

DYNAMIC AND ACTIVE CONSERVATION OF TRADITIONAL AGRICULTURAL LANDSCAPES OF INNER AREAS WITH THE GIAHS APPROACH. FOR A COMPARISON OF EXPERIENCES BETWEEN THE EUROPEAN AND LATIN-AMERICAN CONTEXTS¹

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SUMMARY

Since 2002, the GIAHS initiative has promoted the dynamic conservation of traditional agricultural systems by recognizing their global importance and the activation of bottom-up projects. Local communities represent both actors and recipients of the actions undertaken. Today there are 62 GIAHS in 22 countries, two of which in Italy. The GIAHS – based on food security, agrobiodiversity, traditional local knowledge systems, cultures and systems of values and social organizations, landscape characteristics – does not represent only an international recognition. It wants to be an “engine” for the enhancement and sustainable development of traditional agricultural systems (both locally and nationally) to achieve the Sustainable Development Goals, also by fostering at the political level the awareness on the importance of protecting historical agricultural systems, agrobiodiversity, and local knowledge for the daily management of landscapes. Several countries, such as Chile and Peru, also started national policies to protect rural landscapes of inner areas based on the GIAHS approach. These policies aim to guarantee the food sovereignty of rural communities and combat the phenomena of abandonment of such areas, disruption of historical agricultural systems, and loss of landscape heritage. From these premises, the contribution intends to present the GIAHS approach, reflecting on how this recognition can be an opportunity to preserve and enhance traditional agricultural systems in inner areas. This paper will also show how the GIAHS approach could be declined differently depending on the geographical contexts, through a comparison between Europe (where it is more significant the attention on landscape and agri-food sectors) and Latin American (with an emphasis on agrobiodiversity and local knowledge). The aim is to identify good practices to apply in Italy, even within the National Strategy for Inner Areas, which indicates in the reactivation of traditional agricultural systems a backbone to reverse the abandonment of inner areas and revitalize rural landscapes.

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1. Preserve the historic rural landscapes heritage through a multistakeholder governance approach and agriculture multifunctionality

The conservation of historic rural landscapes³ is one of the most complex challenges humankind faces in the first decades of the 21st century. In the context of a world economy that (despite the ongoing COVID-19 pandemic) continues to push towards the globalization and homologation of the economic sectors and human life (Stutz & Warf, 2011), the conservation of traditional rural landscapes has become urgent.

Regarding the agricultural sector, it is well known as the contested “*Green Revolution*” determined a severe increase in the gaps and inequalities between the populations in the World, between developed countries and developing countries, by pushing towards a global “agro-industrial” model⁴ (Holt-Giménez *et al.*, 2010; United Nations, 2019). This, despite its initial aim of bringing benefits to humankind and increasing the food production for all to eliminate the hunger plague definitively. Consequently, we are now facing the intensification of many historical rural landscapes’ fragilities (Rey Benayas *et al.*, 2007; Dezio, 2020). Most of these landscape systems still base on the traditional farmers’ knowledge for the daily territorial and ecosystems management, family farming⁵, or ancestral systems of collective and social organization (Graeub *et al.*, 2016). Furthermore, today rural landscapes still managed in ancestral ways are often “relegated” within territories where it was impossible to develop an agro-industrial economy due to geographical, topographical, or socio-economic reasons (Casadei, 2018).

Today, preserving historical rural systems becomes a priority and a complex issue we need to address through policies or projects characterized by a systemic approach that goes beyond the simple conservation of the tangible historical landscapes characters. From this perspective, we are called to act both at the international level and (mainly) at the national and local scales. Consequently, preserving historical rural systems does not mean exclusively keeping the “landscape beauty” from an aesthetic perspective, going towards their “crystallization” or “musealization” (Donadieu *et al.*, 2008). Instead, preserving rural systems means guaranteeing their economic sustainability over time and the dynamic conservation of the related “landscape systems”⁶, which still today are rich in tangible and intangible cultural heritage. Guaranteeing their economic sustainability would allow the traditional local agricultural-productive economies to have still their own space within the national economies or, even more, in the globalized economy that would instead tend to break them definitively.

To preserve these landscapes, it is necessary to consider their extremely dynamic character in time and space and, consequently, the continuous change of their economic, social, and cultural values (Tempesta & Thiene, 2006; Pölling *et al.*, 2016). Therefore, it becomes essential to recognize, understand, evaluate, and protect the complex values system of the historic rural landscapes. This values system refers both to the landscapes’-built components (terraces, historical irrigation systems, etc.) and the intangible ones (ancestral agrobiodiversity, agricultural practices, know-how, or associative religious values, etc.) (Scazzosi, 2004).

The gradual rupture of traditional rural systems (already underway for some decades in all world regions) is at the same time the cause and consequence of the accentuation of other social and territorial phenomena

³ The adjective “rural” is not here used in dichotomy with the concept of “urban”. Instead, the author referred to the ICOMOS definition of “rural landscape” (2017). According to ICOMOS, rural landscapes are «*terrestrial and aquatic areas co-produced by human-nature interaction used for the production of food and other renewable natural resources, via agriculture, animal husbandry and pastoralism, fishing and aquaculture, forestry, wild food gathering, hunting, and the extraction of other resources, such as salt*» (§1, Principles, Letter A, “Definitions”).

⁴ Michael Winter (2006: 738) underlines that the agricultural sector has unfortunately been treated with the same logic and development criteria as the other economic sectors.

⁵ The United Nations, recognizing the value of the conservation of traditional agroecosystems and family farming in relation to the issues humanity is facing, launched the *UN Decade of Family Farming 2019-2028* (www.fao.org/family-farming-decade/home/en) and the *UN Decade of Ecosystem restoration 2021-2030* (www.decadeonrestoration.org).

⁶ The author intends the concept of “*landscape system*” as a system of functional-productive, spatial, and social relations that contributed to the origin and evolution of a strict and complex interrelation among man and nature that has led humankind to “shape” his life places and therefore to “build” landscapes (Scazzosi, 2015).

strictly connected, such as the abandonment of these areas by the population (especially the youngest), socio-demographic deterioration with the decrease of the work-active population and its progressive ageing; the breakdown of the oral transmission of traditional knowledge systems and the ancestral social organizations; the loss of the daily management of landscapes; the cultural marginalization of entire territories (Howard *et al.*, 2008). Due to the historical rural landscapes' complexity and systemic character, their conservation becomes a strongly articulated matter. It must pass through a necessary balancing of values (economic, social, cultural) and interests of all the stakeholders involved in the preservation process within the dynamic context of the landscape itself (L'Erario & Oppio, 2020).

Of course, we can extend and adapt these wide and multidisciplinary arguments by descending in scale to the European and, therefore, Italian contexts. On a global level, our continent is one of those where a strong agro-industrial economy system has developed more. Since the beginning of the 20th century, the agro-industrial economic system for European agriculture has led to the gradual disappearance of part of the rural landscape heritage, concerning both the tangible and intangible landscapes components. The abandonment of entire rural areas led to a general increase in the forest area in recent decades (CULTLAB-UniFi, 2018; Agnoletti, 2018). The need to facilitate the use of mechanical led in several cases to simplify many of the landscape tangible historical features or the disappearance of historical land uses (e.g. polyculture systems). Europe is still facing the loss of local knowledge, traditional agricultural practices, and the strong reduction in the ancestral agrobiodiversity due to the homologation of commercial varieties (L'Erario, 2019; FAO, 2019). Several studies already extensively treated these complex phenomena around the World. (Thrupp, 2000; Upreti & Upreti, 2002; Rotherham, 2007; Daghfous *et al.*, 2013).

In Europe and Italy, Governments gradually developed economies (in a broad sense and not only about the agricultural sector), determining a dichotomy between developed rural areas and the so-called "inner areas"⁷. The first ones are mainly located around cities or in easily accessible territories for orographic reasons. On the contrary, inner areas are in disadvantaged territories for an orographic reason or where essential services to the citizens today lack (Agency for Territorial Cohesion, 2014). On the other hand, inner areas are precisely those in which a large part of our country's historical rural landscape heritage, albeit not always in its complete integrity, has been preserved (Agnoletti *et al.*, 2013). This, despite the difficulties deriving from the current economic system and the already mentioned phenomena of abandonment and landscape care-lack (Agnoletti, 2014). A vast heritage whose fragility is evident today.

Despite this, we can identify numerous ongoing initiatives to protect of our historical rural landscapes in the Italian inner areas. As examples, we recall the innumerable experiences of the *Slow Food Presidia*⁸, which promote concrete actions for the conservation of rural landscapes, traditional agricultural practices, or agrobiodiversity (Milano *et al.*, 2015; Slow Food Foundation, 2020; Fernandez *et al.*, 2020) starting from the concept of "good, clean and fair" food (Petrini, 2005). Otherwise, we mention the initiatives for conserving rural landscapes carried out by the Italian associations engaged in protecting the environment and landscape, such as the FAI-Fondo Ambiente Italiano, WWF Italy, Italia Nostra and Legambiente⁹ (MiBACT, 2018).

Furthermore, we cannot forget to mention the numerous not-known initiatives carried out by young farmers, who decided to take care of small portions of the agricultural land day-by-day by promoting local agrobiodiversity, traditional know-how, historical landscape features (Borghesi, 2010). Young farmers who de-

⁷ We refer to the definition of "inner areas" by the Italian National Strategy for Inner Areas (SNAI): «*We call 'inner' those areas that are significantly distant from the centers of supply of essential services (education, health and mobility), which are rich in important environmental and cultural resources and highly diversified by nature and following centuries-old anthropization processes. About a quarter of the Italian population lives in these areas, in a portion of the territory that exceeds the sixty percent of the total, and which is organized in over four thousand municipalities*» (Agenzia per la Coesione Territoriale, 2014: 7).

⁸ 343 Slow Food Presidia have been already registered in Italy (source: Slow Food Foundation for Biodiversity, www.fondazioneSlowFood.com/it/nazioni-presidi/italia-it/; updated June 2020).

