land

MDPI

Article

Agro-Silvo-Pastoral Heritage Conservation and Valorization—A Comparative Analysis of the Chinese Nationally Important Agricultural Heritage Systems and of the Italian Register of Historical Rural Landscapes

Francesco Piras [1], Yulian Pan [2,3], Antonio Santoro [1,*], Beatrice Fiore [1], Qingwen Min [4,5,6], Xuan Guo [4,5] and Mauro Agnoletti [1]

[1] Department of Agriculture, Food, Environment and Forestry (DAGRI), University of Florence, Via San Bonaventura 13, 50145 Florence, Italy; francesco.piras@unifi.it (F.P.); beatrice.fiore@unifi.it (B.F.); mauro.agnoletti@unifi.it (M.A.)
[2] College of Horticulture & Forestry Sciences, Huazhong Agricultural University, Wuhan 430070, China; landscape@webmail.hzau.edu.cn
[3] Key Laboratory of Urban Agriculture in Central China, Ministry of Agriculture and Rural Affairs, Wuhan 430070, China
[4] Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing 100101, China; minqw@igsnrr.ac.cn (Q.M.); guoxuan18@mails.ucas.edu.cn (X.G.)
[5] University of Chinese Academy of Sciences, Beijing 100049, China
[6] College of Tourism, Beijing Union University, Beijing 100101, China
* Correspondence: antonio.santoro@unifi.it

Abstract: Agricultural heritage systems are receiving increasing attention due to their multifunctional role, their capability to provide ecosystem services, and for representing sustainable development models for rural areas. At the international level, the Food and Agriculture Organization (FAO) of the United Nations launched in 2002 the Globally Important Agricultural Heritage Systems (GIAHS) Program to identify and safeguard traditional agro-silvo-pastoral systems that are the result of the adaptation of rural communities to the surrounding environments. Following this approach, similar national programs have been developed, among which the Italian National Register of Historical Rural Landscapes and the China Nationally Important Agricultural Heritage Systems (China-NIAHS) initiative stand out. This research compares the China-NIAHS initiative and the Italian Register of Historical Rural Landscapes, highlighting similarities and differences and identifying strengths and weaknesses, to contribute to the development of proper tools for the conservation and valorization of agricultural heritage systems. Both initiatives were established in 2012 and share similar aims and inscription criteria, including historical and current significance, knowledge system and social structure, economic and productive framework, and causes of vulnerability. The main differences are related to the delimitation of the boundaries of the proposed sites and to the inscription process; in addition, while for the Italian National Register spatial analyses of land-use changes and landscape structure are mandatory according to a precise methodology, for the China-NIAHS no specific landscape analyses are required. The main critical issues are the lack of public participation and the lack of a monitoring plan after the inscription. The absence of monitoring is also the main vulnerability of the FAO GIAHS Programme. This research can offer important information for different stakeholders at the international, national, and local levels dealing with agricultural heritage conservation and valorization. In particular, it highlights the need of developing a multidisciplinary monitoring system with a standard methodology based on different indicators that can contribute to maximizing the impact of these initiatives. This research also provides useful information for the countries that are interested in developing a national initiative for agricultural heritage systems' identification and valorization/conservation or for countries that intend to improve their national programs.

check for updates

Citation: Piras, F.; Pan, Y.; Santoro, A.; Fiore, B.; Min, Q.; Guo, X.; Agnoletti, M. Agro-Silvo-Pastoral Heritage Conservation and Valorization—A Comparative Analysis of the Chinese Nationally Important Agricultural Heritage Systems and of the Italian Register of Historical Rural Landscapes. *Land* **2024**, *13*, 988. https://doi.org/10.3390/land13070988

Academic Editor: Mark Altaweel

Received: 14 May 2024
Revised: 2 July 2024
Accepted: 2 July 2024
Published: 4 July 2024

Copyright: © 2024 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/).

Keywords: agricultural heritage systems; GIAHS; Globally Important Agricultural Heritage Systems; historical landscape; rural landscape; traditional ecological knowledge; China; Italy

1. Introduction

The Food and Agriculture Organization (FAO) of the United Nations launched the Globally Important Agricultural Heritage Systems (GIAHS) Programme in 2002 with the aim of identifying and preserving traditional agro-silvo-pastoral systems resulting from the adaptation of rural communities to the surrounding environments. These systems are based on traditional and sustainable techniques and have supported rural communities' livelihoods since ancient times, but are still crucial for their wellbeing as they provide multiple products and ecosystem services [1,2]. GIAHS contribute to the preservation of traditional landscapes, agrobiodiversity, traditional knowledge transmitted through generations, and cultural and social values. As per June 2024, 86 systems in 26 countries are inscribed in the GIAHS Programme (https://www.fao.org/giahs/giahsaroundtheworld/en/ accessed on 4 May 2024), making it the most important world programme specifically dedicated to agricultural heritage systems and to traditional rural landscapes.

The importance of agricultural heritage systems and landscapes as multifunctional systems is nowadays well recognized both at the institutional level and at the scientific one, especially in relation to high-quality food products [3], preservation of agrobiodiversity [4] and of natural resources (i.e., water, soil, . . .) [5], for valorizing traditional ecological knowledge (TEK) and the local identity [6], or as touristic destinations [7,8]. Traditional agricultural heritage systems and landscapes are, therefore, also strongly connected to the concept of ecosystem services [9], whose importance has grown enormously in the last 10 years for the links with sustainable development and conservation, as these systems are capable of providing different ecosystem services even in difficult environmental conditions where intensive agriculture is not possible or economically sustainable [10–12]. GIAHS and traditional rural landscapes, in general, are considered "cultural landscapes", whose definition by Carl Sauer dates back to 1925 [13], and that from 1992 represent a specific conservation category in the framework of the UNESCO World Heritage List [14]. This approach is based on a different vision of human activities, as traditional agro-silvo-pastoral activities are considered important for preserving natural resources, creating specific habitats and microhabitats, and for biodiversity conservation [15]. The conservation sector, as highlighted by Mace [16], has also recognized the importance of people for biodiversity conservation and for the resilience of agro-ecosystems, highlighting the need to integrate social and environmental sciences. In addition, agricultural heritage systems are often based on smallholder or family farming that are considered by the FAO more sustainable and resilient farming types, with a key role for biodiversity, landscapes, and cultural heritage preservation [17]. The recognized role of agricultural activities, especially of the traditional ones and of family farming, for the sustainable development of rural areas, together with the rising importance of the GIAHS approach, led to the establishment of similar national initiatives, whose aims are comparable with the ones of the GIAHS program. Similar national programs have been, in fact, established in China (https://www.moa.gov.cn/nybgb/2012/dsiq/201805/t20180514_6141988.htm, accessed on 4 May 2024) [18], Italy (https://www.reterurale.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/17423 accessed on 4 May 2024) [19], Korea (https://mafra.go.kr/english/1433/subview.do accessed on 4 May 2024) [20], and Japan [21]. These national programs share common purposes but are sometimes based on different criteria and rules. In addition, they have a great international interest as they represent the first step for the proposing agro-silvo-pastoral heritage systems to the FAO GIAHS Programme, strengthening the relation between national and international initiatives.

