

Article

The Future of Agriculture: Obstacles and Improvement Measures for Chinese Cooperatives to Achieve Sustainable Development

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Abstract: The Chinese government pays close attention to sustainable development and takes an active approach to strengthening and standardizing such development. As the organizational vehicle for China's large population, cooperatives can organize 230 million small farmers to promote sustainable development. However, some scholars have raised concerns about Chinese cooperatives and questioned their role in promoting sustainable development. Based on a review of China's government support policy, this study summarizes the development characteristics of nine cooperatives and summarizes issues from opposite aspects. Furthermore, this study also analyzes the basic situation of the Chinese government's quality improvement pilot county initiative and draws conclusions about the best ways to achieve sustainable development. We also make some policy proposals on achieving the sustainable development of Chinese cooperatives.

Keywords: Chinese cooperatives; sustainable development; agriculture



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1. Introduction

A cooperative is an economic organization based on family contractual management that adheres to voluntary joint and democratic management principles. Cooperatives dominate agricultural production and sales [1]. The reform of China's land ownership in the late 1970s provided a sufficient foundation for most farmers' livelihoods. However, this reform also led to land segmentation and small-scale agriculture, which has become an obstacle to developing modern agriculture [2]. To remedy this, cooperatives can integrate farmers' scattered land, realize large-scale operation, spread advanced agricultural production technology, and accelerate the progress of China's agricultural modernization [3]. Therefore, the Chinese government perceives cooperatives as an important way to achieve the sustainable development of rural agricultural areas. After the implementation of China's Cooperative Law in 2007, cooperatives entered a stage of rapid development. By the end of July 2021, the number of cooperatives had increased to 22.47 million households, covering nearly half of the country [4]. The government also issued a number of documents aimed at promoting the sustainable development of cooperatives [5]; however, has the cooperative approach in China actually achieved sustainable development? There is currently insufficient research to provide clear conclusions about whether Chinese cooperatives have achieved sustainable development.

The Sustainable Development Agenda is a programmatic document jointly developed by the 193 United Nations Member States, covering 17 sustainable development goals and 169 specific goals in the three dimensions of the economy, society, and environment [6]. The

focal points of the agenda are to eliminate poverty and hunger and promote social progress, protect the natural environment, and promote a bright future for human society. However, a recent report from the United Nations shows that although the Sustainable Development Agenda has made progress in some areas, the overall implementation is not satisfactory [7].

A cooperative is an organization that integrates economic and social functions [8,9], and cooperatives play an indispensable role in achieving the sustainable development of the rural economy and society in China [10]. Although the cooperative community has played a positive role in many agricultural departments in many countries [11,12], scholars still have two different perspectives on Chinese cooperatives. Many scholars have pointed out that there are many problems in Chinese cooperatives, such as small scale, loose structure, irregular governance, and weak competitiveness [3,13,14]. They believe that cooperatives cannot achieve sustainable development in the current situation. On the other hand, some scholars believe that cooperatives can improve productivity [15–18]. Cooperatives can help farmers enter the market [19,20], save transaction costs [19,21], and provide processing and sales services [22]. It is propitious to improve product quality and brand building [23] and increase farmers' income [24], both of which contribute to the realization of sustainable development. However, there are contradictions in theoretical circles about the sustainable development of cooperatives.

The Chinese government has increased its support for cooperatives so that they can achieve sustainable development [24]. However, problems associated with Chinese cooperatives have been highlighted among academic circles. So, it is relevant to ask whether the current development of Chinese cooperatives is worrying. At present, the existing studies only demonstrate the current situation of cooperatives using qualitative or quantitative methods [5,24–28], and the development of China's cooperatives has not been elaborated upon by scholars at the macro level. Thus, from the perspective of the whole country, have Chinese cooperatives achieved sustainable development? What attempts have been made by the Chinese government to achieve the sustainable development of cooperatives? What are some of the good experiences to be learned from the local exploration of cooperatives in China? This paper will give answers to these questions.

This paper includes the following aspects: First, it summarizes the characteristics of policies in terms of different development phases based on a review of the Chinese government's support policy for cooperatives. Second, it utilizes data from the Annual Statistical Report on Rural Management in China and the database of the top 500 cooperatives, which focuses on quantity and scale, membership, industries, and leaders. A number of dimensions in the development of Chinese cooperatives, such as service and production, surplus distribution, and policy support, are described, the five major development trends are summarized, and the experience of the process of sustainable development of cooperatives is discussed. Finally, this paper also proposes relevant suggestions and policy recommendations. The data were taken mainly from the website of the Ministry of Agriculture and Rural Affairs, the annual report of the State Administration of Market Supervision, the Annual Statistical Report on Rural Management in China, and the database of the top 500 cooperatives. In addition, we used 12 model counties to investigate the sustainable development of cooperatives nationwide and obtained typical relevant experiences.

2. History and Development of Policies on Cooperatives

The implementation of the law on farmer cooperatives in 2007 not only provided a legal foundation for the development of cooperatives but also marked a major national policy transformation. The overall development process of cooperatives over the past 15 years can be generally divided into three phases: the emerging stage, diversified expansion stage, and quality improvement and efficiency enhancement stage.

2.1. Emerging Stage (2007–2012)

Since the beginning of the 21st century, the Chinese government has developed a new, deeper understanding of cooperatives. It was proposed that cooperatives should be formed

as modern agricultural management organizations that can provide systematic services to farmers throughout the agricultural production process. The implementation of the law on farmer cooperatives provided great encouragement. Since then, cooperatives rapidly emerged throughout the country. From 2008 to 2012, Chinese cooperatives maintained an average annual growth rate of more than 30%, demonstrating strong momentum [29]. During this period, the Chinese government at all levels placed high expectations on cooperatives and provided them with substantial policy support.

In this phase, the government regarded the cooperative not only as an organization carrier to help farmers access the market, but more as a crucial tool to better organize themselves and activate endogenous drivers of rural revitalization. The No. 1 Central Document for 2007 proposed to “vigorously push the development of various business entities that can better meet the need for modern agricultural development such as farmer households working on large-scale specialized planting and breeding, specialized cooperatives, leading enterprises and collective economic organizations” [30]. Since 2008, in the No. 1 Central Document each year, the functional orientation of cooperatives has been repeatedly emphasized as “modern agricultural management organization”. The No. 1 Central Document in 2010 particularly stressed the significance of specialized cooperatives, requiring them to make an effort to improve the organizational degree of agricultural production and operation [31]. The No. 1 Central Document in 2012 stated that “it is necessary to support social forces like specialized cooperatives, supply and marketing cooperatives, professional technical associations, farmer water cooperation organizations and agricultural enterprises and encourage them to have extensive participation in agricultural pre-, mid- and post-production services” [32].

2.2. Diversified Expansion Stage (2013–2017)

Since 2013, the development of Chinese cooperatives has shown a trend of diversification. Land stock, community stock, and many new types of cooperatives emerged, such as mutual fund assistance, agricultural machinery, tourism, and labor cooperatives [5]. As reforms of the rural collective property rights system continuously advanced, reform was completed in 360,000 villages [33]. These villages established collective economic joint-stock cooperatives, and they explored and innovated on various development models. The Party-branch-led cooperative is another effective form for the integrated development of collective and cooperative economic organizations. It has played a pivotal role in promoting collective economic development and farmer organization. Additionally, unions have been established among a number of cooperatives to overcome the weaknesses of individual cooperatives in order to realize a multiplication effect.

In 2013, the No. 1 Central Document enabled cooperatives a new function in participation in rural society governance, emphasizing that a cooperative is “an effective vehicle for innovative rural social management” [34]. The No. 1 Central Documents from 2014 to 2016 all called attention to the positive role of cooperatives in sections about “the innovation and improvement of rural governance mechanism”. For example, the No. 1 Central Document in 2014 emphasized giving full play to the positive roles of other social organizations in rural governance [35]. The other social organizations include cooperatives. Thus, the function of cooperatives was expanded from agricultural production to social governance. Without a doubt, this was a new positioning. Evidence shows that as service-providing and mutual-help organizations that are entrenched in rural economy and society, cooperatives have gradually taken root in rural governance structures. They have profoundly changed the rural governance ecosystem, increasingly reshaped the rural social order in the form of organizations, and progressively become important carriers for rural governance and critical channels for farmers’ participation in the management of rural affairs.