⁹ Examples are the conservation project of the "Case Lovara" agricultural possession, in the Cinque Terre Park (Liguria) and the "Alps project" ("Progetto Alpe") for the enhancement of inland mountain areas by the FAI-Fondo Ambiente Italiano, or the enhancement actions for the *Trapani and Paceco salt pans* (Sicily) by WWF Italy.

voted strengthening the multifunctional character of Italian agriculture, now widely spread in all the Italian peninsula regions. The official national statistics recognize the economic values of the Italian agriculture multifunctionality (ISTAT, 2016; 2017)¹⁰, which looks for the new market needs, rural tourism, and the growing consumers' interests for quality food products or environmentally compliant agricultural production systems (Buller & Morris, 2004; Winter, 2006: 736; Sotte, 2011; Zasada, 2011; Branduini *et al.*, 2016).

Concerning the inner areas' sustainable development, despite this growing attention for historical rural landscapes conservation, currently, in Italy it does not exist a specific national regulatory framework aimed at promoting multistakeholder and multilevel governance approach, as well as place-based and bottom-up actions¹¹ (Fontanari, 2018), and financially accompanying these kinds of projects. A system that could create a national network of ongoing good practices (even the smallest ones or those carried out by individual farmers) to promote exchange experiences or implement the cooperation among stakeholders, not only in the agricultural sector, is also missing.

Such complex projects must also necessarily argue with two apparently dichotomous aspects: the conservation and innovation of historical rural landscapes. Looking back at the history of rural landscapes, a fundamental factor we cannot ignore is evident: there cannot be landscape conservation without a continuous innovation in territorial management and adaptation over time to changing socio-economic conditions (Sereni, 1961; Ferrara, 1968). In this sense, we must speak of a necessary dynamic and adaptive transformation of historical rural landscapes to face all future challenges (Scazzosi, 2018). We must always identify a balance between conservation and innovation aspects. Consequently, all the initiatives and projects for rural landscapes preservation must accomplish both the need for active protection of the past features (e.g. the historical-cultural values systems associated with traditional agriculture and the respect for the characters and historical material of traditional landscapes) (Council of Europe, 2000a, 2000b) and the necessity of innovations (promotion of multifunctionality, expanding supply chains, opening to new market sectors such as rural tourism). This combination would make again agricultural production in inner areas economically sustainable and competitive in markets. It would also enhance the complex ecosystem services provided by traditional rural landscapes (Parente, 2012). This combination would also increase access to external financing sources aimed at conservation and innovation in the agricultural sector (such as the Italian Rural Development Plan funds or the European ERDF or EAFRD funds).

In Italy, the National Strategy for Inner Areas (SNAI) – a place-based national policy for territorial development and cohesion to combat the inner areas marginalization and demographic decline – already moves according to the principles mentioned above. In particular, the SNAI is based on multilevel and multistakeholder local governance projects and on the co-planning of intervention strategies by all stakeholders involved in promoting and protecting the cultural, rural, and environmental resources of inner areas with a broad view (Storti, 2016). The conservation of rural landscapes constitutes one of the SNAI's focuses on strengthening traditional agricultural systems and the local agri-food chains within local development and preservation of cultural identity perspective¹² (Lucatelli & Storti, 2019).

Considering the above, this contribution aims at exploring the FAO-GIAHS experience (*Globally Important Agricultural Heritage System*), characterized by a systemic, bottom-up and place-based approach for the dynamic conservation of traditional rural landscape systems. The GIAHS is an international recognition

¹⁰ It is important to highlight how the multifunctionality of Italian agriculture often contributed to the contrast of the ongoing phenomena of fragmentation and erosion of agricultural areas resulting from urbanization or abandonment (MiBACT, 2018).

¹¹ Recent studies show that bottom-up projects in the agricultural sector, characterized by integrated and participatory approaches, have greater success than top-down initiatives (Poli, 2016).

¹² From the point of view of rural development, the SNAI has offered the opportunity to intervene in the economic sustainability of local agricultural systems within the 71 areas where the Strategy has been approved to date. In these areas, the agricultural sector is mainly based on family farming with a widespread presence of small farms, characterized by historical landscapes rich in biodiversity and often based on pastoralism. In these cases, rural systems are characterized by a physical disadvantage and higher costs of agricultural practices.

promoted by FAO since 2002 dedicated to agricultural sites¹³ identified for their global importance, in which local populations carry on traditional agriculture aimed at their food security and livelihoods, with high respect for ancestral knowledge, agrobiodiversity, and historic landscapes. GIAHS does not want to be a recognition for itself. They represent concrete “engines” for the dynamic preservation and sustainable economic development of traditional agricultural systems. The GIAHS program also intends to promote the achievement of the Sustainable Development Goals – both internationally, nationally, and locally – through fostering the awareness increase, even at the political level, on the importance of protecting historical agricultural systems, agrobiodiversity, and local knowledge, for the daily management and care of rural landscapes (FAO, 2018). In the context of this contribution, reference will be made to the experiences of European and Latin American GIAHS.

The paper is structured as follows. Section 2 will present the experience of the FAO-GIAHS program from 2002 to today, describe the five criteria on which the GIAHS approach bases, and the recognition process. Section 3 will briefly describe the characteristics of the European and Latin American GIAHS, highlighting their peculiarities, with primary reference to the historic landscape features. The fourth section will discuss and compare the actions implemented by the European and Latin American GIAHS for the dynamic conservation of rural systems by identifying commons and differences. Finally, the last section will emphasize how the experience of the GIAHS can constitute a positive experience in promoting the maintenance and revitalization of the landscape heritage in the inner areas, which could also be reinforced in the Italian context.

2. Agrobiodiversity, landscapes, and local know-how: the GIAHS approach for the dynamic conservation of the historical rural systems

2.1 What are the GIAHS: brief historical overview and objectives of the FAO-GIAHS Program

The GIAHS Initiative (*Globally Important Agricultural Heritage Systems*) was born in 2002 within the FAO¹⁴, the Food and Agriculture Organization of the United Nations. The GIAHS Initiative aims to promote the recognition of the global importance of traditional agricultural systems and bring to the international attention their current role in guaranteeing the food security of populations. It promotes the GIAHS “dynamic conservation” from a systemic perspective fostering the identification of a balance between the related aspects of the conservation of the rural heritage and the needs of communities concerning their socio-economic development and the sustainable and continuous adaptation over time of the agricultural systems themselves (Koohafkan & Altieri, 2017). FAO defines GIAHS as «*remarkable land-use systems and landscapes rich in significant biological diversity globally that evolve from the co-adaptation of a community with its environment and its needs and aspirations for sustainable development*» (Koohafkan & Altieri, nd-a).

The GIAHS constitute rural landscape systems “built” over centuries thanks to the enormous efforts of farmers generations aimed at overcoming the harsh geographical and environmental conditions of the places where they live and guaranteeing their food security. The GIAHS are agricultural systems in which the traditional knowledge for the daily landscape “care” has been developed, adapted, and implemented continuously over the centuries and transferred from generation to generation. Through continuity in traditional land management and agrobiodiversity conservation, the GIAHS still guarantees the food sovereignty of local communities that practice sustainable agriculture based on ancestral knowledge (Koohafkan & Altieri, nd-b). Therefore, the GIAHS constitutes time-tested systems that preserve biodiversity, cultural heritage (tangible and intangible), rural landscapes, and centuries-old local knowledge (FAO, 2018).

¹³ For FAO, the term “agriculture” includes agriculture, fishing, harvesting of marine products, forestry, grazing and pastoralism, collection of primary forest products and hunting for food subsistence (FAO, 2017).

¹⁴ *World Summit on Sustainable Development*, Johannesburg, South Africa. During the summit, FAO officially launched a *Global Partnership Initiative* for the conservation and adaptive management of GIAHS (FAO, nd).

In the “dynamic conservation” perspective, the GIAHS intends to represent a trait d’union between preservation and innovation needs, in full respect of the historic rural landscapes, traditional knowledge systems, and ancestral social organizations (FAO, 2018), to guarantee the economic sustainability of the systems. «*The GIAHS sites are testimony to the inventiveness and ingenuity of populations in their management of resources, biodiversity and ecosystem dynamics, and in the use of landscapes, encoded in traditional but continuously evolution. These ancestral agricultural systems form the basis for contemporary and future agricultural innovations and technologies*» (FAO, 2018: 5).

In 2005 the first GIAHS was recognized (*Rice-fish culture*, China). In 2011, following a pilot project co-financed by the Global Environmental Facility (GEF), thirteen new GIAHS were recognized in Chile, Peru, Tunisia, Algeria, Kenya, Tanzania, China, Japan, and the Philippines¹⁵. In 2015, thanks to the initiative’s success and the growing number of recognized sites, the GIAHS initiative became an official FAO Program. By 2020, 62 GIAHS have been recognized: seven in Europe (two in Italy), three in Africa, forty in Asia & Pacific, four in Latin America & the Caribbean, and finally, eight in the Middle East and North Africa region¹⁶. In addition to the main aim of promoting the identification and protection of GIAHS, the FAO-GIAHS program also has the following objectives:

- Empower the global and national recognition of the importance of traditional agricultural systems as a heritage to foster the institutional support of Governments.
- Implement the capacity-building of local agricultural communities and local or national institutions concerning the conservation and management of GIAHS.
- Generate income and add economic values to goods and services produced within the sites.
- Promote national policies or projects to recognize and conserve GIAHS and create incentive systems to support national programs.

2.2 GIAHS multistakeholder and multilevel approach, recognition process and criteria

The GIAHS recognition bases on bottom-up processes. These processes always start from the will of local populations for international recognition of their efforts to protect actively the agricultural heritage inherited from their ancestors (with the technical support of national governments, generally the Ministries of Agriculture). The GIAHS recognition also bases on the commitment of local communities, farmers, national or local governments, NGOs, local businesses, and research institutes. The GIAHS recognition helps promote the rural sites and gives locale people higher possibilities of accessing funding (national or international) to guarantee the continuity of traditional agricultural activities. Being the GIAHS recognition based on a community-based will, it cannot constitute a top-down process. We can speak of a multistakeholder and multi-level process that leads to the subsequent proposal of GIAHS recognitions.

