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RESEARCH ARTICLE

Cattle breeding, associations, and rural development: The Italian case study in the 20th century

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Abstract
The research reconstructs and analyses the role played by livestock associations in Italy during the 20th century. The article initially focuses on local associative experiences before World War II and subsequently on national associations, whose formation also depended on the goal of promoting the application of technical innovations. Their impact, specifically that of artificial insemination and semen freezing, has indeed influenced the production process in the livestock sector since the 1940s with genetic changes in animals for productivity purposes. Focusing on specific case studies (mainly *Associazione Italiana Allevatori*, but also ANAFI, ANARB, and ANABIC), the paper analyses the motivations behind the establishment of the associations, the relationships with members and public institutions, and finally, support strategies for breeders.

Introduction

This research reconstructs the birth and spread of local cattle associations, and subsequently a national coordinating organization, in the livestock sector in Italy during the 20th century. In particular, it analyses the phases and possible motivations that led the Italian cattle breeding sector to establish a national trade association – the AIA (in Italian *Associazione Italiana Allevatori*) – to rebuild the cattle stock after a period of reduction of the herd from the late 1930s until the end of World War II.

The activities of this association were related to modernization in the sector, especially after the second half of the 20th century. In 1945, breeders needed to revitalize their activities, through the introduction of new breeding techniques and different breeds. Coordination in associative organizations thus became an opportunity to manage resources and investment choices, leading to significant growth and the simultaneous modernization of cattle farming in Italy, after it had previous suffered a substantial collapse. This process involved breeders with significant resources in land and cattle, requiring efficient farm management as well as access to knowledge and financial resources available on the market. Some of these breeders, particularly in the Po Valley, made investments and sought to develop specific production and commercial strategies. Throughout this process, breeders increasingly acted as entrepreneurs, with the need to collaborate to protect their investments and influence the market and public institutions.

The work for this article was shared between the authors. 'Introduction', 'Preliminary considerations' 'Final considerations concerning the AIA', and 'Conclusion' were co-written by both authors. Marco Marigliano wrote 'Experiences of agricultural associations before WWII', '"*Associazione Italiana Allevatori* (AIA): a national agricultural association', and 'First-level agricultural associations: some examples"'. Andrea Maria Locatelli wrote 'The lobbying activity of the AIA' and 'A comparison among the AIA and other associations'.

The research also aims to verify whether trade associations, with functions of coordination, consulting, and providing administrative services, supported the investment choices made by operators[1]. In particular, the widespread presence of cattle associations facilitated the sharing of information among operators and influenced the management of the cattle market, pushing towards the emergence of dominant models at the European level. The number of dairy and meat products increased, and innovation in the sector took a qualitative leap in the post-war period, triggering, for example, the doubling of the production of cow and buffalo milk by 1972.[2] This paper will seek to show the primary objectives and differences among these associations, by drawing on internal documentation to examine their external relations. As in other sectors, this coordination process represented a sort of informal 'cartel' that affected those excluded or confined to different production lines.

Preliminary considerations

It should be noted that the choices and actions of these breeders, united in associations, was conditioned by the fact that Italy has diverse landscapes, which has historically made it unsuitable for breeding the same type of animal in different areas. Regarding the historical identity of Italian agriculture, we can indeed speak of a plurality of agricultural systems present across the national territory, due to both the political-institutional fragmentation prior to Unification, and the great geomorphological variety of the Peninsula, which favored very different types of production. Specifically, in the case of cattle breeding, there were areas focused on milk production, such as the Po Valley, with large farms and a well-developed supply chain concept, mountain areas in the Alps aiming to produce minimal quantities of milk but focusing strongly on quality, and the Apennines area of central Italy, known for the production of high-quality meats like Chianina (Chart 1).[3]

The development of cattle farming, and the related production of fodder, also represented an important factor in modernization especially after the political unification of the Peninsula, particularly for the areas most suited to these activities.[4] Such an improvement in the sector, however, would not have been possible without a substantial availability of financial resources for the creation and management of large farms aimed at exploiting economies of scale and scope, and especially without a progressive understanding, acceptance, and implementation of various technical innovations. To understand the relationship between associations and innovation, it is necessary to refer to the existing literature. Much has been written about the importance of innovation in the cattle sector since the 18th century (Slicher Van Bath, 1972; Grigg, 1992), particularly regarding the various changes that led to the 'standardization' of animals into breeds with defined characteristics (Derry, 2015), making them increasingly suited to a single purpose, whether it was meat or milk production (Schrepfer and Scranton, 2004; Pawley, 2016). After World War II, new technologies became crucial for the improvement of animals, including techniques such as artificial insemination[5] and semen freezing (Derry, 2015), both abroad and in Italy.[6] Thanks to these new technologies, the active presence of the stallion was no longer necessary, and at the same time, the semen could be cryogenically preserved for a theoretically unlimited time. This meant that, for the first time in history, breeders had the opportunity to purchase the semen of any stallion from which semen had been collected. However, this necessitated a system of knowledge, information, and coordination beyond the capabilities of the individual. Starting from this period, the increasing demand for dairy products and meat (chart 2), driven by the economic and demographic boom that Italy was beginning to experience, made rapid specialization and modernization of the sector necessary, as well as careful selection and transformation of existing breeds to make them more productive and responsive to market demands.[7]

All of this was increasingly difficult for individual breeders, who faced these new challenges in a very short period of time and without specific training. At least in the Italian case, this favored the

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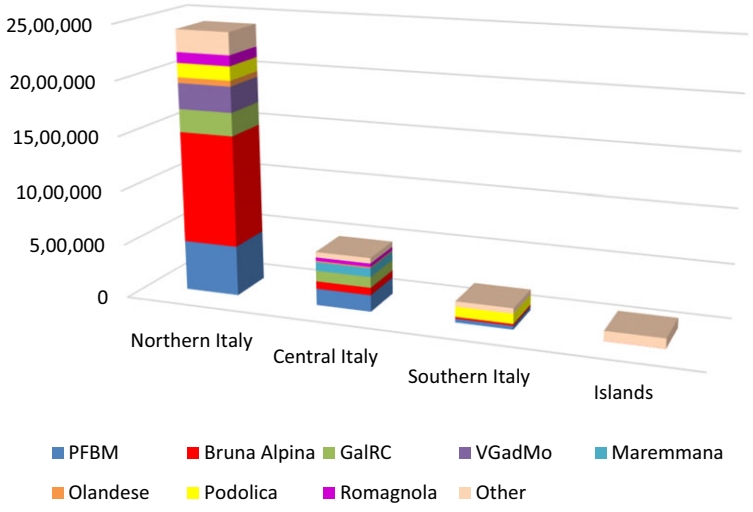

