter the business of new farmers, and causes decline in the number of producers.

(2) Agro-biodiversity

- A. In traditional cultivation, many diverse wasabi cultivars and strains have been developed and used that are suitable for the environments of each region, but there has not been much academic research on collecting genetic resources or the history of cultivar differentiation. This has become an issue with regard to the succession of knowledge about traditional cultivation techniques.
- B. Many aquatic life forms inhabit wasabi fields, and there are many types of birds in the surrounding forests, including wasabi fields, and these areas form a foundation of ecosystems rich in biodiversity. However, because of global warming and climate change, there are concerns about future changes in the ecosystems, and there are many uncertainties about the state of the ecosystems in the main regions.

(3) Local and Traditional Knowledge Systems

- A. Distinctive techniques are required for building and resetting wasabi fields in the typical Tatamiishi style. However, field resetting associations for the improvement of wasabi field

management techniques are decreasing in number, producers are aging, and the industry is understaffed, making the succession of traditional knowledge systems difficult.

(4) Cultures, Value Systems and Social Organizations

- A. In the mountainous regions where wasabi is grown, village settlement functions are declining due to continued aging and declining residential populations. Thus, there are concerns that access to wasabi fields and related facilities will worsen. Furthermore, forests that nourish an abundant water supply are indispensable to wasabi cultivation, but global warming and climate change are leading to an increase in wild animals, and there are concerns that this will change the forest vegetation.
- B. The succession of food culture and local culture is becoming difficult because of the aging and declining residential populations.

(5) Landscapes and Seascapes Features

- A. Wasabi field access roads and infrastructure are weak, and there are fears that an increase in tourists will burden the region and the production environment.
- B. Abandoned fields, inadequate management of production materials, and unsystematic billboards are factors that contribute to the deterioration of the landscape of wasabi fields and surrounding areas.

2. Countermeasures for Each Issue and Roles of Concerned Parties

(1) Food and Livelihood Security

A. Boosting Wildlife Damage Countermeasures

Municipalities* and Japan Agricultural Cooperatives (JA) will coordinate with wildlife damage countermeasure associations in the region to offer courses and promote installation and repair of protective fencing and traps to reduce wildlife damage.

Implementation will be funded out of national grants such as wildlife damage countermeasure funding and JA subsidies for wildlife damage prevention strategies/extermination costs.

B. Boosting Insect Pest Countermeasures

The prefecture will coordinate with the Shizuoka Wasabi Union Federation (SWUF) to determine the conditions during the outbreak of thrips (belonging to the family Phlaeothripidae) that infest wasabi fields and are feared to expand and cause damage. Pest control technology with low-level environmental deterioration effects will be established.

Implementation will be funded out of prefectural budgets such as appropriate pesticide use

* The all cities and towns of the member of organization of the association

management system improvement funding and research funds raised through foundations.

C. Introduction of Superior Seedlings

SWUF and producer cooperatives, municipalities, JA, and the prefecture will coordinate efforts for stable production of seedlings of superior cultivars and strains, and secure superior seedlings, aiming toward stable wasabi production.

Implementation will be funded out of prefectural subsidies such as wasabi production incentive subsidies and producer cooperatives budgets for biocultivation projects, etc.



Izuma, a New Cultivar Developed by the prefecture

D. Formation of Tourism Receiving System

Municipalities lead wasabi producers, regional residents, tourism industry staff, etc., to develop a system to promote understanding of the wasabi cultivation system while considering the protection of production, landscapes, and culture. They will also construct walking paths and decks for viewing wasabi fields, in addition to facilities that will function as the point of entry for tourists visiting the certified region.

Furthermore we will guide them to the existing wasabi fields for tourism where harvest, etc., can be experienced, while preventing them from entering production areas without permission. At the same time, we will create new wasabi fields for tourism, and train guides for these fields.

Implementation will be funded out of municipalities budgets such as the Okushizu hospitality environmental improvement project, tourism organizations budgets and national grants for general improvement projects for mountainous regions.

E. Cooperation with Companies for Tourism

Municipalities will cooperate with JA and tourism associations to deepen the understanding of wasabi field conservation and succession by conducting wasabi field trial tours for tourism staff members and chefs, and by planning development of theme travel packages that utilize wasabi fields and wasabi cuisine.

Funding for implementation will come from the budgets of municipalities, JA, and tourism associations, as well as from the Izu Peninsula wasabi valley conceptual promotion project, and other prefectural budgets.