In order to meet the needs of developing agricultural modernization, the Chinese government has put forward diverse requirements for cooperatives. In that regard, the No. 1 Central Document in 2016 not only included a new requirement to “have a deep exploration of various functions of agriculture and to cultivate and develop new forms for

rural industry and business”, but also proposed “to actively support the development of farmers’ leisure tourism cooperatives”, which responded to the practical needs of “cultivation and development of the new forms for rural industry and business” with a practical form of innovation [36]. The range of services for cooperatives then underwent a transition from production and operation services and financial services to social services. The No. 1 Central Document in 2017 further stated an intention “to encourage rural collective economic organizations to establish rural tourism cooperatives” and “to support villages with necessary conditions to construct a pastoral complex that combines circular agriculture, creative agriculture and agricultural practices so that the farmers may be benefited comprehensively” [37]. The pastoral complex should be based on the pastoral landscape and agricultural production and be constructed as a rural platform with sightseeing and recreational functions. It can integrate various functions, such as agricultural production and transactions, leisure experiences, and rural eco-residential experiences. The construction and development of pastoral complexes can provide important opportunities and impetus for the establishment and business development of leisure tourism cooperatives.

2.3. Quality Improvement and Efficiency Enhancement Stage (2018 to Present)

In 2019, a special clean-up action for empty cooperatives was launched by the Ministry of Agriculture and Rural Affairs, together with 11 other ministries and commissions [38], indicating that the development of Chinese cooperatives was shifting from quantity growth to quality enhancement. In this phase, the themes for cooperative-related policies were quality improvement and efficiency enhancement, primarily including the following aspects.

2.3.1. Improvement of Regulatory System

In 2019, the No. 1 Central Document explicitly stated that it was important to take action to regulate and enhance cooperatives, further promote the construction of model cooperatives, and establish and improve the policy and management system to support the development of family farms and cooperatives [39]. The No. 1 Central Document in 2021 stated that the quality of cooperatives should be improved and support for cooperatives with proper management and operation should be increased [40]. In accordance with the spirit of the revised law on cooperatives, the Ministry of Agriculture and Rural Affairs, together with relevant government departments, formulated and improved the support systems, revised the Model Articles of Association for Specialized Farmer Cooperatives and the Model Articles of Association for Specialized Farmer Cooperative Unions, and issued the Measures for Evaluation and Monitoring of National Model Specialized Farmer Cooperatives and other systems to provide institutional guidance for enhancing the democratic management of cooperatives and protecting the rights of cooperative members [41].

2.3.2. Strengthening the Model Effect of Pilot Demonstrations

The Ministry of Agriculture and Rural Affairs works with the member units of the National Inter-ministerial Joint Conference on promoting four-level model cooperatives, i.e., those at the national, provincial, municipal, and county level. So far, there are nearly 160,000 model cooperatives, including more than 9000 national-level ones [41]. Three batches of pilot counties for cooperative quality improvement have been successively launched nationwide by the central government. The pilot counties focus on tasks including developing and expanding individual cooperatives, promoting joint cooperation, improving the guiding service level of county-level governments, and building high-quality county-level model cooperatives. In its efforts to improve the quality of cooperatives in pilot counties, the Ministry of Agriculture and Rural Affairs has stressed that these tasks should be prioritized.

2.3.3. Promoting Standard Registration

In order to further standardize the registration process for specialized cooperatives, the State Administration for Market Regulation revised the administrative regulation on

registration of specialized farmer cooperatives according to the newly revised law on cooperatives [41]. In addition, relevant statistical systems will be further revised and improved by the National Bureau of Statistics, and specialized cooperatives with actual production and operation activities will be added to the Basic Situation of Rural Social Economy (Trial) system to reflect the real status of cooperatives throughout the country [41].

3. Present Situation of Sustainable Development of Chinese Cooperatives

3.1. Specific Characteristics of Chinese Cooperatives

The Chinese government introduced a series of policy measures aimed at promoting the sustainable development of cooperatives [5]. Material, human, and social capital are three basic inputs that generate productivity and economic benefits [42,43]. Therefore, based on these three elements, in this study we analyzed the specific characteristics of the sustainable development of Chinese cooperatives from the following nine aspects.

3.1.1. The Number of Cooperatives Has a Declining Trend

As of the end of June 2020, the number of legally registered cooperatives nationwide was 2,251,000, which was an increase of 86.58 times compared with 2007, with an average annual growth of 171,200 [5]. According to data released by the Chinese government, at the end of July 2021, the total number of national cooperatives was 2,247,000, which was a decrease by 4000 from the end of 2020 [6]. This declining trend is officially linked to the quality of cooperatives, and similar trends are found in Europe and the United States [44]. Although China's social and political system differs from those countries, it can still provide some insight into the developmental trend of the number of cooperatives in China. In terms of numbers, there are many more cooperatives in China than in the United States and in European countries. This may indicate that Chinese people are more collectivist, while Americans and Europeans are more individualistic. Therefore, in the US and European countries, there is also a need to develop cooperatives to improve people's collective interests. However, in terms of relative growth, there was a continued downward trend. The annual growth rate dropped to 0.59% in 2020, much lower than that in 2008–2009, which was over 100% (according to the Ministry of Agriculture and Rural Affairs website). In 2021, the total growth rate of cooperatives was −0.18%, indicating an emerging trend of the total amount of Chinese cooperatives (according to the Ministry of Agriculture and Rural Affairs website). This is also an important manifestation of the Chinese government's intention to enhance the quality of cooperatives. The data are shown in Figure 1.

3.1.2. Continued Decrease in Average Number of Cooperative Members

Together with the rapid growth in total number of cooperatives, the number of cooperative members increased accordingly. The total cooperatives presented an inverted U-type curve, and the total number of cooperative members and inverted U-type curves was very obvious, with the highest points achieved in 2016 and 2015. The total number of cooperative members increased to 108 million in 2016, and in 2015 the average number of members increased to 65 [29]. In 2009, 3,917,000 households became cooperative members. In 2019, the number of memberships reached 66.828 million, and the size of memberships expanded by nearly 17 times, with an average annual growth of 32.8% [29]. On the whole, the number of memberships showed a hump-shaped trend, first rising and then dropping, and the average number of memberships in each cooperative presented a similar hump-shaped trend. From 2009 to 2015, the average number of memberships increased year by year; however, from 2016 to 2019, it declined from 65 to 35 households [29]. According to the actual situation, the decline may have been a result of cooperatives' constant self-adjustment in the development process. In addition, the Chinese government's policy guidance played a very important role. Table 1 lists the changes in the total number of cooperatives and memberships, as well as the average number of memberships in each cooperative from 2009 to 2019.