Chart 1. Cattle census by breed and geographical area, 1938.
Source: Istituto Centrale di Statistica del Regno d'Italia (1940).[3]

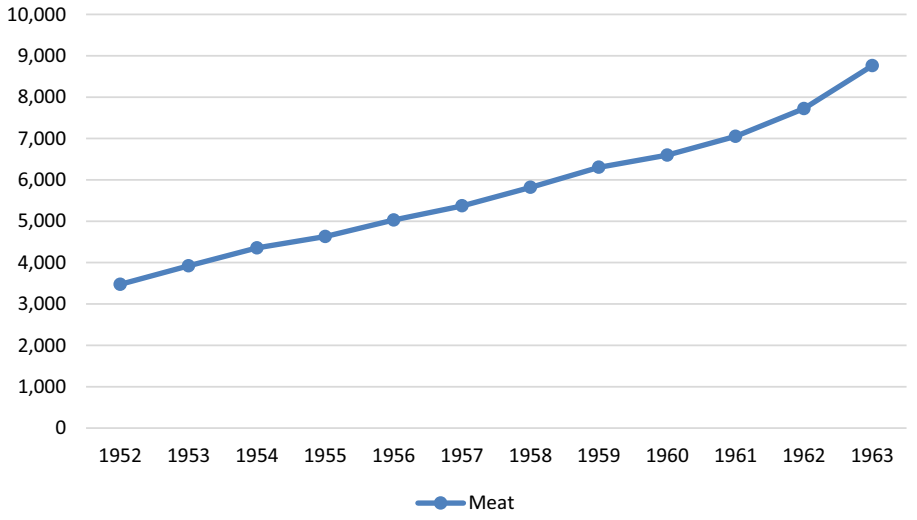

Chart 2. Total quantity of meat for food use (thousands of quintals).
Source: Istituto Centrale di Statistica, *Annuario di statistica agraria*, 1954–1965.

emergence of trade associations, which supported their members by providing specific information and purchasing semen materials (Marigliano, 2017–2018).

To fully analyse the development of associations in the cattle sector, an interdisciplinary approach is necessary, particularly incorporating studies on associations as voluntary organizations of economic stakeholders and their impact on economic and social development.[8] Recent studies on regional or even local paths can be extended to the agricultural world, specifically analyzing motivational factors and behaviors of breeders such as the articulation of associative structures and service offerings. On the other hand, for the aggregation of persons and

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resources through agricultural development processes, economic historians suggest the need to frame the benefits expected and achieved by members, such as their relationship with public institutions and influence exerted (Reveley and Ville, 2010; Carnevali, 2011; Rollings and Moguen-Toursel, 2012; Besser and Miller, 2013; Wilson, 1995; Fraboulet et al., 2012). With reference to the model on the role of associations in society presented by Schmitter and Streeck,[9] the research analyses the origin and evolution of coordination and representation actions in the cattle sector considering the modernization objectives, internal structure, and strategies, but above all, the ability to control production, and the relationship with national institutions. At the same time, these organizations provide advice to breeders, cooperation among members, and collective purchasing of animals and semen for artificial insemination. These functions were vertically organized among associations.[10]

Experiences of agricultural associations before WWII

Starting from the late 1800s, several voluntary organizations called Itinerant Teachers of Agriculture (*Cattedre Ambulanti dell'Agricoltura*) began to appear in Italy, particularly in Northern and Central Italy. These were established by agronomists and individual breeders to support the agricultural sector through the transfer of knowledge, practical lessons, and training meetings for farmers and breeders.[11]

This represented a form of association between the various breeders, but mostly at a local level and with an educational aim, not seeking the immediate improvement of the sector as a whole or to establish a relationship with the state. This can be seen clearly in connection with specific purposes: the creation of several local herd books[12] – to select highly productive animals – and an educational aim, thanks to the effort by the Itinerant Teachers of Agriculture. These herd books are extremely important to understand the reasons that led to the foundation of the associations of our interest. The introduction and functioning of herd books, would in fact encourage the implementation of property rights on cattle, thereby introducing a sort of regulation in the sector that was useful both for buyers – to understand the value of an animal – and for sellers, by indicating the farm the animals belonged to.

The Itinerant Teachers of Agriculture, however, due to their voluntary nature and local definition, were only able to create provincial or local herd books. Therefore, there were no national herd books, each provincial genealogic book was different from the others, and thus the various directors and inspectors could independently decide which animal to register in their own herd book. This caused problems in the buying and selling of animals, since each breeder tended to breed only cattle included in the herd book of its area. So, whoever controlled the herd books, from a business point of view, could control the industry.

It is clear that a producer association would have increased the support for production improvement, because a national association could have held discussions with the Ministry of Agriculture and at least tried to manage this situation. However, such an association was not created until after the Second World War. During Fascism, the Itinerant Teachers of Agriculture were replaced by the Agricultural Inspectorates (*Ispettorati agrari*) in 1935, in an attempt to provide a centrally managed structure rather than a voluntary one. The problem, however, was that, especially with the outbreak of the Second World War, the selection and control activity was fundamentally halted. The last minister in charge of the department, Carlo Pareschi, had attempted to continue it until 1943, but the compulsory requisition of animals for war purposes and for feeding the army had drastically worsened the situation of the entire Italian cattle sector. With the armistice, moreover, the service was interrupted, leaving a regulatory and operational void (Fileni, 1954).