Wasabi Rice Bowl

F. Cooperation with Companies Dealing with Wasabi

SWA will get endorsement from industrial companies and promote extensive planning and participation of conservation and succession activities with the goal of expanding the scope of

SWA's activities.

Companies and organizations supporting conservation and succession activities will be recruited in the implementation of these measures, and promoted to participate in the aforementioned activities.

G. Support for Training and Reception of New Farmers

To secure leading farmers for wasabi cultivation, producer cooperatives can partner with municipalities, JA, and the prefectural government to offer training for agricultural successors and new farmers in how to efficiently expand the scope of operations, along with learning wasabi cultivation and the acquisition of processing technology, and to help them to find trainers.

Funding for implementation will come from the budgets of producer cooperatives, municipalities, and JA, as well as from next-generation agricultural human resources investment projects, and other national grants.

H. Accumulation of Wasabi Fields by Leading Farmers

Producers who wish to expand their businesses can be matched with producers who are considering downsizing or leaving the industry, in order to ensure that wasabi fields enter the hands of leading farmers. To further this goal, an intention survey of management direction will be conducted.

Implementation will be funded out of producer cooperatives, municipalities, and JA budgets, as well as national grants.

(2) Agro-biodiversity

A. Surveys and Monitoring of Ecosystem Conditions

SWA will play a central role in cooperating with municipalities, producer cooperatives, local high school students, and researchers to preserve the diverse ecosystems of wasabi fields by conducting studies on the conditions of species that inhabit wasabi fields in the main regions (Mt. Amagi range and Japanese Southern Alps range) and periodic monitoring of ecosystem changes.

Prefectural and SWA budgets will be used to implement these measures, and initiatives focused on regional residents will be given priority support.



Biodiversity Survey in Wasabi Fields

B. Research on the Diversity of Wasabi Cultivars and Strains

The prefecture will coordinate with producer cooperatives and universities to promote academic research on genetic resources and cultivar differentiation.

Implementation will be funded out of producer cooperatives research department activity subsidies, prefectural and university budgets, and research funds raised through foundations.

(3) Local and Traditional Knowledge Systems

A. Succession of Techniques among Young Producers

Producer cooperatives will coordinate with municipalities and JA to conduct workshops mainly for young producers to gain knowledge about techniques for building and resetting wasabi fields, with the goal of succession of traditional wasabi cultivation techniques.

Budgets of producer cooperatives, municipalities, and JA will be used to implement these measures.



Wasabi Field Resetting Workshop

(4) Cultures, Value Systems and Social Organizations

A. Production Environment Conservation Efforts

Municipalities will support constituents taking initiatives to repair wasabi fields and conduct operation and maintenance of surrounding roads and drainage channels, with the goal of conserving the production environment.

Implementation will be funded out of municipalities budgets and national grants such as multifunction payment grants, direct payment systems to mountainous regions, and general improvement projects for mountainous region.

B. Promotion of Ecosystem Conservation Activities

SWA will play a central role in promoting conservation activity initiatives centering on producer cooperatives or regional residents, with the goal of preserving the surrounding forests that function to control the water source for wasabi fields.

Prefectural and SWA budgets will be used to implement these measures, and conservation activity initiatives by volunteers will be given priority support.



Afforestation activities on Mt. Amagi

C. Sending Information about Wasabi

SWA will create a website, and produce and distribute pamphlets to share information on the beauty of wasabi fields, producers, food culture, and programs for trainees to both domestic and international audiences.

Furthermore, SWA will coordinate with municipalities, JA, and SWUF, and the prefecture will coordinate with chambers of commerce and tourism associations, and participate in events held in Japan and overseas, to proactively communicate information about wasabi.

Budgets of SWA and each organization will be used to implement these measures.

D. Holding Courses for Children and Students

SWA, JA, and SWUF take the lead to provide opportunity to experience harvesting and learn the history, growth environment, and cultivation methods of wasabi to foster future talent for wasabi production and distribution while promoting food education.

They will also increase the interest level of younger generations by holding workshops and lectures on wasabi for high school and college students.

Budgets of SWA, JA and SWUF will be used to implement these measures.



**Wasabi Harvesting Lessons
for Local Elementary School Students**



**Wasabi Culturing Practice at an
Agricultural High School**

E. Succession of Traditional Food Culture

SWUF will coordinate with local residents to promote activities for the succession of wasabi food culture, with the goal of spreading wasabi culture in Japan and overseas.

Implementation will be funded out of prefectural budgets such as the Izu Peninsula wasabi valley conceptual promotion project, and the budgets of each organization.