The candidacy proposal of a potential GIAHS site, drawn up jointly by the various local and national stakeholders, must highlight the global importance of the sites and the historical role in guaranteeing the food safety of populations and the current values. Five criteria are underlying the recognition of a GIAHS, which the candidacy dossier must describe and constitute the specific sites’ features: Food and livelihood safety; Agrobiodiversity; Local and traditional knowledge systems; Cultures, value systems and social organizations; Characteristics of landscapes and seascapes (FAO, 2021). As the reader can understand, the GIAHS is

¹⁵ The author refers to the “*Conservation and Adaptive Management of Globally Important Agricultural Heritage Systems*” pilot project. The project, approved in 2007 and concluded in 2016, aimed at «*identifying and safeguarding the Ingenious Agricultural Heritage Systems of Global Importance (GIAHS) and associated landscapes, agricultural biodiversity and knowledge systems, through the mobilization of recognition and global support for such systems and the enhancement of the global, national and local benefits derived from their dynamic conservation, sustainable management and increased profitability. Ultimately, the project will be a catalyst in creating a long-term program based on experiences and lessons learned*» (source: Global Environmental Facility-GEF, www.thegef.org/project/cbpf-conservation-and-adaptive-management-globally-important-agricultural-heritage-systems).

¹⁶ Reference is made to the six World Regions as defined by FAO: Europe and Central Asia, Asia & Pacific, Near East and North Africa, Africa, North America, Latin America & the Caribbean (Pierzynski & Brajenda, 2017).

interpreted as a “system” by looking at the criteria. Several components must be considered and closely relate the tangible to the intangible aspects, the cultural with the environmental-ecosystem one.

In addition to the description of the potential GIAHS, the application document must contain an *Action Plan for the dynamic conservation*. The proposal document is subsequently sent to the GIAHS Secretariat in Rome for an initial screening. Therefore, after a first review by the proponents after the GIAHS Secretariat’s check, the candidacy enters the evaluation phase and is submitted to the appointed expert group (SAG, Scientific Advisory Group). The SAG will verify the site eligibility to be recognized as a GIAHS. A series of steps between SAG and proponents characterize the evaluation of applications. A field visit by a SAG member is part of the evaluation process (Arnés García *et al.*, 2020).

The evaluation process ends, in the positive case, with the recognition of the GIAHS by FAO¹⁷. At the time of the official recognition, all the stakeholders involved commit themselves to the site “dynamic conservation”. Dynamic conservation does not imply “freezing” the traditional agricultural systems. It bases on the “adaptive” heritage conservation according to the current socio-economic conditions and needs and the sustainable development of the sites. The local populations, and above all the farming families, are thus recognized as “custodians” of the sites’ agricultural heritage (Koohafkan & Altieri 2011).

2.3 The ‘Action plan’ for the GIAHS dynamic conservation

As mentioned, the application document of a potential GIAHS must contain an Action Plan for the site dynamic conservation. All the stakeholders involved must implement the Action plan over time in case of official recognition. Thanks to the Action plan, the GIAHS can become a real project.

The Action plan has a five-year duration. Local stakeholders are called upon to carry out the Plan’s actions and implement them (FAO, 2018). In a specific paragraph, each Action plan directly references all the potential threats for the future to be faced (economic changes, emigration and ageing of the population, climate change, etc.) and, therefore, the challenges and actions to be taken to counter them.

As the reader can imagine, there cannot be similar GIAHS Action plans. This due to the extreme variety of the GIAHS features¹⁸. Overall, however, concerning the five recognition criteria, by way of example only, a list of actions be summarized as follows (FAO, 2021):

- **Food security and livelihood:** implementation of agricultural supply chains, collaboration among businesses, rural tourism development, promotion and sale of local products (innovative sales systems), promotion of exchange and research programs, promotion of cultural and food & wine activities (markets, fairs, events, etc.), development of basic rural infrastructures.
- **Agrobiodiversity:** conservation and sustainable use of local agrobiodiversity (animals and plants), enhancing catering and processing of products (both for food and non-food use).
- **Local and traditional knowledge systems:** capacity-building and actions for the transmission of traditional knowledge to new generations, incorporation of innovative technologies and systems, enhancement of ancient farming systems (polycultures, rotations, etc.).
- **Cultures, value systems and social organizations:** enhancement of the role of young farmers and women, enhancement and updating of ancestral land management systems, or promotion of contemporary social organizations (e.g. farmers’ cooperatives).
- **Landscapes and seascapes features:** conservation of the tangible landscapes’ characteristics and historical materials (historical agricultural structures or traditional rural architecture).

Action plans promote highly integrated actions, guaranteeing the GIAHS continuity over time and its sustainable future only if carried on together. Moreover, based on the characteristics of the different GIAHS and the Action Plans, all planned interventions can also leverage external funds (local, national, or international).

¹⁷ The recognition process of a GIAHS can take a minimum of two years.

¹⁸ To give an idea to the reader, currently, in the recognized GIAHS list we, can find oases in the desert, terraced sites, agro-forestry-pastoral landscapes, and floating agricultural gardens.

3. Characters of the historical rural landscapes in the European and Latin-American GIAHS

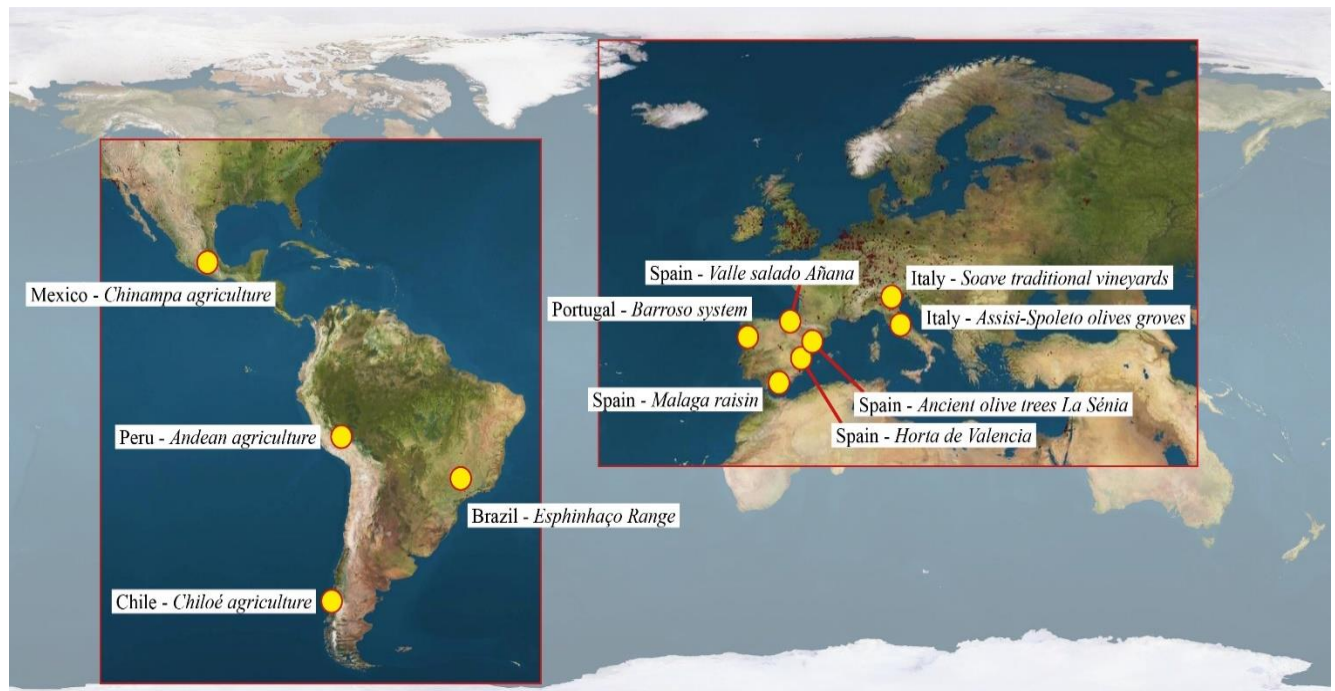
As mentioned in the previous paragraph, seven GIAHS are in Europe and four in Latin America. The interest in these two World regions refers to the fact that several countries, both at the national institutional and local levels, show a growing interest in GIAHS and its systemic and placed-based approach. This concerning three main aspects:

- The identification of potential new sites to be candidates for the FAO-GIAHS recognition¹⁹.
- The creation of national networks of NIAHS (National Important Agricultural Heritage Systems).
- The opportunity of creating regional networks to promote and enhance the already recognized GIAHS²⁰.

These three aspects constitute only some of the significant common points that characterize some countries of the two world regions under analysis. Despite the great regional differences that distinguish Europe from Latin America, the two areas' common characteristics may surprise such as the permanence of traditional knowledge and historical landscapes. In both regions, GIAHS are usually in disadvantaged areas, far from the main urban centers, or characterized by difficult orographic or climatic conditions that did not allow the transition from traditional agricultural systems to an agro-industrial economy. The dynamics and threats that the two regions are experiencing, with different velocities depending on the geographical contexts, are also similar: from the young population's gradual abandonment of inner areas to the breakdown of traditional knowledge transmission systems to the loss of agrobiodiversity. All the threats and challenges indicated above find corresponding actions in the Action Plans of the GIAHS already recognized.

In this paragraph, we intend to summarize the main characteristics of the GIAHS recognized in the two regions (Figure 1). Reference will be made particularly to the historic landscape features.

Figure 1 – Localization of the European and Latin American GIAHS



Source: elaboration by the author (base map: Google Maps)

¹⁹ Reference is made, for example, to the recent international meeting organized in April 2021 by the FAO regional office for Europe and Central Asia (“2nd Regional Dialogue on GIAHS in Europe and Central Asia”) to promote the identification and recognition of new GIAHS in the region.