At a time of great changes – as it was at the end of the Second World War – Italian farmers felt the need to form groups because of several factors: the absence of institutional guidance and

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proper management of provincial herd books, the difficulty of finding foreign cattle at a low price, the impossibility of independently managing all aspects of animal health, and the inability of individual breeders to respond to government actions.[13]

Associazione Italiana Allevatori (AIA): A national agricultural association

This resulted in the foundation of the Italian Breeders Association (*Associazione Italiana Allevatori* – AIA) in Rome on 28 August 1944. Specific information on its preludes cannot be found, but the new association was founded by several breeders from some Italian areas already free from Fascist domination. These breeders were experiencing difficulties since public structures no longer supported them.[14] The Association was created to bring together all Italian breeders; however, it could not be a point of reference for all of them initially. The economy and culture of each region were the expressions of different contexts, especially in terms of the entrepreneurial approaches to breeding. However, despite being present in quite diverse ways throughout the Italian territory, in the second half of the 1940s, the AIA was the top association for all breeders. The AIA is a non-profit association organized by functions and levels. Since its foundation, the organization has had a national coordination and representation structure, alongside a series of provincial organizations (*Associazione Provinciale Allevatori* – APA) directly linked to the national one. Subsequently, with the introduction of regions into the national system in 1970, the AIA also established regional structures (*Associazione Regionale Allevatori* – ARA). Similarly, the organizational structure of the AIA includes specific associations for each breed type (ANAFI for Friesian breeders, ANARB for Brown breed breeders, and so forth, generally referred to as *Associazioni Nazionali Allevatori* – ANAs).

Each level of the association was assigned different functions.

The AIA is responsible for:

(1) collection (through APAs and/or ARAs), aggregation and processing of Functional Controls, which are then shared with ANAs for the management of national herd books;
(2) inspection and control of peripheral activities (Inspection Office and milking machine control);
(3) maintenance of registry records of the limited native bovine and horse species.

APAs bring together individual breeders and oversee maintaining the local herd books and Inspection Offices, responsible for:

(1) collection of on-farm production and breeding data;
(2) transfer of those data to the AIA and ANAs;
(3) processing and implementation of a database for information to breeders.

ARAs include APAs belonging to the same region. They are the natural interlocutor for regions and have a function of liaison and representation of the individual APAs. A particularly important activity performed by the ARAs to reach their goal is the management of analytical laboratories.

ANAs, although linked to the AIA and the APA (Figure 1), have specific functions, namely the maintenance of national herd books and the conduct of genetic evaluations of breeding animals. The guiding and controlling body for technical activity is the Central Technical Commission (C.T.C.) composed of officials from ministries, regions, and breeders. ANAs also manage the Genetic Centers.

However, some of the features indicated above were added over time. Initially, the main function was to provide breeders with the technical support previously ensured by the *Ispettorati agrari*[15]: "the AIA [. . .] continued the activity of local *Ispettorati agrari*, preventing what was

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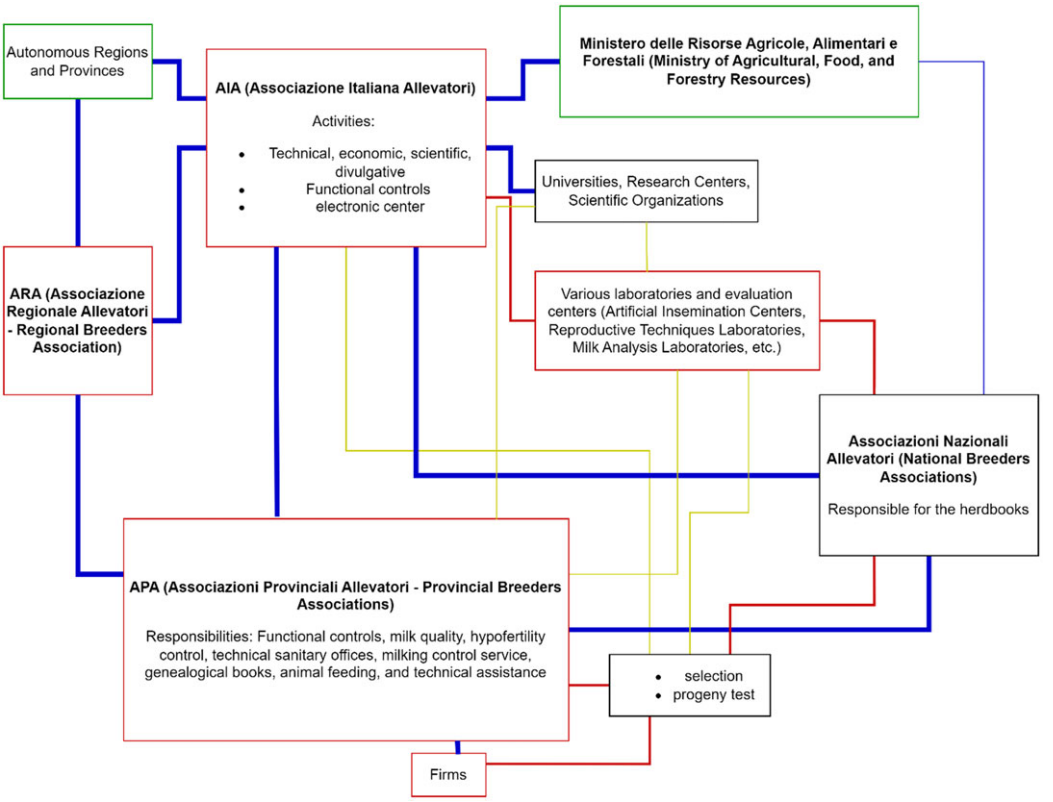

Figure 1. Working system of the AIA and its relations with other bodies. *Source:* Fusco and Fusco (1994), p. 111.

already done from being lost" (Fusco and Fusco, 1994, p. 2). The first discussions in this context focused on the selection of the best animals, and the management of herd books, as the management of production checks on individual animals seemed to be the best way to restock the Italian cattle population.[16] However, already in 1946, with the appointment of Antonio Segni as the Minister of Agriculture, the Ministry again advocated the control of breeding activity in the manner conducted until 1943, entrusting to the Provincial Agricultural Inspectorates the conduct of the controls on animal productivity and the keeping of the herd books. This led to a 'power struggle' between the ministry and the AIA:

"The zootechnical improvement, particularly for cattle, recorded moments of lively confrontation between the AIA and the National Breed Associations with the Ministry of Agriculture and Forestry. A comparison which initially focused on the choice of breeds and 'types' of bulls that could be licensed for breeding in the individual provinces; then on the choice of bulls to be used for artificial insemination; and finally on the basic technical and economic issue of identifying the specific objective to be pursued" (Fusco and Fusco, 1994, p. 47).