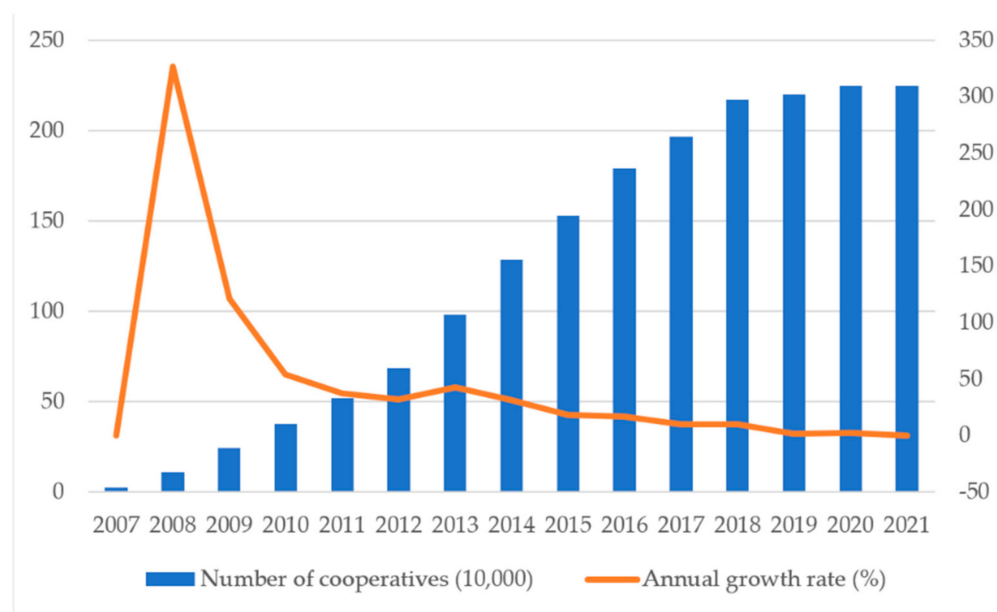


Figure 1. Number and growth rate of cooperatives, 2007–2021. Source: Statistics released by State Administration for Industry and Commerce and Ministry of Agriculture and Rural Affairs. In view of data availability, 2021 data used here were those released at the end of July 2021 by the Ministry of Agriculture and Rural Affairs.

Table 1. Total number of cooperatives and memberships, and average number of memberships in each cooperative.

Year	2009	2010	2011	2012	2015	2016	2017	2018	2019
Total number of cooperatives (unit: 10,000)	24.6	37.9	52.2	68.9	153.1	179.4	196.9	217.3	220.3
Total number of memberships (unit: 10,000 households)	391.7	715.6	1196.4	2373.4	10,090	10,080	6894.3	7191.9	6682.8
Average number of memberships in each cooperative (household)	15	18	22	34	65	60	38	38	35

Source: Statistics from Statistical Annual Report of Rural Management in China. Data from 2013 and 2014 are missing.

3.1.3. Growth Rate and Increase in Members' Funds

The members' capital contribution is an important indicator of the strength of a cooperative and is the foundation for healthy and stable development. Chinese cooperative members have experienced a big difference in capital [14,45,46]. As the number of cooperatives grows rapidly, the total contribution of capital from cooperative members increases (Figure 2). In 2007, the total capital contribution from cooperative members nationwide was CNY 0.03 trillion. In 2016, it reached CNY 4.1 trillion, with an average annual growth rate of 63.5% and an increase of 16.67 times over a period of 9 years, significantly exceeding the average annual growth rate of the number of cooperatives [29]. However, the growth of member capital contributions showed a gradual downward trend, from 200% in 2008 to 26.93% in 2016. Although it rebounded slightly in 2013 and 2016, the downward trend was obviously irreversible. From average funded data, the average investment of cooperatives increased from 11,364,000 in 2007 to 22,854,000 in 2016, an increase of 101.11% in 9 years. However, from the per capita data, it reduced from CNY 63,800 in 2009 to CNY 38,000 in 2016 [29]. This shows that there are fewer and fewer shareholders of cooperatives, as shown in Table 2.

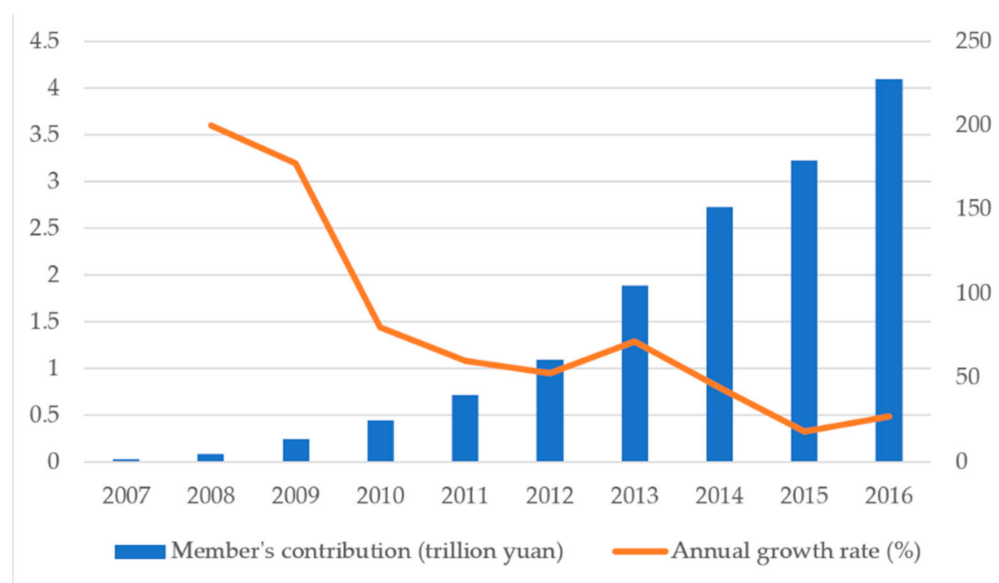


Figure 2. Members' capital contributions to Chinese cooperatives. Source: Statistics released by State Administration for Industry and Commerce.

Table 2. Members' funds, average funds per cooperative, and average member funds.

Year	Members' Funds (Trillion CNY)	Average Funds per Cooperative (CNY 10,000)	Average Funds of Members' (CNY 10,000)
2007	0.03	113.64	-
2008	0.09	81.15	-
2009	0.25	101.46	6.38
2010	0.45	118.70	6.29
2011	0.72	138.01	6.02
2012	1.1	159.67	4.63
2013	1.89	192.39	-
2014	2.73	211.82	-
2015	3.23	210.96	3.20
2016	4.1	228.54	3.80

Source: Statistical Annual Report of Rural Management in China. Data from 2013 and 2014 are missing.

3.1.4. Industrial Distribution Becomes Stable

Most of China's cooperatives are concentrated in five major industries: planting, animal husbandry, the service industry, forestry, and fishery, which is closely related to China's basic farm situation and government policies. Among these five industries, planting cooperatives predominate. In 2011, there were 246,000 planting cooperatives in China, accounting for 48.3% of the total number of cooperatives in the year [29]. There has been a steady increase in the proportion of planting cooperatives since then. In 2019, there were 1,056,000 planting cooperatives, accounting for 54% of the total in the year [29]. Correspondingly, the Chinese government attaches great importance to food security, ensuring 1.8 billion acres of cultivated land, which is the main source for cooperatives that mainly cultivate by planting. The number of cooperatives in animal husbandry ranks second; however, the proportion showed a slow downward trend over the period from 2011 to 2019, declining from 28.8 to 21.1% [29].

Since 2010, the Chinese government has gradually supported large agricultural enterprises to carry out animal husbandry, such as creating Wenshu shares, with new groups to increase support for farmed partners. The number of cooperatives in the service industry grew from 46,000 in 2011 to 154,000 in 2019 [29], strongly influenced by the upgrading of the agricultural industry and the increase in demand for social services. China's urbaniza-

tion has been increasing, and many rural residents have become service workers, paying for agricultural services from professional agricultural households, which promotes the development of service industry cooperatives. As for forestry cooperatives, the number grew rapidly from 26,000 in 2011 to 60,000 in 2019; however, the proportion remains at 5–6% of the total [29], suggesting that forestry cooperatives have a synchronous growth trend with the total number of cooperatives in China. This is inseparable from the general public, and the Chinese government attaches great importance to the protection of forest areas. The number of fishery cooperatives showed steady growth, from 20,000 in 2011 to 51,000 in 2019; however, its proportion declined from 3.9% in to 3.3% [29]. Table 3 gives the industry distribution of cooperatives by number and proportion.

Table 3. Industry distribution of Chinese cooperatives (unit: 10,000).