The aim of this paper is to compare the China-NIAHS (Nationally Important Agricultural Heritage Systems) initiative and the Italian Register of Historical Rural Landscapes in

order to highlight similarities/differences and to identify the strengths and main critical points. This paper intends to contribute to the topic of the conservation and valorization of the traditional agricultural systems, in particular to the improvement of already in place initiatives at the local/regional/national level by providing important information to the public bodies and to researchers. The paper will also provide key information regarding the strategies and approaches used to establish and to manage these initiatives, also with the final purpose of promoting a standardized methodology for the evaluation of agro-silvo-pastoral heritage systems, highlighting strengths and weaknesses. This will contribute to the setting up of similar initiatives in other countries with a shared approach.

2. Materials and Methods

The information and data included in this paper mainly come from the official documentation related to the Italian and Chinese programs. This documentation includes different ministerial decrees, including the criteria for the inscription and related guidelines, scientific papers, as well as different nomination dossiers that were carefully analyzed by the authors to identify the similarities and differences among the two programs. All the official documents related to the establishment, functioning, and management of the two national programs are reported in Table 1 and represent the main source of information analyzed to perform this study. The analyses of these documents allowed us to identify how these initiatives work, how they are managed, what are the similarities and the differences, and what are the main strengths and weaknesses.

Table 1. List of official documentation and related links of the China-NIAHS and of the Italian National Register.

Program	Document	Source
Italian National Register of Historical Rural Landscapes and Traditional Practices	Establishment of the National Observatory of Rural Landscape, Agricultural Practices and Traditional Knowledge—Ministerial Decree n. 17070/2012	https://www.reterurale.it/flex/cm/pages/ServeAttachment.php/L/IT/D/a%252Ff%252Fb%252FD.813ea55036f28d2ea9cf/P/BLOB:ID=10223/E/pdf (accessed on 4 May 2024)
	Application Criteria	https://www.reterurale.it/downloads/Criteri_candidatura.pdf (accessed on 4 May 2024)
	Preselection Phase—Annex 1a. Rural Landscape Identification Form	https://www.reterurale.it/downloads/4_1_Doc_scheda_segnalazione_10_04_17.pdf (accessed on 4 May 2024)
	Preselection Phase—Annex 1b. Traditional Practice Identification Form	https://www.reterurale.it/downloads/4_1_Doc_scheda_segnalazione_10_04_17.pdf (accessed on 4 May 2024)
	Final Dossier Preparation Phase—Guidelines for the drafting of the final dossier	https://www.reterurale.it/downloads/4.2_linee_guida__candidatura_DEFINITIVA_10_04.pdf (accessed on 4 May 2024)
	Final Dossier Preparation Phase—Annex 2. VASA Methodology	https://www.reterurale.it/downloads/All_2_VASA_metodologia_per_la__valutazione__integrit___pdf (accessed on 4 May 2024)
	Final Dossier Preparation Phase—Annex 3. Integrity Level Calculation	https://www.reterurale.it/downloads/All_3_Integrit__pdf (accessed on 4 May 2024)
	Documentation supporting the application procedure—Landscape Mosaic Metrics, Indices for plant cultivation including olive trees and fruit orchards, Table of Indicators, Identification of historical features and sources, Guidelines for producing maps and cartographic outputs	https://www.reterurale.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/13826 (accessed on 4 May 2024)

Table 1. *Cont.*

Program	Document	Source
China Nationally Important Agricultural Heritage Systems	March 2012, Circular of the Ministry of Agriculture on identification and conservation of China-NIAHS	https://www.moa.gov.cn/nybgb/2012/dsiq/201805/t20180514_6141988.htm (accessed on 4 May 2024)
	July 2013, Guidelines for the Proposal of China-NIAHS and the Guidelines for the Conservation and Development Planning of China-NIAHS	https://www.moa.gov.cn/nybgb/2013/dqq/201712/t20171219_6119329.htm (accessed on 4 May 2024)
	March 2014, Circular of the China-NIAHS Expert Committee Established in Beijing	http://www.moa.gov.cn/xw/tpxw/201403/t20140325_3828127.htm (accessed on 4 May 2024)
	August 2015, Procedures on the Administration of Important Agricultural Heritage Systems	http://www.fgs.moa.gov.cn/flfg/201509/t20150907_6315713.htm (accessed on 4 May 2024)
	December 2022, Circular of the General Office of the Ministry of Agriculture and Rural Affairs on discovering and exploring the seventh batch of China-NIAHS	https://www.moa.gov.cn/govpublic/ncshsycjs/202212/t20221222_6417485.htm (accessed on 4 May 2024)
	April 2023, Circular of the establishment of the Second Expert Committee on China-NIAHS	http://www.shsys.moa.gov.cn/gzdt/202305/t20230517_6427879.htm (accessed on 4 May 2024)

3. Results

3.1. Definition of the Landscapes/Systems Included in the Italian Register and in the China-NIAHS

The landscapes that are inscribed in the Italian Register are defined as those that "have been present in a territory for a long time, even many centuries, and they are stabilized, or evolve very slowly" [22]. The same definition clarifies the connection with traditional practices, as these landscapes "are generally linked to the use of practices and techniques characterized by a reduced use of external subsidiary energies, both in terms of mechanization, irrigation, chemical fertilizers and pesticides, with the presence of cultivation systems characterized by strong ties with the local social and economic conditions". In addition, these landscapes show "a significant integrative harmony between productive, environmental and cultural aspects of a given area or region, highlighting their cultural, environmental and productive relevance [22].

According to the Circular of the Ministry of Agriculture on the identification and conservation of China-NIAHS, issued by the Ministry of Agriculture of the People's Republic of China (MOA) in 2012, China-NIAHS are defined as "ingenious agricultural production systems inherited through generations and formed by long-term co-adaptation of local people with their environment and inherited to now, being rich in agro-biodiversity, traditional knowledge and technologies, remarkable ecological and cultural landscapes, and are of important scientific and practical significance for the inheritance, sustainable development and multifunctionality of agriculture in China" [23]. Moreover, they are described as living, adaptive, complex, strategic, multifunctional, and endangered agricultural systems.

3.2. Establishment, Development, and Management of the Italian Register and in the China-NIAHS

In 2012, the Italian Ministry of Agricultural, Food and Forestry Policies (now Ministry of Agriculture, Food Sovereignty and Forests—MASAF), through the decree no. 17070/2012, established the National Observatory of the Rural Landscape, Agricultural Practices, and Traditional Knowledge (ONPR) [22]. Traditional rural landscapes are, therefore, officially included in national rural development policies, testifying their important role for the sustainable development of rural areas. The Observatory has different tasks, including the development of the general principles and guidelines for the protection

and enhancement of the rural landscape, the surveying of historical landscapes, the conservation and enhancement of agricultural practices and traditional knowledge, and the promotion of research activities on the topic of rural landscape. In addition, the National Observatory is in charge of safeguarding, managing, and planning the rural landscape, also with the aim of preserving bio-cultural diversity. The same decree also established the "National Register of Rural Landscapes of Historical Interest, Agricultural Practices and Traditional Knowledge", which was created to collect applications from local authorities interested in registering their landscapes that meet certain eligibility requirements [22]. The inscription in the Register is also the first step to be proposed for international programs such as the UNESCO World Heritage List or the FAO GIAHS Programme. The Observatory is chaired by the Minister and is made up of the Head of the Department for the European and International Policy and Rural Development as deputy vice-president, of five experts (three of whom are designated by the Minister on the proposal of the Head of the Department and two by the Permanent Conference for relations between the State and the Regions), of one representative of the Forest National Service, of one representative of the Ministry for Cultural Heritage, of one representative of the Ministry of the Environment and Protection of Land and Sea, of one expert designated by the President of the Italian National Commission for UNESCO, of one representative of the most important agricultural associations, of five representatives of the Regions, and of one representative of the Region where the proposed landscape is located.