This 'struggle' was won by the AIA only in 1963, with the enactment of Law 126 of 1963, an important turning point for the whole national cattle farming sector. That law streamlined and regulated the complex matter of bovine reproduction and gave a guarantee that the bulls would be of excellent genealogy. With that new regulation, the Ministry of Agriculture and Forests established two key principles for the following development of milk zootechnics in Italy. Those principles were the mandatory inscription of bulls to the herd book of heads of cattle designed to reproduction, and the transfer of heard books and functional controls handling to the *Associazione Italiana Allevatori*[17]. The law facilitated the centralization of functional controls at

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the AIA in Rome. Thanks to this, it was possible to conduct the first comparisons, in the dairy industry, of mothers/daughters and later, daughters/contemporaries. Thus, it was possible to analytically compare daughters of different bulls for the first time in Italy.

In practice, farmers, through their association, gained control of one of the most significant aspects of meat and milk production in Italy, which, until then, had been managed and controlled directly by the state. This situation was not at all taken for granted at the end of the war, and indeed the voices of individual farmers were not often heard. Despite this, or perhaps because of this, the decision was made to bring together the breeders of all animals of the entire country, even though, at first, the AIA could not represent all members: economies and cultures were still regionalized, and there were vastly different environments, especially in terms of farmers' entrepreneurial visions. Although the AIA was present in different ways in different parts on the Italian territory, it was the reference point for all farmers in the liberated Italian areas.

In the AIA's magazine, The Breeder (*L'Allevatore*), the first article written by the Director of the Association, Roberto Calabresi, stated that the association was "a faithful interpreter of the legitimate aspirations of Italian breeders, [. . .] reflects, encourages, incites, promotes, disseminates and defends the ideas, aspirations, and interests of breeders."[18] So, the various local associations could join the AIA. The latter functioned as a trade association trust, a second-level association representing the requests of different local and sectoral groups. At the same time, it supported – with respect to its derivatives and the institutions – some strategies to use on the cattle market.

The lobbying activity of the AIA

The aim of the AIA is to advance the cattle population. However, this is done by helping all farmers create a supportive network.[19]

Since 1947, the lobbying activity in defense of the local associations operated only through the magazine. The reasons are clear if we consider, for example, the practice of compulsory contribution[20] that occurred even after the end of the war. As we said, this happened because individual farmers could not act against the state. Certainly, an association could promote the demands of its members much more forcefully to the state and public opinion. And the greatest need for farmers then was to renew their cattle stock. In a short article in the AIA's magazine, the activity of the state was described as inadequate because of the compulsory contribution. This periodical was read by those who dealt with these issues in the Italian Ministry of Agriculture. It was said that after 1941, the state paid a certain amount of money to the breeders for each animal given to alleviate the serious difficulties in managing farms. The article went on to point out that "in many provinces of Tuscany, Marches, Calabria, and Sicily [. . .] the payment of refunds could not take place" because of the war, "creating disparities and irregularities among farmers. After the war, however, the situation was not remedied." The columnist concluded: "The state has the interest, the duty to set a good example by scrupulously respecting the provisions it has issued if it wants others to follow them".[21]

Also, the decision to locate its headquarters in Rome, the capital city of Italy, can be seen as confirmation of its information and consultancy activity for the state administration and political class. For example, this association became a means to represent the interests of the local group in regard to the Minister. The local association expressed the difficulties it faced due to a reduction in profit because of a decrease in the product price and a concurrent increase in operational costs.

Going back to lobbying activity by AIA, the already mentioned compulsory contribution of cattle was not the only problem. AIA wanted to represent at national level some local issues. For example, if we consider milk price, there was a protest by a local association of farmers in Latina (Rome), where increased operating costs had followed a reduction in milk price. The writer of the article that appeared on AIA's magazine about that event concluded with an interesting "vow that the competent authorities in the province of Latina keep the price of milk"[22] under control.

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We can also cite the case of Bondeno (Ferrara), where a local "Association of Milk Producers" was founded in 1946 to remedy the same situation, which had deteriorated tremendously after the war. This association confronted the local authorities with the same objectives as the local association in Latina but with poor results, until their demands were reported in an AIA newspaper article. Here we see a double level of associationism. On the one hand, the farmers of Bondeno could not cope individually with the shortage of milk caused by the war; that is why they associated with each other. This led to some results, such as buying animal feed at reduced prices, but it was not enough. The AIA then intervened and raised the issue: "it deserves to be brought to the attention of the competent national bodies for [future] development".[23]

Final consideration concerning the AIA

The coordination activity started after the Second World War. In the period between Italian unification and the 1940s, attempts to create a national association had failed or had not taken place.[24] But can this reasoning explain the actions of business leaders? Why did they not do it sooner? Why, following this reasoning, was the AIA not born in the second half of the 19th century, when the Italian State was created? Or at the beginning of the 20th century, when the first real dairy industries arose, at least in Northern Italy? Maybe this approach is not enough.[25] Let us consider the 1965 theories by Marcus Olson and the 1981 ones by Streeck and Schmitter.[26] The expectations and interests of various Italian actors and local contexts had proved to be very conflicting. There were many differences between the North, characterized by capitalist agriculture, and the South, where large estates were widespread. Italy likely had large and medium farms favorable to innovation and specialization, and small farms characterized by traditional methods and meat-milk integration.

We can say, therefore, that the AIA came into being after the Second World War precisely because of several factors – the ones we have already mentioned: the lack of cattle, the need to import large quantities of animals from abroad, the absence of a working herd book – that made farmers overcome their natural reluctance to act as a group.