²⁰ For the European context, we mention the “VALSIPAM” project (<https://andanatura.org/proyectos/valsipam>).

3.1 GIAHS in Europe

3.1.1. Spain

Spain is the European country in which the interest in GIAHS is most rooted. Today there are four GIAHS recognized in different districts of the country. The first two European GIAHS recognized in 2017 are Spanish (Malaga raisin production system in La Axarquía and Agricultural system of Valle Salado de Añana).

The *Malaga raisin production system in La Axarquía* (Figure 2) is in the backcountry of Malaga, Andalusian region. It covers 28,039 ha (of which 1,113 for grapes cultivation to become raisins) on 31 municipalities. The GIAHS is characterized by peculiar orographic conditions that do not allow agriculture mechanization. The stony soil poor in nutrients, and the climatic conditions are not favorable to productive diversification (arid climate in summer, rainy in winter). Over the centuries, thanks to the cultivation of the *Muscatel* grape for raisin, local people have managed to maintain the security of their livelihoods. In addition to the vineyards, olive and almond trees groves, vegetable gardens, and pastures characterize the landscape. The local raisin production, nationally renowned, generate higher income for farmers than the other agricultural products, mainly produced for family consumption. As mentioned, due to the adverse orographic conditions and the steep mountains slopes, grape production is still today characterized by manual work. Harvesting is still done with the help of mules. The raisin drying phase still occurs under the sun thanks to the “*paseros*”, traditional drying floors. Due to the impossibility of carrying out big transformations, the GIAHS is characterized by an ancient landscape. The vineyards slopes are still organized by quincunx (in Spanish “*tresbolillo*”) to favor individual plants sunshine. Vineyards alternate with small traditional widespread farms (“*lagares*”). Each farm has its own “*paseros*”, extended along the slopes to optimize solar radiation use, and terraced vegetable gardens. Small paths accessible only on foot connect the farms to the vineyards. The permanence of grape cultivation has protected the land from soil erosion and flushing in rainy seasons. Today, the decline in consumption of local raisins constitutes the main threat to the continuity of this rural system due to the increase of raisin competitors nationally and internationally. Since 1993, economic support measures introduced by the Andalusian Region (with European funds) have guaranteed the traditional local agricultural economy maintenance. The GIAHS recognition intends to continue protecting the agrarian heritage and implementing economic sustainability by exploiting endogenous mechanisms fostering innovative methods for increasing farmers’ earnings (Consejería de Agricultura, Junta de Andalucía, 2017; Moreno, 2019).

The *Agricultural system of the Añana Salt Valley* (Figure 3) is the second Spanish GIAHS recognized in 2017. Salt production represents the main GIAHS activity. The site covers 1,500 hectares in the Basque Country. Archaeological evidence confirms the presence of salt production in the valley for 7,000 years. A ‘saline diapir’ characterize the subsoil and constitutes the salt production system origin. Springs or artesian wells provide saltwater, collected by the ingenious and intricate wooden hydraulic system which distributes it on the 769-terraces (made partly of wood and partly of local stone). Terraces are adjacent to Añana town. Thanks to natural evaporation, salt is produced on the terraces. In the summertime, thanks to the prevailing local winds moving longitudinally to the valley accelerate the evaporation process. Salt production is still manual due to the peculiar characteristics of the site, which do not allow the mechanization for most of the production phases. Historic warehouses for salt storage (two of them recently recovered) characterize the area on the edge of the town of Añana, towards the terraces. As said, salt production is the main economic activity of the site. Other minor rural activities such as agriculture, grazing on pastures, and forest products collection (wood for the maintenance of terraces) are also present in places of the site minor subject to the saline diapirism and a lower salt concentration in the soil. The presence of the salt diapir influences all the cultural and natural aspects of the valley, also determining the presence of halophytic microorganisms or plant species. Their presence is strictly related to salt production. This strong human-nature interaction is necessary for the system permanence. During the 20th century, salt production saw a reduction due to the local population’s emigration. Consequently, numerous saline terraces were abandoned. Since 2009, thanks to the inhabitants will, a local Foundation (*Fundación Valle Salado de Añana*) promoted a participatory process for the

terraces' recovery and conservation. The Foundation also promoted traditional salt production and innovated with new activities (tourism, catering, or promoting salt for non-food uses). The Foundation developed the first Action Plan in 2013, implemented in 2017 for the GIAHS candidacy. Today the Foundation is the GIAHS managing body. It guarantees the economic and environmental sustainability of the system in strong collaboration with the local association of saltmakers (“*Gatzagak*”), the municipality of Añana and other local associations and businesses (Fundación Valle Salado de Añana, 2017).

Figure 2 – GIAHS ‘La Axarquía’. View to Almachár town



Source: Wikimedia Commons

Figure 3 – The historical salt terraces of the Añana valley



Source: Wikimedia Commons

In 2018 the *Agricultural system of ancient olive trees of the Territorio Senía* was recognized as the third Spanish GIAHS (Figure 4). The site is characterized by about 5,000 millenary olive trees over the 207,000 ha of the *Mancomunidad Taula del Senía* (supra-municipal body of interregional character straddling the Valencian Autonomous Community, Catalonia, and Aragon). Part of the site faces the Mediterranean Sea. A landscape mosaic consisting of an intertwining of coniferous or broad-leaved woods, crops, and pastures characterize the site. The system guarantees the coexistence of agricultural activities with breeding, harvesting of forest products and fishing. Cultivated areas cover 36% of the GIAHS, half of which of olive groves (around 2,400,000 olive trees, including 5,000 millenary ones). Olive production is the leading local products, especially in the GIAHS inner areas. The landscape shows different features depending on the altitude: specialized irrigation crops characterize the coastal area for fruit, vegetable, and cereal production; the olive belt area between 100 and 500 m/above sea level is characterized by non-irrigated crops, among which olive trees prevail; beyond 500 m/above sea level pastures, and woods prevail with cattle and sheep transhumance activities. The olive groves are still managed today with traditional methods, without any irrigation need. Thousands of kilometers of dry-stone walls, built to delimit the olive groves or around individual olive trees (the so-called “*galeras*” to protect them from winds), characterize the olives belt landscape. A historic settlement structure characterizes the olives belt: small rural towns surrounded by the olive groves constitute the life centers. Small dry-stone architectures, such as shelters for farmers, shepherds domestic animals, and oil mills, are widespread on the site. Olive growers are organized in farmers’ cooperatives. Each one is linked to an oil mill. The millenary olive trees constitute the symbol of the GIAHS economic and environmental sustainability. A labelling system valorizes the oil produced with the millenary *Farga* olive trees variety (“*Aceite farga milenaria*”), which makes up about 20% of the millenary olive trees in the area. The GIAHS recognition constitutes the continuity of previous projects carried out by the Mancomunidad and the local *Associación Territori del Senía* (formed by local agricultural and non-agricultural businesses). After a period of economic decline which led to the emigration of part of the local people, these projects, with the active participation of local people, aim to the conservation and enhancement of the olive’s economy, the active protection of the millenary olive trees, (Mancomunidad Taula del Sénia, 2018).

The *Historic irrigation system of the Horta de València* is the last Spanish GIAHS, in chronological order, recognized in 2019 (Figure 5). Unlike the other Spanish GIAHS in inner areas, this GIAHS constitutes the peri-urban agricultural belt of Valencia. The GIAHS was recognized thanks to local institutions and or-

ganizations, primarily the City Council of Valencia and the *Consell de l'Horta*. It covers 1,700 ha, 1,200 within the territory managed by the *Plan de Acci3n Territorial de la Horta* and 500 in the southern site portion in the Natural Park of Lake Albufera, the largest freshwater pond in Spain. Here traditional fishing still takes place. Since the Arab domination (8th century), the Horta has guaranteed food supplies for Valencia and provided environmental, social, and cultural benefits. 6,000 small farmers families take care of the Horta. The landscape is divided into thousands of plots, mainly for fruit and vegetable production or rice cultivation. Several agricultural land properties do not reach one hectare of surface. Since 2018, the Horta is protected by Law from urbanization (*Ley de la Horta*, Law 5/2018, Comunitat Valenciana; in 2006, about 30% of the original Horta's area was disappeared). The Horta territory can be categorized as a polyculture Mediterranean landscape due to the variety of fruit and vegetables (Barbera & Culotta, 2016). The historical irrigation system represents the Horta's heart. It originated in the Arab period. Since the 8th century, countless implementation works contributed to consolidating the system. The irrigation system has its origin in the Turia river, whose waters are partly diverted into the *acequia de Moncada* (the main artificial canal). From this main canal, seven other *acequias* (or "sèquias") bring water in the smaller irrigation channels ("sèquiols" and then "sèquoliets") up to the cultivated plots by gravity. For centuries, the irrigation system's complex management has been guaranteed by precise rules. Two historical institutions governed by the water users still preserve and implement these rules: the *Real Acequia de Moncada* and the *Tribunal de las Aguas*. The system resilience depends on the irrigation system, which guarantees the correct water distribution even in dried or rainy periods. The Horta's landscape is also dotted with numerous traditional rural architectures. They are the production centers, and include the so-called *alquerías*, *barracas* and *molins*. Historically, the Horta system has always been open to agrobiodiversity changes and new varieties. Farmers still grow more than 50 plant varieties. Some of them were introduced in the Arab era, such as rice, or after America's discovery in 1492. Today, the Horta system is suffering from the lack of generational turnover in the agricultural sector, urban planning pressures, and the emergence of more profitable sectors such as services and tourism in the area. Furthermore, the system is also changing in the agrobiodiversity and landscape features: several local agricultural plant species and trees are at risk of disappearing due to low demand from the city market, as well as the landscape is gradually losing its vertical features, moving to a full horizontal character (Valencia City Council, 2019).

Figura 4 –View of La Sénia town, surrounded by the terraced olives groves



Source: Wikimedia Commons

Figura 5 – Typical architectures, 'alquerías' and 'masies', of the Valencian Horta



Source: Wikimedia Commons

3.1.2. Italy

Compared to the Spanish context, the GIAHS culture in Italy is still being established. Despite this, two GIAHS were recognized in 2018 in the peninsula: the *Olive groves of the slopes between Assisi and Spoleto* (Umbria region) and the *Traditional Soave Vineyards* (Veneto region).