In March 2012, the MOA issued the Circular on the Identification and Conservation of China-NIAHS establishing the inscription criteria and the application template, and pointed the local government at/above the county level as administrator if the candidate system becomes certified. China-NIAHS are recognized every two years, according to specific conditions formulated by the MOA. The first batch of 19 China-NIAHS sites were recognized in 2013, of which 8 were later proposed and inscribed in the GIAHS Programme. To guide the local government to prepare the materials and the application, the MOA issued the Guidelines for the Proposal of China-NIAHS and the Guidelines for the Conservation and Development Planning of China-NIAHS in July 2013 [24]. In March 2014, the MOA set up the China-NIAHS Expert Committee, which consists of 27 experts in the fields of agriculture, ecology, environment, economy, history, culture, and society to ensure that the selection of China-NIAHS is equitable and transparent and to make the conservation and development strategy more scientific. In August 2015, the MOA issued the Procedures on the Administration of Important Agricultural Heritage Systems, which formulated the content of the application and management in six aspects, namely the general provisions, application and audit, conservation and management, utilization and development, supervision and inspection, and bylaws [25]. This document still represents the main guideline for the identification and management of China-NIAHS. In December 2022, the MARA (Ministry of Agriculture and Rural Affairs, formed in 2018 by the integration of the former MOA and other related departments) issued the Circular of the General Office on the seventh batch of China-NIAHS, updating the inscription process and providing the templates for the application document and for the commitment letters [26]. Based on this circular, China has completed the seventh batch of China-NIAHS in 2023. In April 2023, the MARA initiated the establishment of the Second Expert Committee on China-NIAHS.

It is worth noting that there is a clear division of labor inside the MARA between the GIAHS and China-NIAHS nominations and promotion, with the former being under the supervision of the Department of International Cooperation and the latter being under the supervision of the Department for the Promotion of Rural Social Affairs. It is stressed in the Procedures on the Administration of Important Agricultural Heritage Systems that a potential GIAHS candidate included in the list of China-NIAHS can be proposed as GIAHS by the people's government at/above the county level where the candidate is located [25]. The MARA reviews the proposals in accordance with the requirements of the FAO and, eventually, recommends them.

3.3. Aims of the Italian Register and of the China-NIAHS

The Italian Register of Rural Landscapes of Historical Interest aims at representing a census of the landscapes, agricultural practices, and traditional knowledge considered to be of particular value, while the Observatory should develop operational proposals for the conservation, protection, and enhancement of the landscapes and practices inscribed in the Register.

The China-NIAHS aims to identify, protect, and utilize agricultural heritage systems. Based on the principle of dynamic conservation, it organically combines historical, cultural, and social values with the development of leisure agriculture and to achieve the unity of cultural, ecological, social, and economic benefits. China-NIAHS contributes to the prosperity of agricultural and rural cultures, promotes the development of modern agriculture, and facilitates the employment and income of farmers.

3.4. Delimitation of the Sites Included in the Italian Register and in the China-NIAHS

The Italian Register requires the clear definition of the boundaries of the area proposed for the inscription in the first part of the documentation. Boundaries have to be reported on satellite images or on other cartographic supports. The boundaries of the proposed site do not necessarily have to follow administrative boundaries, but have to be clearly recognizable on the territory (roads, rivers, ridges, . . .) and should include all the landscape features related to the landscape type proposed for the inscription. In addition, the precise extension of the proposed site in hectares has to be reported in the documentation. According to the guidelines, the minimum surface is equal to 500 ha for extensive landscapes (forests, pastures), 250 ha for medium intensive landscapes (meadows, open-field arable land), and 100 ha for intensive landscapes (vine-growing, fruit-growing, horticultural). No indications about the maximum surface are provided in the guidelines, but usually areas covering more than 10,000 ha have been considered too large, and the Observatory asked for a reduction in the overall extension to the best preserved part of the proposed landscape.

The Guidelines for the Proposal of China-NIAHS [24] point out that the boundaries of the China-NIAHS have to include the overall scope of the site and the core conservation area, which should be accurately delineated by means of maps and drawings, while the natural areas and administrative areas involved should be described. However, the basis and key points of defining the core area are not clarified. Consequently, in most cases, the boundary in the application document corresponds to the administrative boundary without any delimitation of a core conservation area. The Circular of the General Office of the Ministry of Agriculture and Rural Affairs on the seventh batch of China-NIAHS [26] clarifies this issue and explains that the administrative village where the core conservation elements are located is used as the unit to determine the core conservation area of the agricultural heritage system, which makes the heritage boundary much more clear.

3.5. Inscription Process for the Italian Register and for the China-NIAHS

The inscription process for the Italian Register is organized in two steps (Figure 1).

1. In the first step, the proposing institution has to present a simple and descriptive form to the Observatory, which, after the evaluation, can (i) determine that the landscape is valuable for inscription in the Register, thus allowing the drafting of the application dossier; (ii) ask for more details in order to better evaluate the suitability of the proposed landscape; and (iii) reject the proposal if the landscape does not have the characteristics to be inscribed in the National Register. This preselection form is articulated in the following sections: (a) Name of the proposed landscape; (b) Location, extension, municipalities involved, and map of the boundaries; (c) Current state of land ownership; (d) Description of the significant elements of the historical landscape; (e) Description of traditional practices; (f) Description of the integrity of the historical landscape; (g) Description of the vulnerability and threats; and (h) Photographic documentation. Usually, preselection forms are no longer than 20 pages.

2. The second step is the presentation of the application dossier, which is a complete document composed by different sections corresponding to the various criteria described in detail in the next section. The application dossier is again evaluated by the Observatory and, if it is considered complete, some members of the Observatory proceed with carrying out a field visit to directly check the status of the proposed landscape. If the final evaluation is positive, the landscape is officially inscribed in the National Register; otherwise, the Observatory can ask for integrations and explanations. The Observatory usually meets twice a year.