Since its foundation, the AIA has been aimed at coordinating local or sectoral associations to efficiently manage activities such as herd bookkeeping, breeder export support, breeder import control, management of centers for meat selection, creation, and management of consortia for the selling of products, and submission of proposals to protect production health and profitability[27]. In so doing, it was a second-level association intended to protect and direct the activities of that sector[28]. For example, one of the most important breeders in Rome, in direct contact with many breeders in one of the most suitable breeding areas in the North of Italy, Cremona, wrote:

"It should be noted that animal husbandry improvement is not achieved either by relying solely on the initiative of individuals or by relying on 'directives from above' or the dictates of government bodies. The example of the most advanced countries in our teaching shows that the improvement of animal husbandry is always and above all the result of harmonious and close cooperation between the breeders assembled in associations, on the one hand, and state bodies, the various Institutes or Experimental Stations, on the other. In the countries that were more advanced in animal husbandry, state bodies did not directly interfere in implementing animal husbandry initiatives but merely helped and assisted breeders' associations. These are the starting points for all initiatives dealing with [. . .] keeping herd books, encouraging and supervising exports, controlling the import of breeding animals, running meat-processing centers, setting up consortia for the sale of products, and making proposals for the protection of health and the financial protection of production" (Albertini, 1947, pp. 1–2).

Albertini's analysis highlights how membership in the association to benefit from services (regarding breeding and herd books) played an important role in defining the nature of the association. In the relationship between the community of breeders and the institutions, the

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associations (AIA, ANAFI, ANARB, etc.) operate both with the logic of membership – ensuring benefits for their members – and that of representing the interests of the entire category of breeders/capitalists. The latter led to a real increase in local associations, with thirty-one new first-level ones joining the AIA in just six months, from May to November 1947, and a total of fifty new members in all of 1947.[29]

Since the 1950s, after having been established, the AIA has gradually carried out a coordination function between trade associations and local ones, some of which were pre-existing. Subsequently, new associations appeared in connection with the AIA. However, according to literature, various experiences have been characterized by the consolidation of a horizontal network of associations, all of them with economic purposes but different identities. That horizontal network of associations was divided into three dimensions: local, regional and national. An association was at the center of the network and could influence public policies.[30]

In Italy, the situation was different: there was a large association pushing farmers to create small associations, which then joined the AIA. The AIA was created independently of small associations, even if it then pushed for their membership. Several of the sixty-two associations we mentioned earlier were just local divisions of the AIA. But they were "horizontal provincial organizations with economic aims," the "armed wing" of the national association. But "by their side, the vertical associations, for breeds bred for the development of breeding and to keep herd books, must be born" (Zanotti, 1947, p. 5).

Organizations belonging to the AIA federation did not devolve some of their power to the central structure. As a result, the horizontal integration process was and remained weak. This path confirms what stated by several studies: the methods of establishing confederations, such as unions between several associations, influence the organizational structure of the central body. Unions of organizations are poorly institutionalized if generated and developed by "contagion". The territorial and sector associations already operating are reluctant to devolve their functions to a central organization[31].

However, the AIA had a strong vertical influence since it offered services and functions that local organizations could not perform effectively. Although not so highly institutionalized, the AIA became a point of reference for other organizations since it could provide specific services that were particularly useful for member development.

First-level agricultural associations: Some examples

To have a complete picture of the Italian cattle sector, it is necessary to analyse several breeders' associations of specific cattle breeds where the farmers were directly involved. In this case, they were not a federation, but associations of individual businessmen, where the main objective is an improvement of the sector brought about directly by the farmers associated with each other. Thus, unlike the AIA, the focus here was not primarily on the financial aspect or the relationship with the Ministry; rather, it was, as anticipated, to improve the industry by surpassing diversity management.

Now, we will deal with the creation and activity of some breeders' associations of specific bovine breeds. Those organizations were founded and acted as trade associations, both from an organizational and functional point of view. Studies also highlight their aim of supporting members' productivity. Unlike the AIA, those associations did not focus on finance or the relationship with the Ministry, but on coordinating their resources and opportunities on the market as best as possible. Taking a concrete example, we can start with the Friesian breed association. Studying the case of the Friesian is equivalent to studying almost the totality of Italian cattle breeding. Although there were other breeds, from the point of view of milk production and the numerical presence in the territory, the Friesian was predominant. As for the AIA, the Friesian breeders' association came into being in the immediate aftermath of the Second World War.

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And here, too, we must examine the management of diversity that drove competing capitalists to unite. As we said at the beginning of this presentation, one of the first issues was the great decrease of bovine animals in the Italian territory. Getting them from abroad was expensive for individual farmers. This is where the association tried to provide assistance. In this regard, it is worth mentioning the creation, in February 1946, by a Milanese section of the Friesian Breeders' Association, of a Bull Consortium (*Consorzio Tori*). These breeders founded this bull stud center with the aim of practicing artificial fertilization using the semen collected from bulls purchased by the Association and imported directly from the United States.[32] The proposal was also appreciated by other sections of the association, where other local Bull Consortia were established. [33] However, because of the provincial herd books already mentioned, the semen collected from these sires could not be used for a real improvement of the breed on a national scale. So, the first reason farmers joined forces was that of national control of herd books.

The first goal of Friesian breeders was the right to independently manage the breed's herd book under the supervision of the Ministry of Agriculture. In other words, the associations operated according to a principle of subsidiarity. Achieving this goal required developing specific skills internally and, at the same time, not being subject to any interference. Until the introduction of national herd books, each ministerial inspector enjoyed broad discretionary powers and had a major influence on market strategies. The case of *Rendena*, a breed typical of the Alpine areas of Trentino and still localized in a very restricted mountainous area, is a very good example. At the beginning of the 20th century, it had serious problems of genetic degradation. On several occasions, the inspector of the Tyrol region decided to improve the quality of the breed by crossing it with a certain number of animals without the consent of most breeders. The influence of the inspectorate's choice derived from the fact that all animals born from other sires would not be certified. The *Rendena* breed improved, but breeders were not involved in the choice.

Another example comes from Albertini's farm, *Bonifica di Torre in Pietra* (Fiumicino, Rome), one of the most important farms in Italy before the Second World War. There, an attempt was made to sell some daughters of Friesian cattle imported from the Netherlands. The first difficulties arose from the herd book of the Province of Milan, which, in December 1933, prevented Count Mapelli – the owner of a farm in that province – from registering a bull that had been booked at the *Bonifica di Torre in Pietra*. Since only pure breeds were accepted, only animals of Dutch origin were admitted and not those which had been crossbred with other American bulls for breeding.[34] The Albertini family, therefore, had to sell their bulls only in those areas where they could register them in the local herd books.[35]

Thus, after the Second World War, the aim of farmers was to no longer "submit" to the intervention of public officials in the choice of animals to be imported: the unitary management by the farmers could not be subject to variability due to the technical and economic views of the officials. Selection lines, choice of breeders, and uniformity of production controls were functions that were now the responsibility of breeders and not of individual public figures operating in different provinces and regions (Fusco, 1990).