(5) Landscapes and Seascapes Features

A. Conservation of Wasabi Field Surrounding Environments

Municipalities will coordinate with the prefecture to develop access roads for wasabi fields and walking paths in the surrounding areas, and inhibit the deterioration of surrounding environments from the increased numbers of tourists.

Implementation will be funded out of national grants for general improvement projects for mountainous regions, and prefectural budgets such as the Izu Peninsula wasabi valley conceptual promotion project.

B. Preservation of Scenery through Adequate Management of Wasabi Fields

SWA will coordinate with municipalities, JA, and producer cooperatives to promote recycling of abandoned fields, adequate management of production materials, and uniform standards for tourism-related billboards, with the goal of promoting wasabi field scenery.

SWA budget will partially cover the expenses for these activities; furthermore, the beneficiaries of each region will cover expenses.

3. Methods for Securing Budgets and Financing

The apportionment of the direct action budget of SWA is decided by the bodies that make up the association.

As noted in item 2 above, in addition to using SWA budget, the bodies that make up the association, including the prefectural government, municipal governments, and producer cooperatives, can draw on existing national support systems and budgets from related projects to expand activity budgets for preservation of the environments surrounding wasabi fields, use of wasabi in regional revitalization, stimulation of wasabi production, and expansion of consumption.

In addition, going forward, SWA is considering developing a scheme to secure aid from businesses and other groups for association activities, in order to promote sustainable conservation activities.

4. Evaluation Methods

SWA has organized a general meeting to discuss the formulation and progress of business plans, budgets, and conservation plans, as well as an executive meeting to discuss the agenda for the general meeting, and a staff meeting to discuss other topics.

In order to ensure the execution of the action plan, SWA will establish goals for each project. For each project, SWA will clearly identify the organization in charge and those primarily responsible for each task. Progress management and validation and evaluation of results will be conducted.

Specifically, SWA Secretariat will periodically receive reports from each organization on the verification of business plans, results, and status of achievement with respect to performance indices, as well as self-evaluation. The results will be summarized and reported to the executive meeting, and further action plans will be discussed for areas requiring improvement.

Moreover, the results of the activities will be published on a dedicated webpage. The opinions of the general public will be sought, and incorporated into future activities.

5. List of Conservation Activities (Separate Sheet)

Action Plan for the Proposed GIAHS Site List of Conservation Activities

Shizuoka Wasabi Association for Important Agricultural Heritage Systems Promotion

Criterion	Threats and Issues	Initiatives	Active Organizations*1	Implementation Year					Indicators	
				17	18	19	20	21	Current	Target
(1) Food and Livelihood Security	Production environment deterioration and damage to agricultural management because of wildlife and insect pest damage	A. Coordinate with wildlife damage countermeasure associations in the region to offer courses and promote the installation of protective fencing and traps	◎Municipalities*2 ◎JA*3	○	○	○	○	○	Wildlife damage (wasabi) 123 million yen (2015)	90 million yen
		B. Study wasabi phlaeothripidae outbreak conditions and explain how the ecosystem establish extermination techniques.	◎Prefecture SWUF*4, Producer cooperatives, JA	○	○	○				
	Insufficient supply of seedlings because of aging population of seedling producers	C. Initiatives for stable production of seedlings of superior cultivars and lines, of secure superior seedlings.	◎SWUF ◎Producer cooperatives, Municipalities, JA, Prefecture	○	○	○	○	○	Cultivation area 121ha (2016)	120 ha
	Late establishment of tourism system that promotes understanding of wasabi cultivation system	D. Form a system for accepting incoming tourism, and set up focal point facilities, walking paths and decks for viewing wasabi fields. Create new wasabi fields for tourism, and train guides for these fields	◎Municipalities JA, SWUF, Prefecture		○	○	○		Number of districts with system in place 0 districts	2 districts (total)
	Insufficient inroads regarding knowledge of agricultural heritage system preservation and succession outside of SWA circles	E. Plan to create themed travel packages through running trial tours of wasabi fields for tourism leaders and chefs.	◎Municipalities JA, SWUF, Prefecture	○	○	○	○	○	Number of cooperating companies and groups	10 companies (total)
		F. Get endorsements from industrial companies and promote planning participation for conservation and succession activities.	◎SWA*5 SWUF		○	○	○	○		