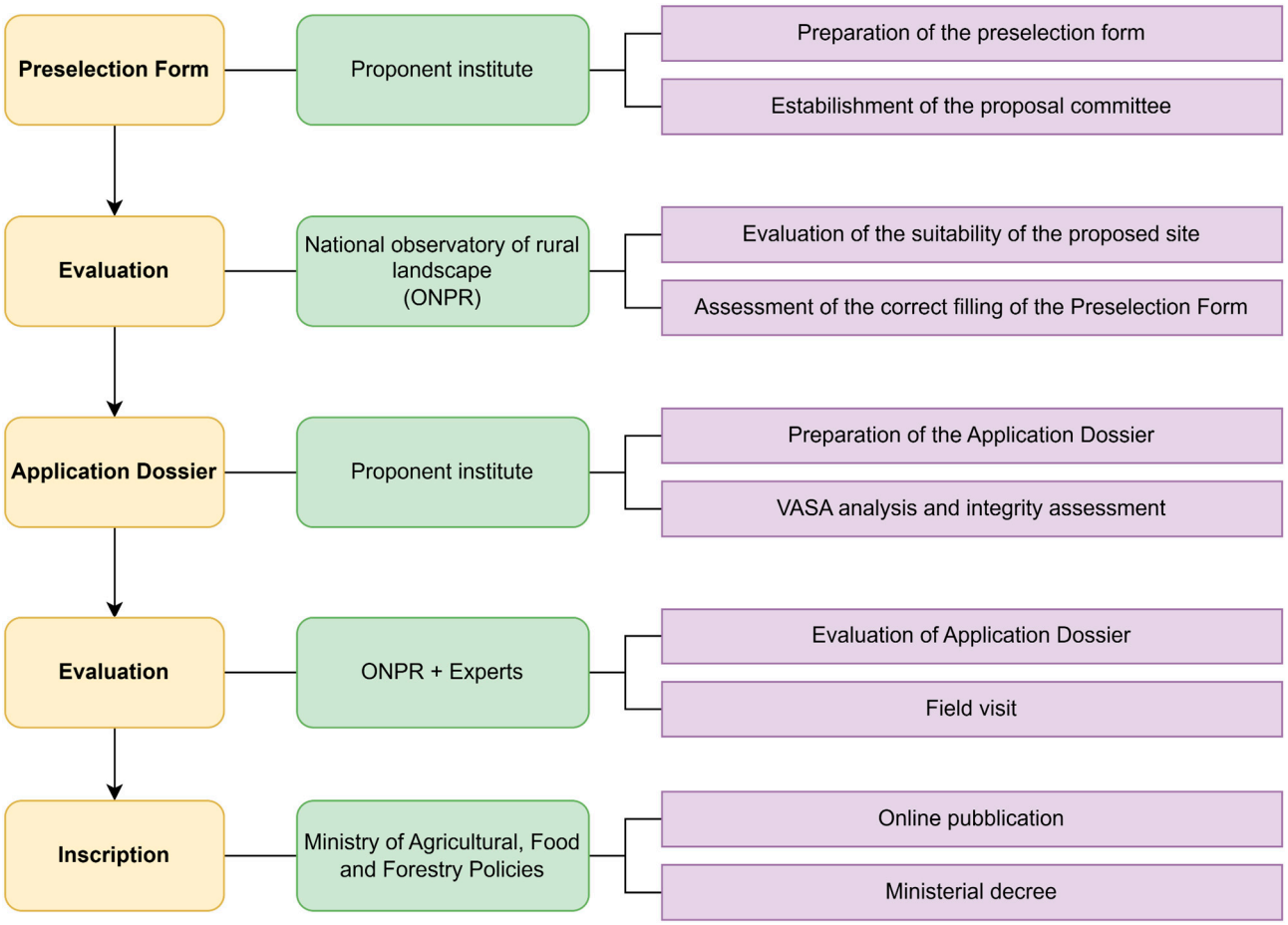


Figure 1. Scheme of the inscription process for the Italian Register of Historical Rural Landscapes.

The MOA standardized the inscription process for China-NIAHS in the Procedures on the Administration of Important Agricultural Heritage Systems issued in 2015 [25], establishing a three-level application system (state, provincial, and local) and an expert review mechanism. The inscription process consists of three steps. The government at/above the county level where the heritage is located, taking the role of the applicant, submits the application documentation to the provincial agricultural department, which reviews the materials and reports them to the Ministry. The Ministry asks experts to anonymously review and evaluate the received documentation in accordance with the criteria for recognition, and then after passing the review and after a public announcement, the Ministry officially inscribes the system in the list of the China-NIAHS and publishes the decision. It is worth noting that governments at/above the county level need to prepare the proposal materials, including application, conservation and development planning, conservation and development management methods, commitment letters, pictures, videos and other supporting materials, according to the Circular of the Ministry of Agriculture on the identification and conservation of China-NIAHS and Appendix 2 "Template for the application

of China-NIAHS"; all of these materials are evaluated in the second and third steps [23]. There are also some differences in the material that was requested for the first round from the one requested after 2015. According to the Circular of the General Office of the MARA on the seventh batch of China-NIAHS [26], the process registration contains a total of five steps (Figure 2): county-level application, provincial recommendation, deliberation and publicity, drafting of a plan, and publication of designation.

1. The government at/above the county level of each candidate agricultural system prepares an application, signs a letter of commitment, and selects 10–15 photographs and relevant video materials that reflect the typical characters and current status of the proposed agricultural heritage system for submission to the provincial agricultural and rural department. In the case of similar systems within the same region, a joint application is encouraged. The candidate agricultural system needs to address the following issues: (a) Significant value for the inheritance and development of China's excellent farming culture, (b) Clear core conservation elements and core conservation areas, (c) Distinctive traditional agricultural industry and farming technology knowledge system, (d) Traditional vernacular culture based on farming, (e) Social basis for sustainable conservation and inheritance, and (f) Risk of extinction.
2. Each provincial agricultural and rural department checks the received applications based on the inscription criteria and selects no more than three potential candidates; the selected systems are then submitted to the Department of Promotion of Rural Social Affairs of the MARA before the month of March.
3. The MARA receives the comments of the Expert Committee on the proposed systems and publicizes the candidate list to solicit public participation.
4. For the projects without objections to public announcement, the applying institution will prepare and publicize the text of the plan for the conservation and development of the agricultural heritage system in accordance with the comments and, by synthesizing the opinions of the different social actors, highlight the connections with the local economic and social development.
5. Finally, the MARA organizes a field visit with the experts to verify the information included in the application proposal and to evaluate the quality of the local planning instruments; if the overall evaluation is positive, the system is officially inscribed in the China-NIAHS list.

3.6. Criteria for the Inscription in the Italian Register and in the China-NIAHS

The application dossier for the Italian Register is required to be structured in seven different sections, each corresponding to a different criterion, whose details are summarized in Figure 3:

1. General reasons.
2. Identification of the area covered by the application.
3. Description of significance.
4. Description of the vulnerability.
5. Description of the economic and productive structure.
6. Technical, compositional, and visual aspects.
7. Activities for the conservation and promotion of rural civilization and landscape.

Beside these seven criteria, a key part of the application dossier for the Italian Register is represented by the VASA (Historical and Cultural Evaluation Approach) analyses, a GIS-based multitemporal spatial analysis originally developed in the framework of a landscape monitoring project for the Tuscan Region (Italy) [27] that became a standard at the national level for spatial analyses of landscape changes. This methodology allows to identify the main landscape features and to measure the land-use changes in the last 70 years, the structure of the landscape mosaic, as well as the overall level of integrity. The VASA analysis is considered a key part of the documentation. In fact, while the rest of the application dossier is mainly based on descriptions, the VASA analysis is a scientific-based and recognized approach that allows to objectively measure landscape

transformations through the application of some spatial indexes. In addition, the database resulting from this analysis represents the basis for future monitoring and, therefore, for evaluating the effectiveness of the planning policies adopted in the area for the preservation of the historical landscape.