Talking again about Friesian breeders: if the immediate post-war needs had prompted these capitalists to join the National Association of Black-and-White Cattle Breeders (*Associazione Nazionale degli Allevatori di Pezzata Nera*) in 1946, the opportunity to create and control these herd books, which would allow breeders to control the industry, materialized in 1957 and caused a change in the name of the association, which from then on was called ANAFI.

Even more interesting is the case of the breeders of Bruna Alpina, which at the time was the most numerous breed in Italy, while Friesian was the second. The breeders of this breed did not have a national association in those years. However, they considered creating their herd book so relevant that they agreed with the members of the National Association of Black-and-White Cattle Breeders on the importance of having a stronger relationship with the Ministry of Agriculture. And thus in 1957, the National Association of Bruna Alpina Breeders (ANARB) was established.

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So, creating a national herd book was a major turning point in overcoming the management of the problem of diversity.

In any event, on 24 June 1957, the national herd book of the Italian Holstein-Friesian cattle was created. On this date, the Ministry of Agriculture approved the regulations for herd books and the functional controls of the two major breeds in Italy: *Frisona Italiana* and *Bruna Alpina*. So, the corresponding cattle-breeders associations now played a prominent role in making decisions on the matter, and they wanted to be recognized as being more important than before.

The strategy of the breeders' associations, ANAFI and ANARB, appear different from that of the AIA, but despite this, these associations worked in synergy and without opposition in a system that we can describe as integrated and coordinated between those who provided advice to farmers and those who effectively managed the genealogical books and conducted selection.

A comparison among the AIA and other associations

As mentioned above, the AIA and ANAFI were two associations with specific objectives defined in their statutes. The two organizations were oriented towards providing advisory services to local organizations, and at the same time, both cooperated with the public administration in the enforcement of national legislation. Within this framework, the special activity was the collaboration with the breeding bodies, which was combined with the promotion of technical innovation for breeding, prophylaxis, and also the training and updating of breeders and farmers with a clear production approach. The articles of association of the AIA explicitly referenced assistance to shareholders in the purchase of cattle, raw materials and equipment, in Italy and abroad, directly or through participation in commercial companies.[36] This purpose involved the function of indirect guidance and economic and financial support for the development and management of animal husbandry. In addition to supporting and directing production, the AIA participated in producer consortia and promoted agreements with the banking system for subsidized credit to cattle farmers.

With the introduction of European and national regulations on product protection (PDO and PGI), the activity of the two associations was enriched by advisory services related to the strengthening of animal capital and structural assets with the final effect of increasing productivity. If, on the other hand, we look at breed-specific associations, we see that the objectives of the action were always the "protection" of the bovine herd, which is of a conservative nature, but also an improvement action, for example, by establishing and financing the herd book and cooperating with breed societies in the matter of reproduction.[37] The specificities of these associations concern the judicial activity of resolving conflicts between members and the promotion and activation of quality standards (certification). In addition, the so-called "breed committees" have as their specific objective the management of the selection and where all members participate divided by geographical areas[38].

However, all associations, both second tier and breed-based, adopt an organizational model whereby the general meeting elects a steering committee as the central governing body, with the Executive Board as the operational body and the various supervisory bodies connected to it. The President is directly elected by the general meeting and has a function of political and legal representation: the various functions mentioned above are distributed between the Presidency and the Board.

In conclusion, the AIA's action was geared toward representing interests to the authorities, while the "breed" organizations aimed to establish space for autonomous management. This difference emerged in the 1940s and 1950s when institutions and the political class aimed to preserve the role of selection in the public administration. Further confirmation comes from the diversity in the location of their headquarters: the AIA was based in Rome in order to have a direct relationship with Italian politics, while the others had local headquarters, making the logic of proximity and coordination with members on the ground prevail.

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ANAFI and ANARB controlled almost 90% of cattle breeding and thus managed most of the milk and meat production for domestic consumption and export. This productive condition prompted them to come together to control the market and, at the same time, influence public policy. Breeders of breeds with lower numbers in both the hilly areas of the Apennines and the Alps attempted to form industry associations amid many difficulties and uncertain outcomes. The cases of the Brown Rendena breed, the *Chianina* breed, typical of Tuscany, and the *Romagnola* breed illustrate this path.

In the early 1960s, breeders of the *Chianina* and *Romagnola* breeds decided to associate with the breeders of a third breed, the *Marchigiana*, to form a single organization of meat producers with the support of the Ministry of Agriculture. Subsidy policies and the relationship with the public administration pushed for horizontal integration and later for sharing market management in the face of growing demand during the Golden age (1953-1973). In 1961, ANABIC (National Beef Cattle Breeders Association) was created. The herd book was divided into three sections in this association, one for each breed. With ministerial recognition came funding, and breed selection became the prerogative of this sectoral association.

Conclusion

This article has analysed the evolution of agricultural associations in the cattle sector, particularly in the second half of the 20th century. To fully understand the effect of the situation in the period, the preliminary conditions of the first half of the 20th century were also considered. During the Kingdom of Italy, in fact, all attempts to create structures of coordination and representation were unsuccessful, and under the fascist dictatorship the corporative system, characterized by centralist control, incorporated and replaced the associative aggregation of operators. It was towards the end of World War II, however, that the process of developing BIAs began. In light of this analysis, the causes and effects that such associations had on breeding and selection, as well as the role these associations played in managing the entire cattle sector, have been clarified.

Among the reasons that led to the development of these associations is the need for cooperation among breeders to promote the dissemination of agronomic knowledge and the relationship with public institutions. After World War II and the subsequent Western economic integration, the Italian production system in the sector changed drastically. It experienced an acceleration compared to the previous period, also benefiting from innovations (such as artificial insemination and frozen semen) that initially required the ability of various operators in the sector to come together to manage the spread of know-how and the availability of resources. Subsequently, the associations were structured vertically (APAs, ARAs, and AIA) and horizontally (ANAs) to influence the practices of the cattle sector. In particular, ANAs and AIA managed the various herd books at the national level. Before the creation of these associations there were only provincial or local herd books created by the Itinerant Teachers of Agriculture. And the directors of these Teachers could also choose which animals were registered, creating informal cartels at the local level but hindering the development of a national market. With the establishment of AIA and ANAs, and the associated creation of national herd books, however, the action of these trusts supported the consolidation of a unified system for all of Italy.