Year	Planting		Animal Husbandry		Service Industry		Forestry		Fishing	
	Volume	%	Volume	%	Volume	%	Volume	%	Volume	%
2011	24.6	48.3	14.4	28.2	4.6	9.0	2.6	5.1	2.0	3.9
2012	30.6	48.2	17.7	27.9	5.8	9.1	3.4	5.4	2.5	3.9
2013	44.8	50.6	22.7	25.7	7.7	8.7	5.1	5.8	3.3	3.7
2014	60.0	50.6	28.5	25	9.3	8.2	6.6	5.8	4.0	3.5
2015	71.0	53.2	32.4	24.3	10.9	8.1	7.9	5.9	4.5	3.4
2016	84.3	54.0	37.1	23.7	12.3	7.9	9.2	5.9	5.1	3.3
2017	95.4	54.4	40.4	23.1	13.9	7.9	10.4	5.9	5.7	3.0
2018	103.6	54.7	42.8	22.6	14.7	7.7	11.3	6.0	6.0	3.2
2019	105.6	54.6	40.9	21.1	15.4	8.0	11.7	6.0	5.9	3.0

Source: Statistical Annual Report of Rural Management in China released by the Ministry of Agriculture and Rural Affairs.

3.1.5. Cooperatives Led by Capable People Become the Mainstream

The leader is often critical to a cooperative [47]. Because leaders often have higher social capital, social capital is of great concern to cooperative development [48–50]. Chinese cooperatives have large differences in social capital [14], and their leaders have a variety of features [47]. Based on the status of the leader, cooperatives can be categorized into several types. Most cooperatives are led by capable people in the community, and the number of this type of cooperative increased from 458,000 in 2011 to 1,644,000 in 2019 [29]. From 2011 to 2019, its proportion among all cooperatives was always maintained at more than 85%, making it the undoubtable main force in cooperative development. The number of cooperatives under the leadership of village cadres increased from 92,000 in 2011 to 230,000 in 2019 [29]. However, its proportion had a significant decline from 20.1% in 2011 to 11.9% in 2019 [29]. Cooperatives under the leadership of enterprises and grass-roots agricultural extension organizations accounted for relatively low proportions. Cooperatives led by enterprises never exceeded 3% of the total, and although the number increased from 15,000 in 2011 to 41,000 in 2019, the proportion declined from 2.9% in 2011 to 2.1% in 2019 [29]. The proportion of cooperatives led by grass-roots agricultural extension organizations never exceeded 2% of the total [29], although the number increased from 10,000 in 2011 to 28,000 in 2019, while the proportion declined from 2% to 1.4% [29]. Table 4 shows the number and proportion of China's cooperatives in terms of leader type.

Table 4. Cooperatives categorized by leader type.

Year	Leader Types									
	Capable People		Village Cadres		Enterprises		Technical Promotion Organizations		Others	
	No.	%	No.	%	No.	%	No.	%	No.	%
2011	45.8	89.9	9.2	20.1	1.5	2.9	1	2	2.6	5.2
2012	57.2	90.3	10.8	18.9	1.8	2.9	1.2	1.9	3.1	4.9
2013	80.2	90.7	13.6	16.9	2.4	2.7	1.5	1.7	4.3	4.8
2014	103.5	91	15.6	15.1	3	2.6	1.9	1.6	5.4	4.8
2015	121.6	91	17.3	12.9	3.4	2.5	2.1	1.6	6.5	4.9
2016	142.4	91.2	19.1	13.4	3.8	2.5	2.4	1.6	7.5	4.8
2017	160	91.2	21.2	12	4.2	2.4	2.6	1.5	8.6	5
2018	172.6	91.2	23	12.1	4.4	2.3	2.8	1.5	9.4	4.9
2019	164.4	85.0	23	11.9	4.1	2.1	2.8	1.4	9.4	4.9

Source: Statistical Annual Report of Rural Management in China.

Capable people in communities have become the main leading force in establishing and operating cooperatives. This might originate from the unique rural culture in China; however, it might also be because of the provisions set out in the law on cooperatives. On the one hand, compared with those with other statuses or identities, households with large and specialized investments in agricultural production, rural brokerages, and village cadres are more familiar with the local conditions. It is convenient for them to organize farmers with relatively lower transaction costs. On the other hand, the law on cooperatives does not have a clear restriction on non-farmer leaders and, as a result, the number of cooperatives led by relevant enterprise personnel and grass-roots agricultural extension organizations is very small [51]. For example, the law specifies the number of members who are not farmers as follows: If the total members of the cooperative is less than 20, it may have one member from an enterprise, public institution, or social organization; when the total number exceeds 20, members from enterprises, public institutions, or social organizations may not account for more than 5% of the total [51].

3.1.6. Most Cooperatives Provide Sales Services; However, Their Service Ability Is Not Strong

In terms of the service scope, Chinese cooperatives mostly work on production, processing, and marketing. This shows that they have a crucial effect on organizing small farmers in carrying out agricultural production, purchasing agricultural means of production, and selling agricultural products. By the end of 2018, 1,011,000 cooperatives provided integrated production, processing, and sales services (53.4%); 546,000 cooperatives provided production services (28.8%); 60,000 cooperatives provided purchasing services (3.1%); 16,000 cooperatives provided warehousing services (0.9%); 39,000 cooperatives provided transportation and sales services (2%); 38,000 cooperatives provided processing services (2%); and 183,000 cooperatives provided other services (9.7%) [29].

In general, Chinese cooperatives primarily provide integrated production, processing, and sales services, with the proportion increasing from 52.3% in 2011 to 53.4% in 2016 [29]. Cooperatives providing production services accounted for the second largest proportion, with 26.9% in 2011 [29], the proportion dropping to 22.7% in 2012, and then increasing year by year after that, reaching 28.8% in 2018 [29]. Table 5 shows that the purposes of a farmers' participation in cooperatives in this phase was primarily for product sales for the surplus agricultural goods they produced, cutting down on costs, and increasing benefits through cooperative services.

Table 5. Service scope of Chinese cooperatives.

Year	Production, Processing, and Sales		Production		Purchasing		Storage		Transportation and Sales		Processing		Others	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
2011	26.6	52.3	13.7	26.9	1.8	3.5	4.1	0.8	1.7	3.3	1.1	2.2	5.5	10.9
2012	33.1	52.2	16.9	22.7	2.5	3.9	5.7	0.9	2	3.1	1.5	2.3	6.9	10.9
2013	46.3	52.4	24.6	27.8	3.5	4	7.1	0.8	2.6	2.9	1.9	2.2	8.7	9.9
2014	60.6	53.3	31.8	28	4.2	3.7	1	0.9	3.1	2.7	2.3	2	10.7	9.4
2015	70.7	52.9	38.1	28.5	4.7	3.5	1.2	0.9	3.4	2.5	2.7	2	13.1	9.8
2016	83	53.1	44.8	28.7	6.1	3.4	1.6	0.9	4.3	2.4	3.6	2	17	9.5
2017	93.1	53.1	50.9	29	5.8	3.3	1.6	0.9	3.8	2.1	3.5	2	16.7	9.5
2018	101.1	53.4	54.6	28.8	6	3.1	1.6	0.9	3.9	2	3.8	2	18.3	9.7
2019	104.2	53.9	-	-	-	-	-	-	8.4	4.3	6	3.1	-	-

Source: Statistics from Statistical Annual Report of Rural Management in China released by Ministry of Agriculture and Rural Affairs. Due to lack of data from 2019, the analysis only focused on development of cooperatives from 2011 to 2018.

The market competitiveness of cooperatives can also be reflected to a certain extent by their operational and service status. In 2019, the total value of agricultural products sold through Chinese cooperatives reached CNY 694.5 billion. However, 514,923 cooperatives sold more than 80% of the agricultural products, accounting for 38.36% of the total [29]. This shows that the members of national cooperatives are not all closely linked, or that the links are generally loose. The total value of materials required for agricultural production purchased through cooperatives was CNY 265.67 billion; however, only 329,852 of them accounted for 80% of the material investment in the unified purchase mode, which was 18.51% of the total [29]. Although the unified purchase of the means of production can reduce production costs for farmers, some cooperatives in China do not provide this service, which reflects their lack of a service function. Therefore, although services provided by cooperatives were increasingly diversified in this phase, the quality of the services was generally low, and the service capacity was weak. There is still a long way to go to achieve sustainable development.