The GIAHS of the *Assisi-Spoleto olive groves* (Figure 6) results from the remodeling for agricultural purposes of the slopes of the eastern-side mountain of the valley between Assisi and Spoleto towns. The GIAHS extends on a 9,213-ha area, of which 50% are olive groves. Here the cultivation of the olive trees has shaped

the site history from different points of view: social, cultural, agri-environmental, and religious. The construction of terraces (built in different ways depending on the reliefs slopes: terraces with or without dry-stone walls, or dry masonry “lunettes” around trees), complex irrigation systems, and the local knowledge have guaranteed the permanence of a unique olives landscape. Olive oil is the main agricultural products. The landscape system can be divided into three levels according to altitude and orography. The flat valley (180-220 m/above sea level) is characterized by cereal crops, fruit and vegetables, vineyards, and meadows. Here it is still possible to find the traditional polyculture system in which oak tree rows surround crops. Scattered historic rural buildings, built here from the sixteenth century, characterize the area. Then, in the medium slope (220-500 m/asl), terraced olive groves and the main settlements occupy most of the area. Here we can also find minor rural settlements built to direct managing the adjacent olive groves, oil mills, and finally or dry-stone shelters located in the olive groves (“*caprarecce*”). Finally, in the high-mountain belt (>500 m/asl), coniferous and broad-leaved woods are present as open areas without vegetation. An aspect to underline, fundamental for this GIAHS recognition, concerns that only 14% of the site surface has undergone agricultural production intensification in the recent decades. Therefore, the landscape has maintained its peculiar historical features and its integrity. From a productive point of view, family farming still characterizes the farms’ social structure. Despite the current issues of depopulation and consequently constant population ageing, the intergenerational transmission of traditional knowledge still guarantees the preservation of practices for dynamic landscape conservation (Comune di Trevi, 2018).

The *Traditional Vineyards of Soave* (Figure 7) extend over a 13,623-ha area on the homonymous Soave town hills. The agricultural land is mainly suited to viticulture since the Roman age. A polyculture landscape mosaic guarantees the environmental sustainability of the system, in which vine cultivation (which covers 60% of the site) is integrated with woodland, vegetable gardens, olive trees, and chestnut groves. The alternation between hills portions with higher naturalness and artificial terraces guarantee protection against soil erosion. The private land ownership regime is prevalent (98%), with an average size of family-run farms of about 0.3 ha. The complex orography limited the development of mechanized agriculture: most of the activities in all phases of vine cultivation are still carried out manually. As mentioned, the terraces characterize the landscape and its daily management. As in the Umbrian GIAHS case, depending on the different slopes and orography, we can find various terraces kinds: from the hydraulic-agricultural structures with “*girappoggio*” system, terraces with dry-stone walls and or embankments. The traditional “*Veronese pergola*” constitutes the prevailing vine cultivation method. Dry-stone walls are diffused, both for terraces containment and as properties division elements. Widespread rural architectures built in dry-stone masonry, the so-called “*baiti*” or “*casotti*”, located in the hilly vineyards characterize the site. Currently, a cooperative production management system guarantees the economic sustainability of the system. Furthermore, the Soave Wine Protection Consortium and the development of food & wine tourism activities have allowed the system to persist over time, despite the socio-economic changes that characterized the local economy in the decades between the 20th and 21st centuries (Consorzio Tutela Soave, 2018).

Figura 6 – Olives groves between Assisi and Spoleto



Fonte: Wikimedia Commons

Figura 7 – Mount Colombaretta vineyards, Soave



Fonte: Wikimedia Commons

3.1.3. Portugal

Even the Portuguese case represents a country in which the GIAHS culture is in the establishment process in the European context. Despite the recognition of only one Portuguese GIAHS in 2018 (*Barroso Agro-sylvo-pastoral system*), the national debate on GIAHS is still growing.

The Barroso system (Figure 8) is the only agro-sylvo-pastoral system recognized as GIAHS in Europe. The site is included in the Peneda-Geres National Park and the Geres-Xures Biosphere Reserve. All rural activities are strictly integrated without one prevailing over the others. The site is in the Northern Portugal Region and covers a 12,740-ha area. Forests cover 30% of the site, semi-natural areas the 48% (pastures, scrub, areas with sparse vegetation), and agroforestry activities the 18% (annual crops, meadows, woods). Small high-floors and steep slopes reliefs characterize the site, with valleys crossed by streams. The local rural economy bases on a communitarian system. Ancestral rules of mutual help, solidarity, or common practices still apply. The small family-owned property is the local economy basis (20% of the local population works in agriculture). The landscape is a complex mosaic in which differently used lands are integrated both spatially and functionally. Agriculture, breeding, and forestry coexist in balance. The ancestral knowledge system governs the agroecological interactions among these spaces. The village with the agricultural land surrounding it constitutes the ‘landscape unit’, which constantly repeats on the site. Cultivated lands (vegetable gardens for family production and other crops) and meadows develop around the villages. Part of the land is community-owned and managed according to customary rules (“*vezeiras*”, which determines the use times) or entrusted to low-income families (“*cavalas*” system). Meadows and pastures are the most characteristic features of Barroso, with different characteristics depending on their location. The meadows located in the valley near the streams (the so-called “*lameiros*”) are for perennial use. *Lameiros* are of medieval origin and occupy an area of about 1,600 hectares in the site. They provide grass or hay all year round. During summer, *lameiros* are used for grazing animals, while in winter and spring are irrigated to prevent land freezing and favor grass growing thanks to small internal channels. Spring-grass is dried and stored for the following winter. Fields are usually closed by dry-stone walls or arboreal or shrubby plant formations. Small dry-stone architecture also characterizes the site: cereal mills, fullers, “*cabanos*” (small huts in the woods for shelters during transhumance), and “*canastros*” (raised granaries in granite and wood for drying cereals). The partial isolation of the site, due to difficult accessibility, has resulted in an increase of local socio-cultural fragility in the last decades: the work-lack in the area contributes to a constant people emigration. This caused people to age and the loss over time of traditional knowledge. However, in recent decades, activities related to rural and naturalistic tourism are being developed (ADRAT, 2018).

Figura 8 – View of Barroso GIAHS (Estrada Boticas, Salto)



Source: Wikimedia Commons

Table 1 – European GIAHS in comparison

Country	GIAHS denomination	Year	Extension	Applicant Agency / Organization	Main rural activity	Integrated rural activities
Spain	Malaga raisin production system in La Axarquía	2017	28,039 ha	Consejería de Agricultura, Pesca y Desarrollo Rural de la Juna de Andalucía (<i>Regional institution</i>)	Agriculture (viticulture)	Breeding
Spain	Agricultural system of Valle Salado de Añana	2017	1,500 ha	Fundación Valle Salado de Añana (<i>Local Foundation/Association</i>)	Salt extraction	Breeding, agriculture, forest products collection
Spain	Agricultural system Ancient Olive trees Territorio Senía	2018	207,000 ha	Mancomunidad Taula del Senía (<i>Local institution</i>)	Agriculture (olive growing)	Breeding, Forest activities, fishing
Spain	Historical irrigation system at l'Horta de València	2019	1,700 ha	València City Council & Consell de L'Horta (<i>Local institution</i>)	Agriculture (fruit and vegetables, rice growing)	Fishing
Italy	Olive groves of the slopes between Assisi and Spoleto	2018	9,213 ha	Comune di Trevi (<i>Local institution</i>)	Agriculture (olive-growing, fruit and vegetables)	-
Italy	Soave Traditional vineyards	2018	13,623 ha	Consorzio Tutela Vini Soave e Recioto di Soave (<i>Agricultural protection consortium</i>)	Agriculture (viticulture)	-
Portugal	Barroso Agro-sylvo-pastoral system	2018	112,740 ha	Development Association of the Alto Tâmega Region - ADRAT (<i>Local association</i>)	Agriculture, breeding, forest products harvesting	-

Source: elaboration by the author on data from the GIAHS proposal dossiers

3.2 GIAHS in Latin America

3.2.1. Chile

The GIAHS *Chiloé Agriculture* (Figure 9) extends over the Isla Grande de Chiloé in the southern Chilean region of Los Lagos. Compared to other Chilean areas, Chiloé is one of the places in the country characterized by more significant conservation of the local ancestral agrobiodiversity, particularly potatoes. The island's farmers are custodians of over five hundred potatoes varieties, resulting from a centuries-old domestication process of the local wild tubers. This resulted from the peculiar characteristics of the cold temperate climate, the moderately acid soil, and above all, the relative isolation from the continent, which guaranteed reduced influences from the outside. By 2007, around 45% of the inhabitants were active in the agricultural sector. The small local agricultural farms show an average size of 15 hectares, mainly for family consumption and the local market. Women still maintain the role of custodians of the local ancient seeds. The Isla Grande de Chiloé is still characterized by a lively rural culture, rich in customary social practices, traditions, myths, and gastronomy. The traditional community practice of the “*mingas*” for seasonal community works is still alive within the Chilote communities' lives, such as potatoes planting or harvesting. The rich local agrobiodiversity and traditional knowledge permanence have guaranteed the dynamic conservation of an ancient rural landscape, with an alternation of family vegetable gardens, cultivated fields, pastures for cattle and sheep breeding, and wooded areas for the sustainable collection of wild products and local flora for medicinal use. Today, the site is experiencing a gradual local knowledge and agrobiodiversity loss due to young people emigration. The GIAHS project aims to overcome these issues by increasing local people's sensitivity

to the historical-cultural importance of local agrobiodiversity and its role in the site dynamic conservation. The GIAHS project works thanks to integrated actions for implementing the economic sustainability of local agriculture and a multilevel approach, wishing to become an international example for the defense of the genetic resources of local agricultural varieties. The conservation of agrobiodiversity becomes the starting point for landscape conservation (CET, 2007a, 2007b).