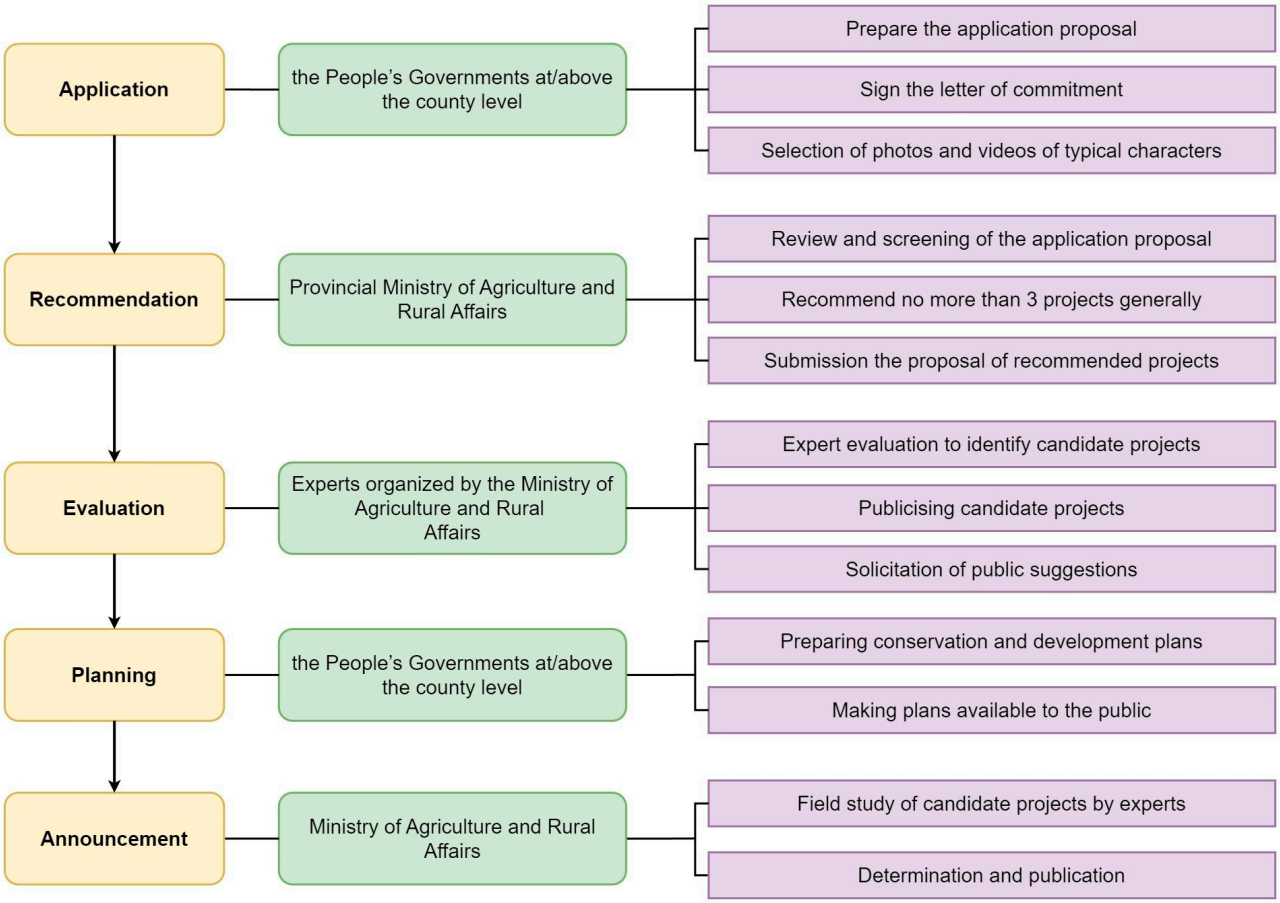


Figure 2. Scheme of the inscription process for the China-NIAHS initiative.

The inscription criteria for the China-NIAHS are six and are listed in "Annex I" of the Circular of the Ministry of Agriculture on the identification and conservation of China-NIAHS of 2012 [18,23] (Figure 3); they are divided among four basic measures:

1. Historic relevance.
2. Completeness.
3. Sustainability.
4. Endangered situation.

and two supplementary measures:

5. Demonstration effect.
6. Guarantee measures.

Overall, the criteria 1, 2, and 6 of the Italian National Register do not have a precise correspondence in the six China-NIAHS criteria, but similar information and material are requested to be included in other parts of the application document for the China-NIAHS.

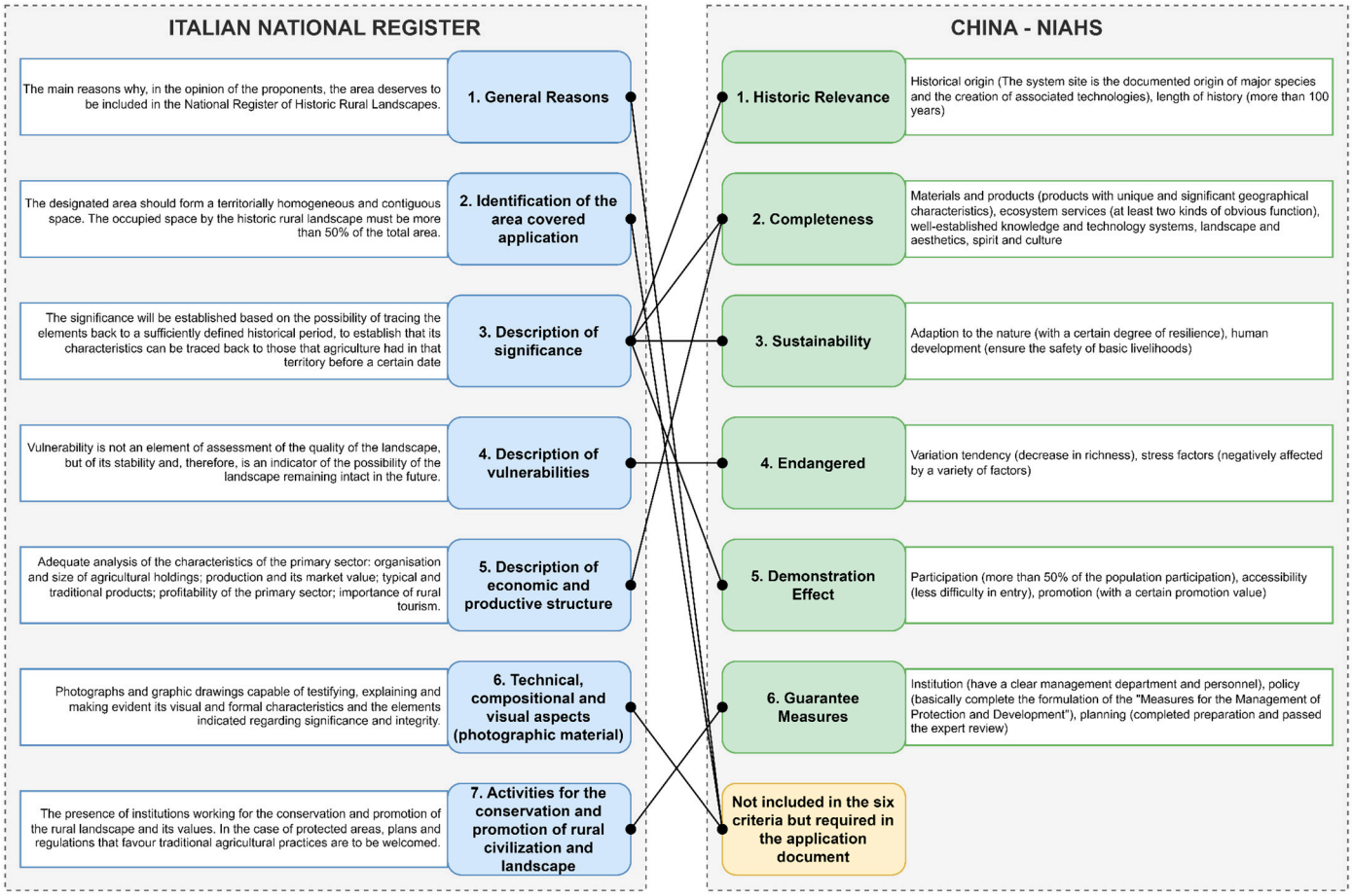


Figure 3. Comparison of the criteria for inscription between the Italian Register (**left**) and the China-NIAHS (**right**). The lines show the correlations between similar criteria.