3.1.7. Standardization Degree of Cooperative Production Is Improving Year by Year; However, the Outlook Is Not Optimistic

The role of cooperatives in supplying chain management and ensuring the quality and safety of agricultural products has been recognized [52,53] with actions such as members' choice of sales channels [54], the implementation of certification [55], and farmers' adoption of food safety measures [56]. However, from the perspective of the development of cooperatives around the world, due to the natural weakness of cooperatives [57], the level of food safety control is the lowest [58], which leads to low performance in food safety management [53]. In terms of the degree of standardization, there is much to be achieved for cooperatives in China. The number of cooperatives with registered product trademarks and quality certifications has grown; however, the proportion among all types of cooperatives is declining. In 2011, there were 40,000 cooperatives with registered trademarks nationwide (7.8%), 21,000 cooperatives with quality certifications (4%), and 65,000 model cooperatives (12.5%) [29]. From 2011 to 2019, the proportions of these types of cooperatives showed a decrease to different degrees: those with registered trademarks declined to 5.5%, those with quality certifications decreased to 2.6%, and model cooperatives dropped to 8.1%, as shown in Table 6 [29]. It has been proved that standardized production, registered trademarks, and quality certifications for agricultural products are important measures for cooperatives to realize increased value and market competitiveness. While the Chinese

government attaches great importance to the safe production of agricultural products, it also encourages cooperatives to carry out standardized production. However, the analysis suggests that cooperatives are still in a primary development stage with limited awareness of and attention to standardized production. Their products mostly have little added value and have less market competitiveness. This makes it difficult to meet the requirements of sustainable development.

Table 6. Standardized production in Chinese cooperatives.

Year	Cooperatives with Registered Trademarks		Cooperatives with Product Quality Certifications		Model Cooperatives	
	No.	%	No.	%	No.	%
2011	4	7.8	2.1	4	6.5	12.5
2012	4.7	6.8	2.8	4.1	7	10.2
2013	6	6.1	3.2	3.3	9.1	9.3
2014	7	5.4	3.7	2.9	10.7	8.3
2015	7.5	4.9	4	2.6	12.7	8.3
2016	8.1	4.5	4.3	2.4	14	7.8
2017	8.5	4.9	4.7	2.7	14.9	8.5
2018	8.7	4.6	4.6	2.4	16	8.5
2019	10.6	5.5	5	2.6	15.7	8.1

Source: Statistics from Statistical Annual Report of Rural Management in China released by the Ministry of Agriculture and Rural Affairs.

According to the database of the top 500 cooperatives in China, in 2017, 26.1% of cooperatives had implemented national standards, 32.7% had implemented agricultural industry standards, and 16.0% had implemented local standards. Cooperatives that implemented enterprise standards, self-set standards, and other standards decreased by 9.7, 7.5, and 1.8%, respectively, and 6.3% of cooperatives nationwide did not implement any agricultural standards. This shows that standardized production among cooperatives still needs to be further improved.

3.1.8. Distributable Surplus Profit Is Increasing Year by Year; However, It Is Increasing Slowly

According to the framework provided by Williamson [59], the institutional environment is considered one of the most important conditions for organizational success. Distributable surplus profit is an important indicator to measure the profitability and level of standardization of cooperatives [60]. The institutional arrangement of cooperatives is mainly influenced by the institutional environment of the country and region [61–63]. Article 44 of the Law on Cooperatives clearly states that the percentage of dividends according to the farmers' trading volume shall not be less than 60% [51]. The distributable surplus profit of cooperatives nationwide was CNY 41.96 billion in 2011, with an average of CNY 97,000 per cooperative. In 2019, the distributable surplus profit reached CNY 112.34 billion, with an average of CNY 58,000 per cooperative [29]. Although the total distributable surplus increased by 1.68 times, the average profit in each cooperative decreased by 40.21% year by year [29]. If distributed to each member, the average distributable surplus profit showed a wavelike upward trend over the period from 2011 to 2019. The decrease in the average distributable surplus profit of cooperatives did not result in a decline in profit gained per member because the number of members was decreasing while the number of cooperatives was growing. Therefore, although the number of cooperatives increased rapidly, their overall profitability weakened, which runs counter to the orientation of high-quality development.

Surplus profit distribution is an important indicator reflecting the level of standardization of cooperative operation. According to the legal requirements, after deducting the necessary cost, the remaining part (no less than 60% of the total) should be distributed to cooperative members based on the transaction amount. In terms of the actual situation, a total of 115,000 cooperatives distributed profits to farmers based on transaction volume in 2011, accounting for 22.04% of the total cooperatives in the year. Among them, 83,000 cooperatives distributed more than 60% of the total, accounting for 15.91% of the total [29]. In 2019, 369,000 cooperatives distributed profits to farmers based on transaction volume, accounting for 19.07% of the total [29], while 284,000 of the cooperatives distributed more than 60%, accounting for 14.68% of the total, as shown in Table 7 [29]. The proportion of distribution of cooperatives in China according to trading volume is always low, and it shows a downward trend. From the legal perspective, the proportion of Chinese cooperatives whose distribution system conforms to the law is also low and gradually declining. This phenomenon is obviously inconsistent with the policy orientation.

Table 7. Surplus profit distribution of Chinese cooperatives.

Year	Cooperative's Distributable Surplus Profit (CNY 100 Million)	Average Distributable Surplus Profit per Cooperative (CNY 10,000)	Distributable Surplus Profit per Member (CNY)	Farmer Cooperatives That Distribute Profit Based on Transaction Volume (10,000 Cooperatives)	Farmer Cooperatives That Distribute More than 60% of Profit to Farmers (10,000 Cooperatives)
2011	419.6	9.7	1426	11.5	8.3
2012	575.3	9.1	1300	14.9	10.8
2013	767.4	8.7	1611	21.1	16
2014	907	8	1600	26.7	20.6
2015	945.1	7.1	1689	29.4	22.7
2016	999.5	6.4	1559	33.7	25.9
2017	1116.9	6.4	1644	36.8	27.7
2018	1008.7	5.3	1403	38	29.4
2019	1123.4	5.8	1681	36.9	28.4

Source: Statistical Annual Report of Rural Management in China.

3.1.9. Government Support for Cooperatives Shows a Decrease First and Then Increase Approach

The sustainable development of Chinese cooperatives requires support from state policy [25]. Cooperatives are regarded as important tools of the government for economic development and political stability [25]. Therefore, the government promotes the development of cooperatives to help farmers enter the market and achieve income growth [14]. The number of cooperatives receiving government financial assistance dropped from 34,000 in 2013 to 33,000 in 2016, and then rose to 38,000 in 2019 [29]. The total amount of special financial assistance funding at all levels of government declined from CNY 5.5 billion in 2013 to CNY 4.83 billion in 2016, then increased to CNY 6.82 billion in 2019 [29]. The average amount of financial assistance received by each cooperative decreased from CNY 160,000 in 2013 to CNY 147,000 in 2016 and increased to CNY 179,000 in 2019, as shown in Table 8 [29].

Table 8. Financial support for cooperatives from Chinese government.

Indicator	2013	2014	2015	2016	2017	2018	2019
Number of cooperatives receiving government financial assistance (10,000 units)	3.4	3.5	3.3	3.3	3.6	3.8	3.8
Total special financial assistance from all levels of government (CNY 100 million)	55	54.7	46	48.3	65.1	68.1	68.2
Average amount of financial assistance received per cooperative (CNY 10,000)	16	15.5	13.9	14.7	18.2	18.1	17.9
Yearly loan balance (CNY 100 million)	56.3	106	113	-	90.6	79.3	84.5

Source: Statistical Annual Report of Rural Management in China.