This structure of integration and synergy between local, national, and breed associations was seen by industry operators as an opportunity for the growth and development of the members' activities, while the function of monitoring the subjects present on the market was considered less important. As a final effect of this process, the associations developed the ability to represent the interests of individual breeders in relation to institutions and the implementation of common agricultural policies, while also regulating conflicts within the sector.

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The article then analysed how the AIA and the breed organizations defined certain market trends, sponsored some management choices, and sought public funding for their associates. Also, the association system appeared pluralistic and diversified already in the 1950s.

The initial path, therefore, saw a penetration motion and then diffusion by convergence. Horizontal integration between the different realities was weak, while vertical integration appeared strong although not institutionalized. We are faced with a relationship between the center and the periphery characterized by reciprocity, advice from the highest level, but above all interconnection for representation.

Lastly, the article examined how the strategies of breed associations (ANAFI and ANARB) appeared different from those of the AIA. The policy of the AIA saw a predominance of the propensity to represent interests to the outside, while breed organizations developed a purely contractual identity: the bodies that coordinated breeders divided by breed, represented most of the meat and milk producers and thus developed an activity of providing advice and representation towards the food industry and distribution chain. Comparing experiences across different territories can help in understanding the existence of common factors and the presence of differences induced by specific contexts. Comparison requires collecting and analyzing scattered local sources produced for various purposes.

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Notes

1 Through collaboration between actors within a sector, trade associations participate in public relations, in activities such as advertising, education, publishing and, especially, in lobbying and political action. These associations may offer other services, such as organizing conferences, setting production standards, holding networking or social events, or offering educational materials. Many trade associations are non–profit organizations governed by laws. See Jones and Zeitlin (2007), pp. 23–27.
2 ISTAT (2011), p. 661.
3 PFBM indicates the combination of the *Piemontese*, *Friulana*, *Bolognese* and *Marchigiana* breeds; GalRC stands for *Grigia alpina*, *Reggiana* and *Chianina*; VGadMo, finally, results from the union *of Valdostana*, *Grigia di Val d'Adige* and *Modenese* breeds.
4 There are some analyses on the subject that primarily focus on the Po Valley, the most suitable area for cattle farming (Cazzola, 1993; Tedeschi and Stranieri, 2011), or that attempt a reconstruction of the sector on a national scale (Marigliano, 2022). Even abroad, agrarian and economic history has focused mainly on those states and regions where the development of the sector was more intense (i.e.: Bieleman, 2010; Henriksen and O'Rourke, 2005; Theunissen, 2008; Theunissen 2012).
5 Even though the technique was known since the 1930s, it was only after World War II that it was effectively used for cattle selection. Previously, it was preferred over natural mating to prevent the spread of diseases. Cfr. (Herman, 1980).
6 For a more in-depth discussion of the effects of these techniques in Italian cattle farming and trade associations, refer to Marigliano (2023).
7 Less productive breeds experienced a gradual numerical decline in favor of more productive ones, such as the American Holstein-Friesian, renowned for its clear propensity for dairy production. For a more in-depth discussion, refer to Fusco (1990).
8 Following the studies by Feldman and Nocken (1975) and Rodegers (1988), several studies with a national dimension have been conducted, while investigations on regional or even local paths have been published, along with important and detailed research on specific sectors.
9 Streeck and Schmitter, 1985.
10 In 1983, Coleman and Jacek, 1983, in the Canadian Journal of Political Science, wrote that "Business associations are defined to be those that represent business enterprises or branches thereof". This classification is quite simple and deserves more examination. Lanzalaco helps us with his analysis of Business Interest Associations: 'the role of Business Interest Associations can best be understood by analyzing the various forms of action by capitalists. First, they may act either individually, as managers of firms, or collectively, as members of coalitions and organizations such as trusts, associations, joint ventures, clubs, etc. [. . .]. Second, they may act either as employers, when they interact with workers and trade unions in the labor market, or as producers (or businesspeople) in their relationships with customers, suppliers, politicians, and other firm

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managers in product and capital markets [. . .]. By crossing these two orthogonal dimensions, we obtain a simple typology of the various forms of capitalist action' (Lanzalaco, 2008).

11 For an in-depth discussion on the history and role of the Itinerant Teachers of Agriculture in Italy, refer to Fileni (1954), Zucchini (1970), and Rognoni (2006).

12 As defined by Telesforo Bonadonna (a well-known Italian agronomist), a herd book is "the register of records required to ascertain the origin, date of birth, ancestry (paternal and maternal), descent and financial value of purebred animals, belonging to a specific breed and corresponding to morphological and functional standards established for admission. When this selection of animal populations (cattle, horses, or pigs) was first introduced, the genealogical registration was limited to listing the known ancestors and descendants of a particular animal. [. . .]. Information needed to establish the ability to transfer the animals' morpho-functional characteristics to descendants was not included" (Bonadonna, 1969, pp. 901–2).

13 The share of agriculture compared to GNP decreased from 23.4% in 1951 to 14% in 1965. The value added by agriculture in 1961 was € 1,909 million compared to € 4,624 million from industry. Twenty years later, the same indicator was € 14,940 million compared to € 98,639 million in 1982. (ISTAT data processing for the value added of agriculture and manufacturing industries at current prices (1951–1970 benchmark year: 1963; 1970–2017 benchmark year: 2010). Furthermore, animal husbandry continued to play a fundamental role in the entire agricultural sector: with a productive value of € 20,870 million produced in Italy in 2022, it currently corresponds to just under 30% of the sector's economic value (ISTAT, 2023). The importance of cattle farming is confirmed historically throughout the course of the 20th century (Bevilacqua, 1989; Barsanti, 2002), but particularly in the second half of the century, the zootechnical percentage of gross marketable production within the entire agricultural sector increased: in 1961, it was 35.2% (€ 1,344,427 million for cattle out of a total of € 3,819,601 million), while in 1982, it had risen to 41.85% amid a drastic increase in total gross marketable production (€ 15,751,993 million compared to a total of € 37,642,219 million) (Istituto Centrale di Statistica, 1963; Istituto Centrale di Statistica, 1983).