3.2.2. Peru

The GIAHS *Andean Agriculture - Corredor Puno-Cusco* (Figure 10) extends over an area not clearly delimited in Southern Peru, between the regions of Puno and Cusco (i.e. between the site of Macchupichu and Lake Titicaca). The “*Corredor*” represents an area characterized by ancestral cultural and commercial exchanges among the Quechua (Cusco) and Aymara (Puno) indigenous people, Inca descendants. Over the millennia, local people developed a complex system of traditional knowledge and agriculture highly adapted to the challenging conditions of the Andean ecological systems, which vary from valley to valley concerning climatic and orographic conditions. The extreme variability of the Andean environment has forced the communities to develop different technologies to practice agriculture or breeding (camelids). In the Peruvian Andes, it is possible to identify landscapes characterized by complex terracing systems (“*andenes*” or “*terrazas*”, that change according to the irrigation) mainly locate in the valleys of the Cusco region, or water regulation agricultural systems (“*camellones*”, “*suqakollos*”) around the Lake Titicaca. The sustainable exploitation of natural wetlands (“*humedales*”) for camelids grazing constitutes an additional element characterizing the Andean rural systems. The Quechua and Aymara landscapes link to complex ancestral knowledge systems and extreme agrobiodiversity (mainly potatoes, corn, and quinoa). The community social organizations systems (“*ayllus*”) still define the rural life rhythms and community activities and determine the communities’ territorial structure and, therefore, the rural settlements territorial distribution. Even the complex local people cosmivision, defined by the religious syncretism between Christianity and pre-Columbian cults, constitutes an intangible rural system component due to ancestral rituals linked to agriculture (such as the “*Pago a la Tierra*” during which people pray for a good harvest) or the presence of sacred places linked to freshwater (such as the “*nevados*” or the “*lagunas*”). Today the Corridor Puno-Cusco, as is the case of other GIAHS, suffers due to the intense emigration of the young people towards urban areas, considered more attractive, and national policies that favored the urban or coastal areas development and the inner areas detriment. This consequently led to the breakdown of numerous systems of oral transmission of knowledge and social organization systems. Furthermore, the introduction of new commercial agricultural varieties entails a constant erosion of the ancestral agrobiodiversity (Ministerio del Ambiente-Perù, 2007).

Figure 9 – View of the Isla Grande de Chiloé (Region Los Lagos), Chile



Source: Wikimedia Commons

Figure 10 – ‘Sistema de Andeneria’ (terraces) of Inca origin in the Sacred valley of Písac (Cuzco), Peru



Source: Wikimedia Commons

3.2.3. Mexico

The *Agricultural System of the Chinampas of Mexico City* (Figure 11), or “floating gardens” of Xochimilco, constitutes a rural landscape of pre-Columbian origin. GIAHS since 2018, the chinampas of Xochimilco represent the last permanence of the ancient floating productive gardens built in the homonymous lake and the disappeared Texcoco lake around the ancient Aztec capital of Tenochtitlàn. The chinampas are artificial islands built by filling portions of the lake with mud and sediments, then covered by vegetation and cultivated for soil consolidation (Alcántara Onofre, 2005). The remaining chinampas occupy 2,300 ha on a full extension of the GIAHS of 7,534 ha. This area corresponds to part of the UNESCO site “Historic centres of Mexico City and Xochimilco”, registered in the World Heritage List in 1987. Agriculture is the leading rural activity carried out in the GIAHS, flanked by fishing in the floating gardens’ canals. The chinampas are an extremely fragile agroecosystem. Only the continuous management and land-care by man can allow them to maintain their conformation and guarantee their cultivability. The chinampas also guarantee the maintenance of a humid microclimate that allows the cultivation and the presence of numerous animals or vegetable species. Large trees (often willows) surround the perimeter of the artificial islands allowing soil retention, acting as windbreaks and habitat for wild species (birds and insects). In the central part of the islands, farmers cultivate various plant species, including cereals, fruit, vegetables, ornamental crops. A complex system of traditional and ancestral knowledge, transmitted from “*chinampero*” to “*chinampero*” at a family level, guarantees the continuous sustainable management of the chinampas. The adjacency to Mexico City is both an opportunity and a threat to the chinampas survival. The inscription on the World Heritage List and the GIAHS recognition intend to confirm the need for the site protection against the constant city growth. Furthermore, the gradual erosion of traditional know-how (often no longer transmitted orally) and the difficulties of farmers in maintaining the economic sustainability of the system in many cases lead to the chinampas abandonment. Finally, greenhouses characterized by non-compatible materials with the site traditionality and inappropriate uses (such as sports fields) are present in some site areas, especially in proximity to settlements (Government of Mexico City, 2017).

3.2.4. Brazil

As it happens for the other Latin American countries, only one GIAHS has been recognized in Brazil. The traditional *Agricultural system of the southern Serra do Espinhaço Range* is in the federated state of Minas Gerais (Figure 12). This GIAHS is a complex site. Here different rural activities are integrated into a complex socio-ecological system, which develops vertically. Different agroecosystems – characterized by different altitudes, soils, climates, and biodiversity – distinguish the GIAHS. Unlike other GIAHS, the site has a more recent origin: the traditional communities are descendants of the indigenous peoples who mixed with the European population and African slaves between the 18th and 19th centuries. The system is mainly based on the seasonal bovine transhumance from the lower valley (where people practice slash-and-burn polyculture agriculture for food subsistence) towards the highlands pastures. A vast endemic floristic biodiversity of great importance from socio-economic and cultural perspectives characterizes the highlands. Local flowers (called “*sempre-vivas*”) have a great cultural value: they are collected for medicinal purposes and, above all, for ornamental reasons. The activity of dried flowers collection and trade from this site is of enormous economic importance for the local populations and are renowned nationally. The process of harvesting, drying, and packaging the flowers underlies a complex social system based mainly on family work. Collecting flowers implies a precise knowledge of the places by the populations, the soil, the flowers’ growth times, and the quantity to be harvested seasonally to ensure their annual regeneration. This traditional knowledge is transmitted orally. A system of customary rules guarantees accesses to resources, pastures, and flower fields, to ensure the sustainability of use, resilience, and regeneration of the socio-ecological system. A regional commission, formed by communities of flower pickers²¹, guarantees the protection and enhancement of the collection activity (CODECEX, 2019).

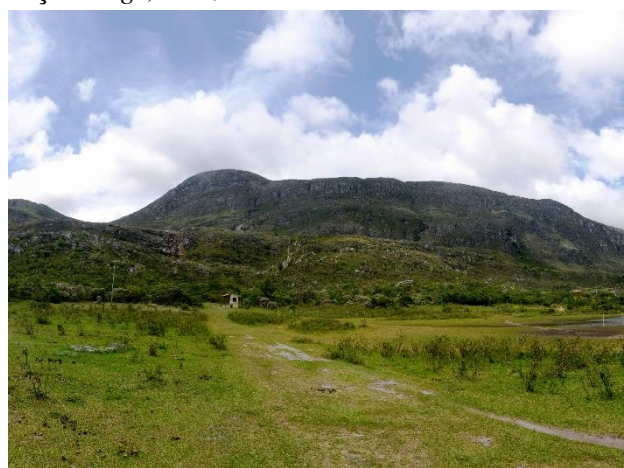
²¹ *Commission for the Defense of Sempre-viva Flowers Gatherers’ Communities*, CODECEX.

Figure 11 – Chinampas of Xochimilco (Metropolitan Region of Mexico City), Mexico



Source: Wikimedia Commons

Figure 12 – View of the Serra do Espinhaço, Espinhaço Range, Brazil



Source: Wikimedia Commons

Table 2 – Latin-American GIAHS in comparison

Country	GIAHS denomination	Year	Extension	Applicant Agency / Organization	Main rural activity	Integrated rural activities
Chile	Chiloé Agriculture	2011	839.400 ha ²²	Centro de Ecuación y Tecnología Chonchi (<i>Local Foundation/Association</i>)	Agriculture	Farming (sheep and cattle)
Peru	Andean agriculture (Corredor Cuzco-Puno)	2011	n.d.	Consejo Nacional del Ambiente – Ministerio del Ambiente (<i>National institution</i>)	Agriculture, breeding (camelids)	Collection of spontaneous vegetation (food or medicinal use)
Mexico	Chinampa system in Mexico	2018	7.534 ha	Government of Mexico City, Authority on the World Natural and Cultural zone of heritage of Xochimilco, Tlàhuac and Milpa Alta (<i>Local institution</i>)	Agriculture	Fishing
Brazil	Traditional Agricultural system in the Southern Espinhaço Range, Minas Gerais	2020	100.000 ha	Commission for the Defense of Sempre-viva Flowers Gatherers Communities (CO-DECEX) (<i>Local association</i>)	Agriculture, breeding, harvesting (ornamental flowers)	Wild vegetation collection (food or medicinal use), fishing