3.2. Development Achievements of Chinese Cooperatives

3.2.1. Integration Has Become a Trend

In recent years, the development of cooperatives in China has shifted from specialization to integration, and their industrial fields and business scope have constantly expanded, reflecting a typical feature of integration. This is also an important manifestation of the Chinese government's support for cooperatives. Integration can be roughly divided into two categories: vertical integration, which involves cooperation among cooperatives focusing on different industrial chains, and horizontal integration, which involves alliances and cooperation among different entities, including leading agricultural enterprises, cooperatives, and family farms. Additionally, there is a form of integration that includes both types, such as the Agricultural Industrialization Union in Anhui Province and the Farmer Cooperative and Economic Organization Federation, which emerged in the reform of supply and marketing cooperatives in Zhejiang Province. In terms of industrial fields and business scope, cooperatives have expanded to the secondary and tertiary sectors based on the primary sector. According to the database of the top 500 cooperatives in China, cooperatives that specialize in the production of agricultural products still had the largest proportion based on all samples in 2018. The proportions of cooperatives engaged in planting, breeding, and a combination of both were 45, 24, and 10%, respectively, and cooperatives engaged in leisure agriculture and rural tourism accounted for 6%. Nearly 50% of cooperatives used information technology in their transactions.

3.2.2. The Function of Cooperatives in Poverty Reduction Is Further Stressed

Cooperative membership plays an important role in increasing farmers' income [64], especially for poor farmers [56,65–68]. Cooperatives can integrate resources, such as land, funds, and the labor force of poor households, and can guarantee their rights and interests, helping them to develop modern agriculture, build connections between smallholders and the larger market, transform from market inferiors to superiors, and consolidate basic support to overcome poverty and achieve prosperity. According to the database of the top 500 cooperatives in China, the sampled cooperatives distributed an average of CNY 21,900 in profit to each member's household, which highlights the leading role of large cooperatives in helping farmers to increase their yields and income. This has a strong driving effect on cooperatives in underdeveloped areas [46]. Based on data from the China Society of Cooperative Economics, more than 90% of poor villages nationwide have established poverty alleviation cooperatives; furthermore, 60,000 cooperatives have been established in 832 poor counties, which has helped nearly 22 million poor people to shake off poverty, increase their income, and achieve prosperity [69]. In addition, in terms of income generation, most well-developed cooperatives can increase farmers' income through the distribution of dividends and second rebates. Among the cooperatives participating in the survey, 61.6% had distributed dividends to farmers and 41.5% had secondary profit returns for member farmers in 2017 (according to the database of the top 500 cooperatives in China).

3.2.3. Cooperatives Can Keep Building Members' Capacity

As the number of cooperatives continuously grows, the scale of assets and operations revenue is also expanding. The database of the Top 500 cooperatives in China indicated that among 555 valid cooperatives in 2017, the average operation revenue was about CNY 23,290,700 and the average distributable surplus profit was CNY 3,384,800, the average profit distributed was CNY 2,139,100, and the average ending balance of loans was CNY 1,383,300. Of all sampled cooperatives, the average number of members (making capital contributions and buying shares) was about 263 households, and the average number that received services from cooperatives was about 2618 households. The cooperatives' motivating capacity was increasingly strengthened, with more than 100 million rural households (nearly half of the country's total) joining cooperatives. Moreover, cooperatives have demonstrated strong power in helping farmers generate income. Among all cooperatives in the survey, 40.2% helped member households to increase their income by CNY 2000–4000, 21.8% by CNY 2000, 19.4% by more than CNY 6000, and 18.6% by CNY 4000–6000 (according to the database of the top 500 cooperatives in China).

3.2.4. Cooperatives Have an Increasing Sense of Social Responsibility

Cooperatives are organizations that integrate economic and social functions [8,9]. As they are becoming increasingly standardized, more cooperatives proactively assume social responsibility. Cooperatives have taken important steps in increasing farmers' income, promoting rural stability, and enhancing agricultural efficiency, fully maximizing their role as "lead goose".

In terms of the standardization of agricultural products, quality, and safety, cooperatives have generally established relevant quality and safety control measures. Our analysis indicated that, according to the database of the top 500 cooperatives in China, merely 3.5% of cooperatives have never had any measures for agricultural standardization, while 83.0% have had two or more. Specifically, more than 80% of cooperatives have standardized the use of agricultural inputs. Furthermore, 68.3% of cooperatives have established agricultural production records, 67.5% have promoted standardized production, 65.5% have provided training on standardized production, and 65.0% have tested the quality and safety of agricultural products. Moreover, 53.75% of cooperatives have improved their product standardization system, 40.0% have improved their agricultural products traceability system, and 6.0% have performed other work on standardization.

In terms of providing public services for rural communities, cooperatives generally participate proactively in infrastructure and culture construction and provide support for the poor and needy. Our analysis indicated that, according to the database of the top of cooperatives in China, 53.5% of cooperatives have engaged in rural community infrastructure construction, 28.9% have contributed to culture construction in rural communities, and 66.3% have provided assistance to people in poverty in the community. Another 6.3% of cooperatives have had limited input on public services for rural communities.

3.2.5. More Alliances between Cooperatives Are Being Established

Regarding local leading and characteristic industries, developing unions is an important way for cooperatives to become bigger and stronger. Through establishing alliances among strong cooperatives, scale operation, complementary advantages, brand sharing, and vertical and horizontal integration can all be realized, ultimately enhancing market competitiveness. In recent years, the number of registered cooperative unions has increased significantly. In some areas where cooperatives are more developed, unions have demonstrated strong development momentum. Many of them have loosened the restrictions for members, recruiting relevant groups along the industrial chain, and effectively enhancing the development of the whole industrial chain.

By the end of 2019, there were 10,273 cooperative unions nationwide, an increase of 60.3% over 2018 [29]. A total of 126,000 member cooperatives were registered in unions. Within each union, there was an average of 12 member cooperatives [29]. Cooperative

unions realized operational revenue of CNY 11.6 billion, and the average operational revenue for each union was CNY 130,000, 3.7 times that of independent cooperatives [29]. Their total distributable surplus profit was CNY 1.61 billion, and the distributable surplus profit of each cooperative in the union was CNY 157,000; furthermore, each member cooperative had on average CNY 13,000 surplus profit returned for a second distribution. According to preliminary statistics, 2260 cooperative unions have been established in China, an increase of 9.39% over 2018. A total of 230,000 cooperatives have established grass-roots Party organizations, an increase of 109.4% over 2018, with the number of Party members in cooperatives reaching 559,000 [29].

4. Practices and Effects of Cooperative Quality Improvement Pilot Programs

Looking at the above analysis, although the Chinese government attaches great importance to the development of cooperatives and gives a lot of support, the level of development is obviously not satisfactory. The government also noticed this; therefore, in 2018, 30 counties in 8 provinces were selected as pilot counties by the Ministry of Agriculture and Rural Affairs for an exploration of quality improvement in the high-quality development of cooperatives. Based on the principle of the simultaneous development of quantity and quality, with quality prioritized, these 30 pilot counties took serious action on standardization and institutionalization [70], making positive progress. Through this pilot project, governments at all levels have put much effort into fostering individual cooperatives, strengthening cooperative unions, promoting brand building, and increasing income. As a result, the quality of cooperative development has obviously improved, and many achievements have been made. In order to better understand the typical experience, we conducted research on cooperatives in 12 pilot counties from December 2021 to June 2022. By analyzing the typical experiences of the 12 pilot counties, we hoped to put forward some countermeasures to solve the existing common problems.

4.1. Fostering Individual Cooperatives, Diversifying Forms of Investment, and Expanding Business Scope

Some pilot counties focused on the development and expansion of individual cooperatives, enriched the forms of investment based on strengthening standardized construction, and guided farmers to join cooperatives by investing in various resources (such as land management rights, forest rights, and intellectual property rights), forming a diverse horizontal benefit-linking mechanism and activating the value of agricultural and rural resources. For example, in Lianzhou City, Guangdong Province, the government actively guided cooperatives to enrich and innovate share investment methods. The Xi'an Town Chongkou Vegetable Production Specialized Farmer Cooperative in Lianzhou City adopted capital investment shares, poverty alleviation fund shares, pooled land as shares, technology shares, and labor shares and strengthened the interest connection among members. In Rui'an City, Zhejiang Province, the government explored cooperative mutual aid financing and encouraged cooperative members to invest their idle funds in the cooperative in the form of shares, supported larger-scale cooperatives, standardized operations to carry out mutual aid insurance in accordance with the laws, and established the Xingmin Rural Insurance Mutual Aid Cooperative. As the first rural property insurance provider in China, this cooperative not only alleviates the financing needs of smallholders, but also conducts meaningful explorations into multi-channel risk resolution. This can effectively solve the problems of farmer members' lower investment levels and more distant relationships.