3.7. Development and Protection of the Sites Inscribed in the Italian Register and in the China-NIAHS

The guidelines for the inscription in the Italian Register do not foresee for the proposing institution the need to produce a specific plan devoted to the development, protection, or valorization of the inscribed landscape. In addition, after the inscription in the Nation Register, the Observatory does not apply any kind of regular and systematic monitoring; therefore, phenomena, such as the abandonment of traditional agricultural activities, urban sprawl, or other land-use changes, which affect the overall integrity of the historical landscape or of its features, are not systematically recorded. Finally, it is important to notice that the inclusion in the Register does not mean that specific limitations or legal constraints are imposed on local activities and on local territorial planning.

Concerning the China-NIAHS initiative, the Procedures on the Administration of Important Agricultural Heritage Systems [25] set out specific regulations for the conservation and management, utilization and development, and supervision and inspection of the China-NIAHS. It also states that the proposing authority of the China-NIAHS site should establish a dynamic monitoring information system to check the current status of the agricultural resources, environment, culture, knowledge, and technological level. The proposing authority also should submit to the MARA an annual report concerning the current year's heritage conservation initiatives, changes in the socio-economic and ecological environment of the heritage site, and the next year's work plan. At the same time, the administrative departments of agriculture of the people's governments at/above the county level should supervise the conservation of the heritage and carry out unscheduled inspections and evaluations. The MARA could revoke the recognition of China-NIAHS

if the system has been seriously damaged with irreversible consequences or due to significant changes in the local environment. Potentially, if a system is removed from the China-NIAHS lists and if it is also inscribed in the GIAHS, the MARA could request FAO to re-evaluate the recognition as GIAHS.

4. Discussion

This research compared the China-NIAHS initiative and the Italian Register of Historical Rural Landscapes. Although both have similar objectives and inscription criteria, the research found significant differences in the registration process, in the application procedure, and in the management of the two initiatives, which are summarized in Table 2.

Table 2. Comparison of the main differences and similarities of different aspects of the China-NIAHS initiative and of the Italian National Register.

	China-NIAHS	Italian National Register
Definition of the landscapes/systems	Focus on production systems	Focus on landscape
Establishment, development, and management of the initiatives	Established in 2012 Updated inscription process in 2022	Established in 2012
Aims	To identify, protect, and utilize agricultural heritage systems	To compile a census of landscapes, agricultural practices, and traditional knowledge considered of particular value
Delimitation of the sites	Administrative boundaries	Boundaries according to the presence of the traditional landscape
Inscription process	Proposed by the government (county level) No more than 3 sites per province every two years Unidirectional process evaluation: qualitative + field visit by experts	Proposed by local institutions (local level) No limitations on the number of sites per region Communication and feedback between the ministry and the proposing institution Evaluation: qualitative + field visit by experts + quantitative requirement (VASA analysis + Integrity Class)
Criteria for inscription	Four criteria: 1. Historic relevance. 2. Completeness. 3. Sustainability. 4. Endangered situation. Two supplementary measures: • Demonstration effect. • Guarantee measures.	Seven criteria: 1. General reasons. 2. Identification of the area covered by the application. 3. Description of significance. 4. Description of the vulnerability. 5. Description of the economic and productive structure. 6. Technical, compositional, and visual aspects. 7. Conservation and promotion of rural civilization and landscape.
Development and protection of the sites	Annual report drafted by the proposing authority No monitoring	No report required No monitoring

Even if the Italian Register refers to historical landscapes and not to agricultural systems, the definition clarifies that the object of this initiative is not just landscapes, but real agricultural heritage systems as intended by the GIAHS Programme, since the connection with the local economy, culture, and environment is specifically addressed. Therefore, it is possible to state that both the China-NIAHS and the Italian Register of Historical Rural Landscapes share similar aims and characteristics, even if some important differences need to be highlighted. The primary distinctions are manifested both in the proposition process and at a technical level.

Concerning the registration process, notable differences arise. The China-NIAHS program entails an initial interaction between the proponent institute at the county level and the Provincial Department of Agricultural and Rural Affairs. The Provincial Department subsequently determines whether to escalate the registration application nationally. This preliminary stage at the provincial level serves as an initial filtration, given that each province can submit a maximum of three proposals biennially, and the most meritorious proposals are consequently selected. In contrast, for the inscription into the Italian National Register of Historic Rural Landscapes, the proposing entity interfaces directly with the scientific committee of the Ministry of Agriculture, i.e., the National Observatory of Rural Landscape. A preselection process transpires using Preselection Forms, appraised by the ONPR prior to the formulation of the application dossier, acting as a preliminary check. In addition, there is no restriction on the number of submissions per region.

The procedural process of the Chinese program additionally features a unidirectional process: The proposing entity tenders the registration document to the Provincial Department of Agriculture and Rural Affairs, and they determine whether to endorse the site to the MARA. No provision exists for contact between the proposing entity and the expert committee for document modification. After the submission to the ministry, the document may either be accepted in order to continue the inscription process or rejected, terminating the procedure. Conversely, the Italian process entails a sequence of communications and feedback between the proposing entity (local level) and the scientific committee (national level). This communication is utilized by the committee to request changes and enhancements to the application document, aligning it with the standards and incorporating necessary information if absent.

Technically, the information within the application dossiers exhibits similarities, yet certain distinctions merit emphasis. Primarily, the nominated sites vary significantly. While the Italian national register mandates a boundary closely adhering to the candidate's traditional landscape, the China-NIAHS program requires the proposed area boundaries to align with administrative boundaries. Furthermore, notwithstanding the information's similarity, the text organization diverges markedly. The seven criteria in the Italian program constitute discrete chapters in the document, necessitating completion with all pertinent information. In contrast, the NIAHS-China program's guidelines stipulate the drafting of three chapters to consolidate all information related to the six criteria.

The most significant difference, however, resides in the analyses of the proposed site within the application dossier. Notably, candidacy for the Italian National Register mandates the creation of both current and historical land-use maps according to a precise methodology to provide scientific evidence of the landscape characteristics and of its historical integrity. A comparison of these maps utilizing various landscape ecology indexes is obligatory, with landscape integrity that is required to exceed 50% of the total proposed surface in terms of historical land uses. Conversely, the NIAHS-China program imposes no specific landscape or land-use analyses. The expert committee exclusively relies on qualitative information and on-site inspections for system selection and evaluation, devoid of rigid adherence to specific rules.