14 Information provided by A. Nardone, Emeritus Professor, *Università della Tuscia*, and confirmed by G. Fabbri, former AIA Technical Director.

15 See Fusco and Fusco (1994), pp. 11 *et seq.*

16 Not to be forgotten, is the activity of economic and active support in cattle exhibitions. While fairs and markets were driven by an economic logic, the exhibitions wanted breeders to discuss how to improve their animals. This, of course, had to be supported with prizes and benefits for the winners. See Fusco and Fusco (1994), p. 79.

17 Below the first two articles of the law:

Art.1: It is forbidden to use for reproduction male cattle not inscribed in herd books mentioned in the following article and not qualified [. . .]

Art.2 Herd books are established for each single breed, following an authorization by the Ministry of Agriculture and Forests, by breeders' national Associations recognized by law and that, based on 21st Juin 1942 royal decree n. 929, had registered the official trademark for the identification of heads of cattle. Herd books are monitored by the same Associations, under the supervision of the Ministry, which also supervises functional controls, genetic analyses and all other activities connected with herd book – keeping in Official Journal of The Italian Republic, n. 59 (2nd March 1963). Translated by the authors.

18 Individual breeders could join AIA: but for the Italian Breeders Association to conduct its tasks and carry out its program, it needed to be validated by the vast majority, the totality of Italian breeders, thus giving it prestige, resources, and authority. The breeders, therefore, will form their Associations, confident that by giving strength to them, directing and supervising them personally and being assisted by individuals chosen by them, of proven technical and moral capacity, they will strengthen their position and increasingly enhance the productive effort (Calabresi, 1947, p. 1).

19 In 1944, AIA, together with the breed associations, took over the previous Agricultural Inspectorates in the management of functional controls, at least until 1947. Moreover, imports of cattle from abroad, requested by cattle farmers, were mostly managed by AIA. And the association was also concerned with organizing cattle exhibitions that allowed breeders to compare their animals and understand how to improve them. Moreover, it was the Association, and not the individual farmer, that was directly confronted with the choices of the Ministry of Agriculture regarding production and productivity of the sector (Fusco and Fusco, 1994, pp. 47 *et seq.*).

20 In the early 1930s, compulsory contribution had concerned mainly wheat. Then, it was extended also to meat cattle with farms having to provide annually 30% of the weight of their cattle. As a matter of fact, during World War II, the demand for food from people living in cities and the army led to the compulsory killing of a substantial amount of cattle. See Albertini (2001).

21 MARPIC (1947), p. 2.

22 "La protesta degli allevatori di Latina" (1947), p. 2.

23 Zanotti (1947), p. 3.

24 Lanzalaco (2008), p. 296.

25 *Ibid.*

26 The main challenge for Business Interest Associations comes from the logic of membership, since capitalists are always in conflict with one another. If they operate in the same sector, they struggle as competitors in product and labor markets, whereas if they act in different sectors, they have conflicting interests in raw material and capital markets as sellers and buyers.

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Furthermore, these differences are reinforced by the fact that firms come in assorted sizes, often operate in different markets (domestic vs. international), have different forms of ownership (private, public, cooperative, or mixed), and use different technologies. So, Business Interest Associations must cope with a challenge that trade unions do not have, namely the management of diversity of the interests they organize and represent (Martinelli et al. 1981). This makes the collective action of capitalists more difficult and divisive than that of workers, because of the heterogeneity of their interests and their unwillingness to accept associational discipline (Streeck 1991). *Ivi*, p. 298.

27 A few articles on the subject: on 22 June 1947, we read, regarding the cost of foreign animals, that "the isolated farmer is obliged to pay a price considerably higher than the original price" and that it would be much more useful "for the organization promoted by the farmers" to meet this cost. Again: "farmers must be convinced of the importance to join their efforts and take the opportunity to rebuild their stables to promote a strong quality management ("Per la ricostruzione del patrimonio bovino", 1947) pp. 1, 5.

28 We refer to the classification used in management and business organization theories: associations are classified as first-level if they have a predominantly local and/or sectoral composition, while second-level associations can be aggregations of first-level associations, with a coordinating function, or they may take on the specific identity of a federation, also playing a generative role in creating new local and/or sectoral associations. Finally, the relationships between first and second-level associations can be horizontal, with the second-level entity at the center, or vertical, with a top-down transfer of functions. Historically and within specific sectors, variations can occur due to social contexts. Streeck and Schmitter, 1985; Hollingsworth et al., 1994.

29 All data concerning the registrations of first-level associations in AIA for the years from 1947 to 1976 were found in AIA (1976).

30 This text does not consider the birth of the small associations which later merged into a single national association. Our analysis, however, also refers to interpretations of political science and economic history on the role of associations in production systems. See Lanzalaco (2008), Locatelli and Tedeschi (2013); Humair (2013).

31 Lanzalaco (2008), pp. 302-303.

32 For an in-depth analysis of these purchases, refer to Marigliano (2023).

33 Only a few months later, four other sections of the Consortium were established in Piacenza, Modena, Ravenna, and Rome. The members were keenly interested in using the seminal fluid of American sires. "Assemblea straordinaria dei soci" (1946), p. 7.

34 Albertini (2001), p. 135.

35 The same situation also applied to the introduction of other animals. For example, Salvatore Muzio, President of a consortium for the reclamation of Chilivani (Sassari, Sardinia), ironically said that "whoever is in command (i.e., who has the power) does not allow the Sardinian soil to be contaminated, even by the very modest import of a few Dutch animals on an experimental basis." In fact, the introduction of a Dutch bull, to be used for crossbreeding tests with Brown-Swiss animals, was denied.

36 See the Articles of Association of the "Associazione Italiana Allevatori" (2022): http://www.aia.it/CMSContent/Documents/StatutoAIA07_02_2022.pdf

37 See Fusco (1990), pp. 263 *et seq.*

38 Economic theory explicitly assigns second-level associations the role of regulator (authority) for access to and management of resources, with the aim of reducing externalities and transaction costs among actors See Baland et al. (2002), pp. 189–217.

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