Source: elaboration by the author on data from the GIAHS proposal dossiers

4. Comparison between the European and Latin American GIAHS: challenges, actions and stakeholders involved

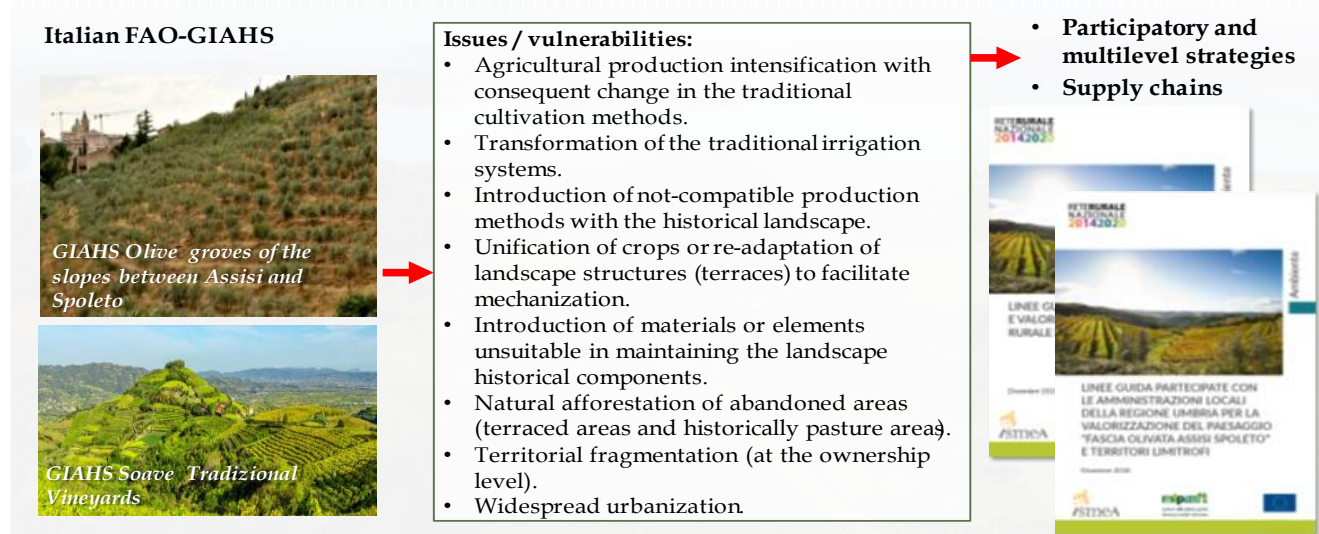
Reading the European and Latin American GIAHS characters, their complexity and extreme diversity between all sites from a landscape and cultural perspectives are evident. Despite this, as mentioned, the sites

²² The GIAHS application documents do not report a clear site extension. Here the surface of the entire Isla Grande of Chiloé is indicated. The application dossier explicitly mentions that the sectors of Rilán, Petanes and the community of Huilliches were more involved in the project.

considered show some elements in common, from a geographical and social point of view that must be underlined:

- The sites' geographical location almost entirely in inner areas (except for the Horta of Valencia in Spain).
- The presence of ongoing abandonment processes of the sites by the young population²³. Consequences of these processes are the gradual rupture of the traditional knowledge oral transmission systems, the lack of landscapes daily maintenance or unsuitable transformations of the characteristics of the historical landscapes, and the agrobiodiversity loss (Figure 13).

Figure 13 – Italian GIAHS: vulnerabilities concerning the landscape changes that occurred in the last decades, and main strategies of the Action plans



Source: elaboration by the author on data from the GIAHS proposal dossiers

According to the above, the European and Latin American GIAHS Action plans face similar challenges to guarantee the sites' dynamic conservation and the permanence of the local population. The application in all cases of placed-based and multilevel strategies in drafting the Action plans has guaranteed to build up different projects, specifically designed for the various local contexts. The Action plans of the GIAHS under analysis do not conserve the landscape as a historical heritage with a "crystallizing" approach. Instead, by implementing integrated interventions, the Action plans try to intervene "upstream" directly on the causes that determine the systems' weaknesses and threats, combining aspects mainly linked to heritage conservation with more innovative interventions.

All the Action plans analyzed show a multistakeholder organizational base. The organizational base always includes mainly local actors (associations of farmers or traders, local cultural associations, municipalities, active citizenship) flanked by actors on the supra-local scale (regional or departmental institutions, Universities) and the national scale (Ministries of Agriculture or Environment). The supra-local or national scale actors often have a technical and support role towards the local actors, representing the actions' beneficiaries (Table 3).

²³ In the European sites, these processes have been ongoing since the Second World War, while in Latin America they are more recent (since around the 1980s). Despite this, the Latin American processes of emigration from inner areas are much faster than in the European context. The consequences of landscape abandoning are evident in the short term.

Table 3 – Main stakeholders involved in the GIAHS Action plan for the dynamic conservation

GIAHS	Stakeholders involved		
	Local level	Supra-local level	National level
Spain - Malaga raisin	<ol style="list-style-type: none"> 1. Rural development centre of La Axarquía - CEDER 2. Union of raisin cooperatives of La Axarquía 3. Association Muscatel of Almáchar 4. Local councils of the raising producing area 5. Association for tourism promotion in La Axarquía 6. Local municipalities (31) 	<ol style="list-style-type: none"> 1. Regional Ministry of Agriculture, Fisheries and Rural Development of Andalusia 2. Provincial Government of Malaga 3. Regulating board of the Protected designation of origin “Malaga raisins” 4. Andalusian Universities 	<ol style="list-style-type: none"> 1. Ministry of Agriculture, Fisheries and Environment 2. National agricultural professional organizations: ASAJA, COAG, UPA
Spain - Valle Salado Añana	<ol style="list-style-type: none"> 1. Foundation Valle Salado de Añana 2. Salt workers organization (Gatzagak) 3. Municipality of Salinas de Añana 4. Cuadrilla de Añana 5. Rural development association of Añana 	<ol style="list-style-type: none"> 1. Basque Country regional Government 2. Provincial Council of Álava 3. University of the Basque Country 	<ol style="list-style-type: none"> 1. Ministry of Agriculture, Fisheries and Environment
Spain – Olives La Sènia	<ol style="list-style-type: none"> 1. Mancomunidad Taula del Sènia (formed by 27 municipalities) 2. Territorio Sènia association (formed by the Mancomunidad and private local businesses) 3. Local citizen associations 	<ol style="list-style-type: none"> 1. Regional Ministry of Agriculture of the Valencian Community 2. Regional Ministry of Agriculture Catalunya 3. Regional Ministry of Agriculture of Aragon 4. Provincial councils of Castellón, Tarragona and Teruel 5. Foundation Alícia for gastronomy 6. University of Cordoba 	<ol style="list-style-type: none"> 1. Ministry of Agriculture, Fisheries and Environment 2. Spanish association of Olives municipalities 3. Polytechnic University of Madrid
Spain - Horta de Valencia	<ol style="list-style-type: none"> 1. Valencia City Council 2. Consell de l’Horta 3. Real Acequia de Moncada 4. Tribunal de las aguas 5. Local municipalities 6. Valencia city’s food council and agri-food strategies 7. University of Valencia 8. Polytechnic University of Valencia 	<ol style="list-style-type: none"> 1. Regional government of Valencian Community 2. Provincial government of Valencia 	<ol style="list-style-type: none"> 9. Ministry of Agriculture, Fisheries and Environment
Italy - Assisi-Spoleto olives	<ol style="list-style-type: none"> 1. Local municipalities (6) 2. Villa Fabri Foundation, Trevi 	<ol style="list-style-type: none"> 1. Umbria Region 2. Province of Perugia 3. Sviluppumbria association 4. Italian Confederation of Farmers (CIA) Umbria 5. Coldiretti association Umbria 6. Confagricultura Umbria 7. Slow Food Umbria 8. Chamber of Commerce of Perugia 9. University of Perugia – School of Agriculture 	<ol style="list-style-type: none"> 1. Ministry of Agriculture, Food and Forestry policies
Italy - Soave vineyards	<ol style="list-style-type: none"> 1. Soave and Recioto di Soave wines protection Consortium 2. Local farmers cooperatives 3. Grape growers and wineries 4. Local municipalities 5. Local businesses (for tourism) 	<ol style="list-style-type: none"> 1. Veneto Region 2. Universities (not specified) 	<ol style="list-style-type: none"> 1. Ministry of Agriculture, Food and Forestry policies
Portugal - Barroso	<ol style="list-style-type: none"> 1. Development association of the Alto Tamega Region (ADRAT) 2. Local municipalities (2) 3. Barroso Ecomuseum association 	<ol style="list-style-type: none"> 1. Alto Tamega Intermunicipal community 	<ol style="list-style-type: none"> 1. Ministry of Agriculture, Forestry and Rural development
Chile - Chiloé Agriculture	<ol style="list-style-type: none"> 1. Education and technology center (CET) – Chiloé 2. Farming communities 3. Local municipalities (3) 4. Chiloé government 5. Chiloemprende association (local businesses) 6. Bosque modelo Chiloé project 7. Environmental education center of Huillin 8. Castro Municipal Education Corporation 	<ol style="list-style-type: none"> 1. University ARCIS of Patagonia 2. Regional training program in rural development (PRO-CASUR) 	<ol style="list-style-type: none"> 1. Ministry of Agriculture - Rural development institute (INDAP) and Rural investigation institute (INIA) 2. Latin American center for rural development (RIMISP)

	9. Local TV and radio broadcasting		
Peru - Andean Agriculture	<ol style="list-style-type: none"> 1. Local communities in Cusco region (Lamay, Lares) 2. Local communities in Puno region (Ccaritamaya, San José) 	<ol style="list-style-type: none"> 1. Regional Government of Cusco 2. Regional Government of Puno 3. NGOs already involved in projects in the GIAHS area (ARARIWA, ANDES, ITDG, CESA, CARE, etc.) 	1. Nacional Council of Environment CONAM (Ministry of Environment)
Mexico - Chinampas agriculture	<ol style="list-style-type: none"> 1. Government of Mexico City, Authority on the World natural and cultural zone of heritage of Xochimilco, Tlahuac and Milpa Alta 2. Mexico Autonomous National University – Xochimilco 3. Water system of Mexico City 		<ol style="list-style-type: none"> 1. Ministry of Rural development and equity for communities 2. Ministry of Environment 3. Ministry of culture
Brazil - Espinhaço Range	<ol style="list-style-type: none"> 1. Commission for the Defense of Sempre-viva flowers gatherers communities (CODECEX) 2. Local municipalities (3) 	<ol style="list-style-type: none"> 1. Minas Gerais State Government 2. Civil society organizations: Northern Minas alternative agriculture center, Terra de direitos, HEKS 3. Federal Universities of the Jequitinhonha and Mucuri Valleys, of Juiz de Fora and of Minas Gerais 	<ol style="list-style-type: none"> 1. Ministry of Agriculture, Livestock and Supply – Secretariat for Family agriculture and cooperativism 2. University of Sao Paulo

Source: elaboration by the author on data from the GIAHS proposal dossiers

The Action plans always take advantage of endogenous mechanisms to counteract the ongoing degradation processes, avoiding interventions characterized by a top-down approach.