Expanding from a single business to a mode that integrates production, processing, and sales is an important step in cooperative development. During the pilot process, some cooperatives expanded their business scope, extended their products and services along the industrial chain, and contributed to the transformation of plane agriculture to three-dimensional agriculture. For example, in Wuzhong District, Jiangsu Province, people have deeply explored high-quality resources in the form of rural folk crafts and guided craftsmen producing jade carvings, peach-stone carvings, silk tapestries, and small

rosewood carvings to voluntarily establish cooperatives as an experiment on developing a model of agricultural products + cultural innovation + technology, which would not only improve brand identification but also enhance the added value of their products. In the same district, the Linhu Agricultural Professional Cooperation Association successfully cooperated with cultural and creative as well as scientific and technological enterprises, and launched a series of customized products, such as Jubilant Rice, 24-Solar Term Rice, and Audio Books Rice, which were very well received in the market. In the raccoon fur industry, Cangjia and Honghui fur cooperatives in Changli County, Hebei Province, successfully introduced three fur-processing projects through the opportunity provided by the China Fur Animal Industry Development Conference and achieved a deep extension along the industrial chains as well as an industrial upgrade.

4.2. Strong Unions Can Further Enhance the Level of Cooperation and Accelerate Integration

Unity and cooperation can help cooperatives to realize economies of scale and scope at a higher level, which is important for group development and a significant symbol of cooperative quality improvement. By providing guidance on cooperating and uniting based on products and industries, governments in pilot counties helped local cooperatives to establish unions and associations to strengthen their power in market competition. On the one hand, by relying on local leading industries, specialized cooperatives can realize regional alliances through resource integration. For example, in Rui'an City, Zhejiang Province, the government insisted on the double measures of excellence through union and strength through cultivation to encourage cooperatives with low technology input, small scale, and scattered geological distribution to merge and reorganize as a unit so as to create a regional cooperative alliance with high-quality and strong market competitiveness. On the other hand, the pilot counties also encouraged cooperatives to voluntarily form industrial unions to carry out vertical integration along the industrial chain. For example, based on grain production, livestock and poultry, aquatic products, and other characteristic industries, Tianchang City, Anhui Province, guided local cooperatives to collaborate along the industrial chain to expand their business service scale. They also developed a number of specialized cooperative unions, associations, and industrial alliances with high starting points, large scale, strong competitiveness, and excellent demonstration effects. By the end of 2021, 9 cooperative unions, 28 agricultural industry associations, and 1 industrial alliance were established in Tianchang City. Sihong County, Jiangsu Province, established a specialized county-level cooperative union to give full play to its function of organizing and guiding, demonstrating and motivating, and coordinating and supervising, and further improved the capability of farmer groups to access the market while preventing risks.

While focusing on cooperative quality improvement, the pilot counties also promoted the integration and development of new agricultural business entities and upscaling the operation of farmer households. By the end of 2021, more than 60 cooperatives with family farms as the main members were established in Taixing City, Jiangsu Province, representing more than 600 family farms and large-scale professional households. Regarding the actual needs of family farms and large professional households, Xiuzhou District, Zhejiang Province, established and expanded cooperatives with family farms as the main members; in that process, preparation guidance and counseling were provided to farmers so that they would have a comprehensive knowledge of the laws and regulations, principles, rights, and obligations related to cooperatives. In addition, they were instructed to have democratic elections for management personnel and to make proper investments so that cooperatives could be established in a standard way from the very beginning. By the end of 2021, four cooperatives specializing in rice–turtle systems, lotus root, grapes, and honey pear were established and expanded, with the 142 members of these cooperatives being family farms operating on a moderate scale, covering an operating area of 30,000 mu of land.

4.3. Expanding the Leading Industries and Cultivating New Competitive Advantages with the Focus of Brand Shaping

Brand construction is crucial for cooperatives to cope with market challenges, enhance their market competitiveness, and improve operating efficiency [70]. Based on local leading industries, pilot counties adopted diverse approaches to help cooperatives to establish brands and improve their market competitiveness. In Liandu District, Zhejiang Province, an in-depth integration of cooperatives and Lishui Mountain Farming was encouraged to create a high-efficiency brand-support system. By the end of 2021, 88,300 mu of green and organic agricultural and forestry product bases at 600 m above sea level and higher, 126 cooperatives focusing on Lishui Mountain Farming, and 156 products endorsed by Lishui Mountain Farming were established. In 2019, annual sales of Lishui Mountain Farming agricultural products reached CNY 791 million. In the pilot process, in Linqu County, Shandong Province, cooperatives were actively guided to implement brand strategies, strengthening their efforts in brand construction and promotion. Through continuous efforts in brand improvement and popularity, as well as Internet means, such as e-commerce, WeChat marketing, and short video marketing to promote cooperative brand products, a fast track was established for the development of local cooperatives.

In addition, the pilot counties also combined the work on cultivating cooperatives with the development of leading industries, making cooperatives a driving force for the revitalization of rural industries. In Xintai City, Shandong Province, through the implementation of the Thousand-Cooperative Cultivation project, 1007 cooperatives were selected for targeted cultivation, with a focus on production standardization, quality certification, and management. Financial subsidies were provided for cooperatives applying for “three products and one trademark” certification. Services such as information, technology, and marketing were provided for cooperatives. In Sihong County, Jiangsu Province, activities included branch Party secretaries taking the lead on structural adjustment and Party branches guiding the establishment of cooperatives within the county, giving full play to the leading role of cooperatives in industrial development. Through this effort, four leading industries were formed: high-quality rice, green fruits and vegetables, efficient aquatic products, and ecological livestock and poultry. By the end of 2021, the cumulative area for agricultural structure adjustment in the county exceeded 700,000 mu, and the newly added agricultural structure adjustment area was 233,000 mu.

4.4. Benefit Coupling Mechanism Innovation and New Power for Poverty Alleviation Based on the Principle of Boosting Increased Income

Some pilot counties made continuous innovations in terms of a benefit coupling mechanism and strengthened cooperatives’ function of helping farmers to increase their income, and they achieved remarkable results. For example, Qishan County, Shaanxi Province, explored a development model of development zone + cooperatives + farmer households, an outsourcing model of social services + farmer households, a sales model of e-commerce + cooperatives, a cooperative model of village stock economic cooperatives + professional cooperatives + farmers, a production and marketing model of outlet stores + cooperatives + bases, etc., to unite and lead farmers and connect the benefits of cooperatives, village collectives, and farmers to form a close community of shared interests.

Some counties and cities have also given full play to the organizing and motivating effect of cooperatives on poor households, and they explored a new path that combines cooperative development and poverty alleviation. For example, in 2018, the government of Changli County, Hebei Province, invested CNY 4.66 million from superior appropriation funds in four provincial demonstration cooperatives (Jiacheng, Hengfeng, Wangsheng, and Changjia) in the form of materials. These cooperatives paid 10% of the total amount (CNY 466,000) as an asset rental fee to the government for the financial support they received. At the same time, more than 60 people with working capacity in financial difficulty in the county were employed by cooperatives, promoting employment and poverty alleviation. These practices indicate that as cooperatives are developing and growing, the quality and

benefits of work on poverty alleviation are being improved, thus consolidating a foundation to prevent a return to poverty.

5. Conclusions and Countermeasures of Cooperatives

5.1. Research Conclusions

Through the above analysis, the conclusion of this study is that despite the strong support of the Chinese government, cooperatives have not achieved sustainable development. From the analysis of the present situation, there are still some problems in China's cooperatives, such as a reduction in the number of members, the weak growth of capital contributions, the majority of talents, the weak service ability, the low standardization of production, and the poor legality of the surplus distribution system.