Concerning the Italian National Register, it is necessary to highlight that landscape perception and public participation are not specifically considered, representing a significant shortcoming, especially as Italy signed (in 2000) and ratified (in 2006) the European Landscape Convention, according to which landscape is an area "as perceived by people, whose character is the result of the action and interaction of natural and/or human factors" [28]. The assessment of public participation and landscape perception is nowadays considered of substantial importance for cultural landscapes planning and conservation, especially at the European level [29]. Opinions and suggestions from all sectors of society are instead encouraged in the China-NIAHS, especially after 2022, as opinions and suggestions from all sectors of society need to be included in the China-NIAHS inscription process during the evaluation and planning step, before the official registration, and are organically integrated with local national economic and social development plans. This is a significant

improvement compared to the original process of the China-NIAHS that did not consider public participation. This amelioration is due to the fact that the MORA has continuously improved the program for the identification and conservation of China-NIAHS to make it more scientific, adding core conservation areas to the latest application conditions and moving planning issues out of the application document to be independent, representing the fourth step of the nomination process. The update of the application conditions and the inclusion of public participation by the MORA, according to Min [30], may contribute to solving some critical issues that were found in the first years of the initiative and, in general, to improve the scientific soundness of the adopted approach.

Similar initiatives at the national level can be found in Japan and Korea, two countries rich in traditional agricultural heritage [21,31]. Korea (https://mafra.go.kr/english/1433/subview.do accessed on 4 May 2024) and Japan (https://www.maff.go.jp/j/nousin/kantai/giahs_1_2.html accessed on 4 May 2024) initiated the NIAHS identification in 2012 and 2016, respectively. However, some differences in the aims, criteria, and declaration procedures compared to the China-NIAHS and the Italian Register need to be reported. Japan established the Nationally Important Agricultural Heritage System (Japan-NIAHS) initiative integrating agriculture, forestry, and fishery systems, while Korea separates the Nationally Important Agricultural Heritage System (KIAHS) from the Nationally Important Fisheries Cultural Heritage System (KIFHS), considering and managing them as two separate programs. Beside the FAO GIAHS criteria, Japan-NIAHS added three criteria: resilience to change, participation of the subject, and promotion of the sixth industrialization. The KIAHS project is more focused on historical value and continuity, livelihoods, unique agricultural technology, traditional agricultural culture, landscape, biodiversity, and local participation. In terms of the inscription process, both the Japanese and Korean programs are based on a two-level evaluation procedure. In addition, the Republic of Korea has developed a series of policies and regulations to promote the conservation of the KIAHS, which could be useful as a reference for other countries [20].

The main critical issue of the analyzed national initiatives is the lack of official support and monitoring by the respective ministries after the inscription. No regular monitoring is planned, and therefore, it is not possible to check the effectiveness of the inclusion in these national programs with respect to landscape conservation or, on the other side, to check the occurrence of significant problems which call into question the very reason for the inclusion in the national registers and their possible removal. However, the China-NIAHS initiative requires an annual report on the site situation to be prepared by the local authorities, including information on ongoing initiatives, socio-economic and environmental changes, and a work plan for the following year. The removal of sites from the lists is foreseen by ministerial decrees (both in Italy and China) in the case that the characteristics that allowed for their registration no longer exist or if the level of integrity of the landscape is no longer sufficient, but in reality, this measure has never been applied because no periodical monitoring is carried out.

The lack of a regular monitoring of the sites is also the main problem of the FAO GIAHS Programme, and even if every GIAHS site has a specific Action Plan, no independent check of the initiatives regarding the conservation and valorization carried out by local authorities is planned [32]. Everything is left to individual countries, without indicating any methodology or standard indicators, with potentially negative consequences for the reliability and effectiveness of the Programme itself in the long term. Independent studies have, in fact, highlighted that, in some sites, the landscape has been affected by relevant land-use changes that are threatening the overall integrity of the sites, raising doubts about the actual reason for considering these sites as GIAHS [33]. Reyes et al. [34] called for the development of a scientific monitoring system for the GIAHS sites based on a set of standard indicators, while, more recently, Wei et al. [35] proposed a monitoring and early warning system, and Yiu et al. [36] proposed a set of indicators and of multiple goals (short-, mid-, and long-term) in line with the UN Sustainable Development Goals (SDGs).

5. Conclusions

The comparison between the China-NIAHS initiative and the Italian Register of Historic Rural Landscapes, including their definition, objectives, development process, inscription criteria and management, and development of conservation strategies, can contribute to enhancing the effectiveness of these two crucial programs for the valorization and conservation of agricultural heritage landscapes. The comparison presented in this research aims to identify the strengths of both initiatives, but also the main vulnerabilities that could be solved by the respective national authorities. Therefore, this paper intends to provide suggestions to address the main critical elements and to propose a shared process and approach by learning from each other.

Since, for both Italy and China, these initiatives also represent the necessary step to access international programs, i.e., the FAO GIAHS Programme, it is important to make the NIAHS initiative and the Italian Register as similar as possible in order to develop a standard methodology and approach that could help to produce similar, comparable, and higher quality applications for the FAO GIAHS Programme. In this regard, the lack of a monitoring system should be emphasized as it is not possible to properly measure, according to a scientific methodology, the effectiveness and the consequences of the registration in the national program. This shortcoming is also the main one reported for the FAO GIAHS Programme and needs to be addressed by the GIAHS Secretariat to improve the quality and the effectiveness at the local level of the Programme itself.

This study is also important for other countries that currently do not have a national system for the identification and valorization/conservation of agricultural heritage systems and would like to adopt one, or for those countries that already have one but intend to improve it by adopting a shared and scientific approach. Based on the strengths, but also on the vulnerabilities, of both the Chinese and the Italian initiatives, it is possible to identify which features and criteria have the greatest impact and relevance, and it is possible to develop other national programs with a shared approach to maximize the impact of these initiatives at the international level. This will contribute to the preservation and valorization of agro-silvo-pastoral systems and, therefore, to the improvement in the wellbeing of local rural communities.

Author Contributions: Conceptualization, A.S., F.P., Y.P. and B.F.; methodology, A.S., F.P., Y.P. and B.F.; writing—original draft preparation, A.S., F.P., Y.P., B.F., Q.M., X.G. and M.A.; supervision, A.S. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Data Availability Statement: Data are available upon request.

Conflicts of Interest: The authors declare no conflicts of interest.

References

1. Altieri, M.A.; Koohafkan, P. Globally Important Ingenious Agricultural Heritage Systems (GIAHS): Extent, significance, and implications for development. In Proceedings of the Second International Workshop and Steering Committee Meeting for the Globally Important Agricultural Heritage Systems (GIAHS) Project. FAO, Rome, Italy, 7–9 June 2004.
2. Koohafkan, P.; Altieri, M.A. *Globally Important Agricultural Heritage Systems: A Legacy for the Future*; Food and Agriculture Organization of the United Nations: Rome, Italy, 2011.
3. Koohafkan, P. The importance of food and agricultural heritage systems in achieving sustainable development goals. In *The Mediterranean Diet from Health to Lifestyle and a Sustainable Future*; Medina, X.F., Macbeth, H., Eds.; The International Commission on the Anthropology Food and Nutrition (ICAF): Enfield, UK, 2021; p. 147.
4. Agnoletti, M.; Santoro, A. Agricultural heritage systems and agrobiodiversity. *Biodivers. Conserv.* **2022**, *31*, 2231–2241. [CrossRef]
5. El Janati, M.; Akkal-Corfini, N.; Bouaziz, A.; Oukarroum, A.; Robin, P.; Sabri, A.; Chikhaoui, M.; Thomas, Z. Benefits of circular agriculture for cropping systems and soil fertility in oases. *Sustainability* **2021**, *13*, 4713. [CrossRef]