Separate Sheet

Criterion	Threats and Issues	Initiatives	Active Organizations*1	Implementation Year					Indicators	
				17	18	19	20	21	Current	Target
(1) Food and Livelihood Security	Lack of leading farmers due to difficulty of mechanization and limited suitable locations.	G. Training for newcomers who wish to cultivate wasabi most efficiently and how to expand the scope of operations, along with financial support for wasabi cultivation and the acquisition of processing technology, and arranging services for farmers receiving training.	◎Producer cooperatives Municipalities, JA, Prefecture	○	○	○	○	○	Number of new farmers Past 5 years 7 (total)	10 (total)
		H. Implementation of intention surveys on management direction in order to match producers who wish to expand their businesses with producers who wish to downsize.	◎Producer cooperatives Municipalities, JA, Prefecture		○	○	○	○		
(2) Agro-biodiversity	Changes in the ecosystems of wasabi fields and surrounding areas because of global warming and climate change	A. Coordinate with local high school students and researchers to conduct studies on the state of species inhabiting wasabi fields in the main regions, and periodically monitor changes in the ecosystem.	◎SWA Municipalities, Producer cooperatives	○	○	○	○	○	Monitoring surveys 0 districts per year	2 districts per year
	Weakness of academic research on wasabi genetic resource collecting, etc.	B. Promote academic research by coordinating with universities to collect genetic resources and reveal cultivar differentiations.	◎Prefecture Producer cooperatives	○	○	○	○	○		
(3) Local and Traditional Knowledge Systems	Decrease in opportunities to pass on traditional cultivation techniques because of aging population of producers and understaffing	A. Conduct workshops mainly for young producers to learn techniques for building and resetting wasabi fields.	◎Producer cooperatives Municipalities, JA	○	○	○	○	○	Number of workshops held Past 5 years 2 (total)	5 (total)

Separate Sheet

Criterion	Threats and Issues	Initiatives	Active Organizations*1	Implementation Year					Indicators	
				17	18	19	20	21	Current	Target
(4) Culture, Value Systems, and Social Structure	Deteriorating access to wasabi fields and related facilities due to decreasing village settlement functions, and changes in forest vegetation due to increased wildlife	A. Support of producer organizations in each district, and regional residents, making initiatives to repair wasabi fields and carry out operation and maintenance of surrounding roads and drainage channels.	◎Municipalities	○	○	○	○	○	Number of conservation activities implemented 34 per year (2015)	30 or more per year
		B. Promote initiatives by producer cooperatives of each district and regional residents for conservation activities concerning the surrounding forests that are the water source for wasabi fields.	◎SWA Municipalities	○	○	○	○	○		
	Loss of food culture and local culture related to wasabi due to aging and shrinking residential populations	C. Create a website and make and distribute pamphlets. Participate in events in Japan and overseas, spread information about wasabi.	◎SWA Municipalities, JA, SWUF, Prefecture	○	○	○	○	○	Number of website visitors (Launch planned for 2017)	24,000 per year
	Loss of food culture and local culture related to wasabi due to aging and shrinking residential populations	D. Coordinate with local school and educational institutions to create opportunities to learn about wasabi history, growing environment, and cultivation methods. Hold workshops and lectures on wasabi for high school and college students.	◎JA ◎SWUF, SWA Municipalities, Producer cooperatives, Prefecture	○	○	○	○	○	Number of courses on food culture 3 per year (2016)	5 per year
E. Coordinate with regional residents and Japanese and foreign chefs to promote activities for passing on traditional food culture.		◎SWUF Municipalities, JA, Prefecture	○	○	○	○	○			

Separate Sheet

Criterion	Threats and Issues	Initiatives	Active Organizations* ¹	Implementation Year					Indicators	
				17	18	19	20	21	Current	Target
(5) Landscapes and Seascapes Features	Burden on region and production environment due to increased tourists	A. Set up access roads for wasabi fields and walking paths for surrounding areas, curtail deterioration of surrounding environment because of increased tourists.	◎Municipalities Prefecture	○	○	○			Scenery improvement Model districts Improved land area 2 districts (Shizuoka City, Izu City)	2 districts Total 20ha
	Deterioration of scenery caused by abandoned fields and production materials	B. Promote recycling of abandoned fields, adequate management of production materials, and uniform standards for tourism-related billboards.	◎SWA Municipalities, JA, Producer cooperatives	○	○	○	○	○		

*1 The double circle shows the organization taking the lead in the initiatives

*2 The all cities and towns of the member of organization of the association

*3 Japan Agricultural Cooperatives

*4 Shizuoka Wasabi Union Federation

*5 Shizuoka Wasabi Association for Important Agricultural Heritage Systems Promotion