The European GIAHS pursue interventions mainly aimed at **strengthening local supply chains and agricultural businesses**. Innovative actions promote the cultural (both tangible and intangible), natural, and enogastronomic heritage. The actions also aim at **implementing new local marketing and site promotion strategies** from a predominantly tourist perspective. The sites' economic sustainability (both financially, social, and cultural) is the primary objective of the Action plans of the European GIAHS, which act through strongly innovative actions on the socio-economic front. The European GIAHS Action plans aim to **establish collaboration networks at the local level** among agricultural and non-agricultural enterprises (i.e., touristic, catering, and food-processing businesses) and research institutions. The objective becomes implementing the sites' socio-economic resilience by promoting experiences and know-how exchanges. In several cases, the Action plans provide specific actions to **conserve the historical landscapes' components**, always in an integrated perspective with all the other measures. According to the different cases, we can find actions for the conservation of rural architectures or irrigation systems (Horta de Valencia), historical agricultural structures (terraces or dry-stone walls, as it happens for the two Italian GIAHS), or historical crops (millenary olive trees of La Sènia). The European GIAHS Action plans act indirectly on the other components of the sites, such as agrobiodiversity and local knowledge. Local agricultural varieties are often promoted through local cuisine, fairs, and marketing (even going beyond the food market). All actions aimed at guaranteeing the farms' economic sustainability have the indirect objective of fostering the continuous daily land management (avoiding abandonment processes) and the generational turnover of family businesses. The transmission of traditional know-how for the historical landscapes' care becomes a consequence of the actions mentioned. In all European cases, access to external funds for rural development (European or national) is essential for planning activities and revitalizing local rural systems.

On the contrary, the Latin American GIAHS act mainly on **agrobiodiversity and ancestral local knowledge conservation**. All actions have the primary purpose of consolidating the customary rural systems by guaranteeing peoples' food sovereignty and consequently the systems' continuity, reducing the abandonment phenomena. The interventions also aim at removing external interferences that would introduce commercial agricultural varieties in replace of the traditional local varieties or upset the systems of ancestral social organization. The **increase of local population sensitivity** to the importance of the dynamic conservation of the sites they have maintained over the centuries is considered of fundamental importance by the Latin-American GIAHS Action plans, which promote information and educational campaigns in local schools. The **active participation of farming families** (involving women and the youngest) also constitutes the basis

for implementing all the planned interventions. Some Latin American GIAHS (Brazil, Peru, Chile) promote the **written documentation of the customary practices** to facilitate the transmission to the new generations. **Agrobiodiversity markets and fairs** intend to foster the ancient traditions of local seeds exchange and promote the ancestral varieties to the public. The Brazilian, Chilean, and Peruvian GIAHS promote **regulatory frameworks and agreements** for agrobiodiversity protection among farmers' associations, local and national institutions. Unlike the European GIAHS, several Latin American Action plans, like the Brazilian one, also promote interventions closely linked to the permanence of the local population in the sites, strictly connected to the revitalization of the local rural systems. In these cases, the inhabitants' life-quality improvement occurs by **implementing the local public services** for health (health facilities and water sanitation systems), energy, education, and transports. In the Mexican and Peruvian cases, the Action plans provide actions for **rehabilitating the historical soil-retaining systems** (the *chinampas* in Mexico, the *andeneria* systems or the *sugakollos* in Peru). Unlike the European GIAHS, in which this kind of activities aimed to conserve the historical components of the landscape as cultural heritage, the purpose of the Latin American cases is to increase the agricultural production to achieve local people food security²⁴. In all Latin American case, the GIAHS projects rely on national funds for rural development or international funds (such as the GEF-Global Environmental Facility or the World Bank).

5. Conclusions: the GIAHS as good practice to foster multilevel and placed-based projects for the daily care and revitalization of the rural landscape heritage in inner areas

Except for the Chilean and Peruvian GIAHS (which just entered their tenth year of activity), for the other cases described, it is not possible to clearly identify the impact resulting from the GIAHS recognition yet. Despite this, as discussed in the previous paragraph, it is possible to draw some initial conclusions. First, as we saw, the GIAHS are not sites merely inscribed in an international "register" of historical rural landscapes around the World. On the contrary, GIAHS really constitute projects aimed at guaranteeing the dynamic conservation, permanence, and economic sustainability of the traditional rural systems over time, primarily when located in inner disadvantaged areas (Scheurer *et al.*, 2018).

The multilevel and multistakeholder approach applied in all the cases described led to strong partnerships, especially at the local level. The realization of local information campaigns and workshops allowed the participatory construction of the Action plans, shared between all stakeholders (the local ones first). The active basis of the Action plans (farmers and local businesses, both agricultural and non-agricultural) also guaranteed the construction of projects always explicitly designed for the territories in which they would apply. Beyond the international recognition itself, the GIAHS primarily aims to represent a "bond" between local actors, all involved in preserving, strengthening, and renewing their traditional rural landscapes systems heritage. In all cases, the planned actions always go beyond the simple preservation of the tangible characters of historical rural landscapes (Koohafkan & Dela Cruz, 2011). The GIAHS projects intend to act directly on the causes that generated or increased territorial local fragilities, both from a cultural, social, and financial perspective. Therefore, the dynamic conservation and revitalization of the historic rural systems are always seen from an integrated perspective (Qiu *et al.*, 2014). The conservative and innovative actions planned must necessarily work in a combined manner to be effective. However, the local cultural, rural, and landscape heritage always plays a leading role in the interventions proposed by the various Action plans. It is considered a fundamental component of the system. The dynamic conservation of the local historical-cultural heritage is always led in a multifunctional perspective to enhance the complex systems of values and all the ecosystem services associated with the heritage itself (Koohafkan & Altieri, nd-b). In this sense, the GIAHS approach represents a way to pursue the integrated and active conservation of the rural landscape heritage (Qingwen, 2006).

²⁴ The Peruvian and Mexican GIAHS constitute two cases in which the ancestral agricultural structures take on a "monumental" character compared to the others Latin American cases.

In some of the cases described (Peru and Chile), the international recognitions represented the starting point for innovative national policies or projects to promote the GIAHS approach for the dynamic and active conservation of traditional rural sites. We refer to the Peruvian policy for the recognition of *Agrobiodiversity Zones* (2016) and the ongoing project in Chile for the establishment of a NIAHS network (*National Important Agricultural Heritage Systems*) with the active involvement of local farmers (2016). Both experiences aim at preserving the national rural landscape heritage and are characterized by a place-based approach and food networks²⁵.

Finally, we intend to point out how these conclusions want to be open to future discussions. The GIAHS experience is still at the beginning of its international path, albeit twenty years after its integrated approach creation. Therefore, the need of implementing at the national level (also in Italy) the GIAHS approach is strongly felt as well as the implementation of policies or projects aimed at protecting and enhancing the rural heritage in its immense variety and complexity, recognizing its dynamic and multifunctional character.

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²⁵ Both experiences are coordinated by the local Ministries for Agriculture, in collaboration with local and regional governments with the strong involvement of farmers. In Peru, the rural communities directly apply for national recognition as Agrobiodiversity Zone to access government funds. As it is already clear from the policy denomination, greater emphasis is given to ancestral agrobiodiversity in the Peruvian case. At the same time, the Chilean project shows a more holistic approach, which is in line with the international GIAHS approach.

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CONSERVAZIONE DINAMICA E ATTIVA DEI PAESAGGI AGRARI TRADIZIONALI DELLE AREE INTERNE CON APPROCCIO GIAHS. PER UN CONFRONTO DI ESPERIENZE TRA CONTESTI EUROPEI E LATINO-AMERICANO

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SOMMARIO

Dal 2002 l'iniziativa GIAHS, grazie al riconoscimento dell'importanza globale dei sistemi agricoli tradizionali ne promuove la conservazione dinamica e l'attivazione di progettualità *bottom-up*, in cui le comunità locali costituiscono sia attori sia destinatari delle azioni intraprese. Oggi sono 62 i GIAHS in 22 Paesi, di cui due in Italia. Il GIAHS – che si basa su sicurezza alimentare, agro-biodiversità, sistemi di conoscenza locali tradizionali, culture e sistemi di valori e organizzazioni sociali, caratteri del paesaggio – non costituisce un riconoscimento fine a sé stesso ma rappresenta un “motore” per la valorizzazione e lo sviluppo sostenibile dei sistemi agricoli tradizionali, non solo a livello locale ma, in alcuni casi, anche nazionale nell'ottica di raggiungimento dei *Sustainable Development Goals*. Ciò avviene anche favorendo l'aumento di sensibilità, anche a livello politico, sull'importanza di tutelare sistemi agrari storici, agro-biodiversità e *local knowledge* per la gestione quotidiana del paesaggio. In diversi Paesi, come Cile e Perù, l'approccio GIAHS è anche punto di partenza per politiche nazionali di tutela attiva dei paesaggi rurali nelle aree interne, per garantire la sovranità alimentare delle comunità rurali e contrastare fenomeni di abbandono di tali aree, rottura di sistemi agricoli storici e perdita di patrimonio paesaggistico. Da tale premessa, il contributo intende presentare l'approccio GIAHS, riflettendo su come il riconoscimento costituisca un'opportunità per conservare e valorizzare i sistemi agricoli tradizionali nelle aree interne. Il contributo mostrerà, inoltre, come l'approccio GIAHS venga declinato diversamente a seconda dei contesti geografici attraverso un confronto tra i contesti europei, ove è maggiore l'attenzione su paesaggio e filiere agro-alimentari, e latino-americano, con enfasi su agro-biodiversità e conoscenze locali. L'obiettivo è identificare buone pratiche da applicare in Italia anche all'interno della Strategia Nazionale per le Aree interne, che indica nella riattivazione dei sistemi agricoli tradizionali una spina dorsale per invertire l'abbandono delle aree interne e rivitalizzare i paesaggi rurali.