6. Espluga-Trenc, J.; Calvet-Mir, L.; López-García, D.; Di Masso, M.; Pomar, A.; Tendero, G. Local agri-food systems as a cultural heritage strategy to recover the sustainability of local communities. Insights from the Spanish case. *Sustainability* **2021**, *13*, 6068. [CrossRef]
7. Sun, Y.; Timothy, D.J.; Wang, Y.; Min, Q.; Su, Y. Reflections on agricultural heritage systems and tourism in China. *J. China Tour. Res.* **2019**, *15*, 359–378. [CrossRef]
8. Belčáková, I.; Rácz, A.; Ollerová, H.; Spodniaková, L. Sustainable Tourism Planning on Landscape Scale: Case Study from Slovakia (Central Europe). *J. Landsc. Ecol.* **2023**, *16*, 38–65. [CrossRef]
9. Reid, W.V. *Millennium Ecosystem Assessment. Ecosystems and Human Well-Being: Synthesis*; Island Press: Washington, DC, USA, 2005.
10. Santoro, A. Traditional oases in Northern Africa as multifunctional agroforestry systems: A systematic literature review of the provided Ecosystem Services and of the main vulnerabilities. *Agrofor. Syst.* **2023**, *97*, 81–96. [CrossRef]
11. Csurgó, B.; Smith, M.K. Cultural heritage, sense of place and tourism: An analysis of cultural ecosystem services in rural Hungary. *Sustainability* **2022**, *14*, 7305. [CrossRef]
12. Martinoli, A.; Regato, P.; Samad, F.A.; Kanso, L.; Eddine, N.S.; Panichi, M.; Gagliardi, A.; Sarkis, L.; Hani, N. Stone-walled terraces restoration: Conserving biodiversity and promoting economic functions of farmlands in Lebanon. *J. Agric. Environ. Int. Dev. (JAEID)* **2022**, *116*, 77–114. [CrossRef]
13. Sauer, C.O. The morphology of landscape. *Univ. Calif. Publ. Geogr.* **1925**, *2*, 19–53.
14. Jones, M. The concept of cultural landscape: Discourse and narratives. In *Landscape Interfaces: Cultural Heritage in Changing Landscapes*; Springer: Dordrecht, The Netherlands, 2003; pp. 21–51. [CrossRef]
15. UNESCO, sCBD. *Florence Declaration on the Links between Biological and Cultural Diversity*; UNESCO, sCBD: Florence, Italy, 2014.
16. Mace, G.M. Whose conservation? *Science* **2014**, *345*, 1558–1560. [CrossRef]
17. Blondeau, S.; Korzenszky, A. *Family Farming. Legal Brief 8*; FAO: Rome, Italy, 2022. [CrossRef]
18. Jiao, W.; Min, Q. Reviewing the progress in the identification, conservation and management of China-Nationally Important Agricultural Heritage Systems (China-NIAHS). *Sustainability* **2017**, *9*, 1698. [CrossRef]
19. Agnoletti, M.; Santoro, A. The Italian national register of historical rural landscapes. In *Cultural Heritage—Possibilities for Land-Centered Societal Development*; Springer: Cham, Switzerland, 2022; pp. 15–34. [CrossRef]
20. Evonne, Y.; Akira, N.; Kazuhiko, T. Comparative study on conservation of agricultural heritage systems in China, Japan and Korea. *J. Resour. Ecol.* **2016**, *7*, 170–179. [CrossRef]
21. Akira, N.; Evonne, Y. Ten years of GIAHS development in Japan. *J. Resour. Ecol.* **2021**, *12*, 567–577. [CrossRef]
22. Ministry for Agriculture, Food and Forestry Policies. *Ministerial Decree n. 17070/2012 on the Establishment of the National Observatory of Rural Landscape, Agricultural Practices and Traditional Knowledge*; Ministry for Agriculture, Food and Forestry Policies: Rome, Italy, 2012.
23. Ministry of Agriculture of the People's Republic of China. *Circular of the Ministry of Agriculture on Identification and Conservation of China-NIAHS*; Ministry of Agriculture: Beijing, China, 2012.
24. Ministry of Agriculture of the People's Republic of China. *The Guidelines for the Proposal of China-NIAHS and the Guidelines for the Conservation and Development Planning of China-NIAHS*; Ministry of Agriculture: Beijing, China, 2013.
25. Ministry of Agriculture of the People's Republic of China. *Procedures on the Administration of Important Agricultural Heritage Systems*; Ministry of Agriculture: Beijing, China, 2015.
26. Ministry of Agriculture and Rural Affairs of the People's Republic of China. *Circular of the General Office of the Ministry of Agriculture and Rural Affairs on Discovering and Exploring the Seventh Batch of China-NIAHS*; Ministry of Agriculture: Beijing, China, 2022.
27. Agnoletti, M. The degradation of traditional landscape in a mountain area of Tuscany during the 19th and 20th centuries: Implications for biodiversity and sustainable management. *For. Ecol. Manag.* **2007**, *249*, 5–17. [CrossRef]
28. Council of Europe. *European Landscape Convention*; Council of Europe: Strasbourg, France, 2000.
29. Dobrovodská, M.; Moyzeová, M.; Bezák, P.; Mojses, M. Assessment of Local Knowledge About Land Use Relevant to Landscape Planning in a Case Study Area in Lowland Slovakia. *J. Landsc. Ecol.* **2022**, *15*, 61–77. [CrossRef]
30. Min, Q.W. Problems and Suggestions in the Application of Important Agricultural Heritage System in China. *Herit. Conserv. Stud.* **2019**, *4*, 8–11. (In Chinese)
31. Lee, J.H.; Yoo, H.Y.; Jeon, Y.O.; Choi, S.I.; Youn, W.K. A study on the development of management system for KIAHS (Korea's Important Agricultural Heritage Systems) Sites. *J. Korean Soc. Rural. Plan.* **2018**, *24*, 13–24. [CrossRef]
32. Jiao, W.; Zhao, G.; Min, Q.; Liu, M.; Yang, L. Building a monitoring system for globally important agricultural heritage systems (GIAHS) based on the monitoring experience of world heritage. *China. J. Eco-Agric.* **2020**, *28*, 1350–1360.
33. Santoro, A.; Yu, Q.; Piras, F.; Fiore, B.; Bazzurro, A.; Agnoletti, M. From Flood Control System to Agroforestry Heritage System: Past, Present and Future of the Mulberry-Dykes and Fishponds System of Huzhou City, China. *Land* **2022**, *11*, 1920. [CrossRef]
34. Reyes, S.R.C.; Miyazaki, A.; Yiu, E.; Saito, O. Enhancing sustainability in traditional agriculture: Indicators for monitoring the conservation of globally important agricultural heritage systems (GIAHS) in Japan. *Sustainability* **2020**, *12*, 5656. [CrossRef]

35. Wei, T.; Chen, Y.; Li, Y. Exploration and Innovation of Monitoring Methods for the Cultural Landscape of Old Tea Forests of the Jingmai Mountain in Pu'er Compatible with Agricultural Heritage. *Res. Nat. Cult. Herit.* **2023**, *8*, 20–26. [CrossRef]
36. Yiu, E.; Jang, B.; Owada, J.; Jeong, M.C.; Hwang, D. *Globally Important Agricultural Heritage Systems (GIAHS) Monitoring and Evaluation Manual: A Technical Reference*; United Nations University Institute for the Advanced Study of Sustainability: Tokyo, Japan, 2022. [CrossRef]

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.