Although the development of China's cooperatives is not satisfactory at the macro level, there are many good cases regarding regions for further development. At present, the development of cooperatives also shows some achievements. For example, the development model has been integrated, the function of helping the poor has been highlighted, the driving ability has been enhanced, social responsibility has been enhanced, and cooperatives have been united. In addition, many areas have played an important role in improving the quality of cooperatives, strengthening cooperation, cultivating brands, helping farmers to increase their income, etc., which is worth noting.

5.2. Countermeasures and Suggestions

5.2.1. Improving Cooperative Quality

First of all, the leading role of pilot projects should be strengthened. The establishment of demonstration cooperatives should be further promoted through four-level joint creation (national, provincial, municipal, and county levels). Through successful cases and best practices, a batch of high-quality county-level cooperatives could be developed and selected. Second, standardized construction should be further advanced, with a focus on themes such as standardized management, interest connection, service capability, union and cooperation, and poverty alleviation, and typical cases of cooperative development should be summarized and introduced. Third, unity and cooperation among cooperatives should be encouraged so that strong cooperatives with standardized development can guide the development of smaller, weaker, and scattered cooperatives through mergers, etc.

5.2.2. Cultivating Cooperatives' Inner Force for Development

First, while guiding family farms and large households in professional agricultural production to join cooperatives, the government should also combine the work on cultivating family farms and developing social services with the development and expansion of single cooperatives so as to promote the integrated development of cooperatives and other new business entities. Second, the fostering of talent should be strengthened. It is necessary to establish and improve counselor teams, form an innovative talent attraction mechanism, and encourage cooperatives to actively attract college students, home-returning migrant workers, veterans, and others to join businesses based on their existing resources. Again, financial systems that support agriculture and rural residents should be further developed, and support in the form of loans and financing for cooperatives by agriculture-related financial institutions should be increased. Finally, diverse models for the development of cooperatives should be explored based on local conditions. Cooperatives should be encouraged to explore development modes and paths that fit their local conditions, meet their needs, and reflect farmers' demands.

5.2.3. Improving Market Competitiveness

First, equal attention should be paid to development and regulation as to quantity and quality, while accelerating the standardization of cooperatives and improving quality and efficiency to constantly enhance their driving capacity, economic strength, development vitality, and service effect. Cooperatives should be encouraged to expand their cooperation

and service scope and actively explore a trinity of integrated cooperation, including production, supply and marketing, and credit building. Cooperatives can expand their agricultural industry chain in multiple dimensions and develop diversified functions and enhanced value in agriculture through the production and marketing of agricultural products, and the deep processing of agricultural products, leisure agriculture, and rural tourism. Last but not least, the driving capacity of government services should be further enhanced to encourage cooperatives to strengthen their respective industries, promote green production methods, extend industrial chains, develop new industries and business models, cultivate their own brands, and strengthen their service functions. Finally, the service quality of cooperatives should be improved [71]; a suitable membership size should be maintained; food safety certification and target markets, such as supermarkets and export enterprises, should be strengthened [72]; a more hierarchical trading model between cooperatives and members should be implemented [53]; and the self-inspection of agricultural products should be carried out before entering the market [58].

5.2.4. Enhancing System Construction

First, the financial management system should be improved. The financial management standards of cooperatives should be a significant component for all pilot counties when constructing demonstrations. Proper guidance should be provided for cooperatives to help them establish financial accounting systems, and special financial management enhancement programs should be organized whenever necessary. Second, existing government performance evaluation mechanisms should be further improved and optimized. Farmers' degree of satisfaction and cooperative development indicators should be added to the evaluation. Moreover, a cancellation and withdrawal mechanism should be set up for improperly operated cooperatives, along with a simple cancellation procedure for cooperatives that have had no business activities for a long time after receiving their business license. Most importantly, a dynamic cooperative supervision mechanism should be established and improved with measures, including strengthening the management of cooperatives' financial status and business results and establishing an external audit system for better auditing and dynamic supervision.

5.2.5. Strengthening the Guarantee of Key Elements

First, the integration of government financial support and project funding should be strengthened. Government budgets should be appropriately increased yearly, and agriculture-supporting programs should be fully integrated to support cooperatives with qualifying conditions to participate in relevant projects. Second, cooperatives' public welfare attributes should be strengthened, with guarantees for the use of land, water, electricity, and housing. For construction projects of cooperatives with a strong service capacity, public welfare attributes, and driving development force, the proportion of financial subsidies should be appropriately increased. Finally, diverse social financing channels should be further expanded, while the support of financial institutions and capital markets for specialized cooperatives should be increased so that cooperatives can have financial products that accurately meet their needs.

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References

1. Bijman, J.; Hendrikse, G.; Van Oijen, A.J. Accommodating two worlds in one organisation: Changing board models in agricultural cooperatives. *Manag. Decis. Econ.* **2013**, *34*, 204–217. [CrossRef]
2. Tan, S.; Heerink, N.; Kruseman, G.; Qu, F. Do fragmented landholdings have higher production costs? Evidence from rice farmers in Northeastern Jiangxi province, PR China. *Chin. Econ. Rev.* **2008**, *19*, 347–358. [CrossRef]
3. Huang, Z.; Wu, B.; Xu, X.; Liang, Q. Situation features and governance structure of farmer cooperatives in China: Does initial situation matter? *Soc. Sci. J.* **2016**, *53*, 100–110. [CrossRef]
4. Letter on Reply to Proposal No. 5041 (No. 473 of Agriculture and Water Conservancy) of the Fourth Session of the 13th National Committee of the Chinese People's Political Consultative Conference. Available online: http://www.moa.gov.cn/govpublic/zcggs/202110/t20211009_6378982.htm (accessed on 13 June 2022).
5. Wei, G.; Li, J. Crossroads from incremental to quality improvement: How to standardize and guide the development of cooperatives. *China Farm. Coop.* **2020**, *6*, 65–66.
6. 2021 Sustainable Development Forum to be Held in Beijing. Available online: <https://www.drc.gov.cn/DocView.aspx?chnid=382&leafid=1346&docid=2904061> (accessed on 13 June 2022).
7. China's Contribution to Global Sustainable Development. Available online: http://www.gov.cn/xinwen/2019-10/25/content_5444634.htm (accessed on 13 June 2022).
8. Saleh, A. A Study of the Socioeconomic Determinants of the Performance of the New Lands Cooperatives. *Top. Middle East. North Afr. Econ.* **2012**, *14*, 104–113.
9. Song, Y.; Qi, G.; Zhang, Y.; Vernoooy, R. Farmer cooperatives in China: Diverse pathways to sustainable rural development. *Int. J. Agric. Sustain.* **2014**, *12*, 95–108. [CrossRef]
10. Yu, L.; Nilsson, J. Social Capital and Financial Capital in Chinese Cooperatives. *Sustainability* **2019**, *11*, 2415. [CrossRef]
11. Hansmann, H. *The Ownership of Enterprise*; Harvard University Press: Boston, MA, USA, 2000.
12. Enterprise and Industry: Small and Medium-Sized Enterprises. Available online: http://ec.europa.eu/enterprise/policies/sme/promotingentrepreneurship/socil-economy/co-operatives/index_en.htm (accessed on 23 October 2022).
13. Xu, Y.; Liang, Q.; Huang, Z. Benefits and pitfalls of social capital for farmer cooperatives: Evidence from China. *Int. Food Agribus. Manag. Rev.* **2018**, *21*, 1137–1152. [CrossRef]
14. Liang, Q.; Hendrikse, G.; Huang, Z.; Xu, X. Governance Structure of Chinese Farmer Cooperatives: Evidence from Zhejiang Province. *Agribusiness* **2015**, *31*, 198–214. [CrossRef]
15. Kong, X.; Wei, G. Origin and Evolution of World Agricultural Cooperatives. *China Coop. Econ. Rev.* **2021**, *1*, 3–40. (In Chinese)
16. Adewumi, M.O.; Adebayo, F.J. Profitability and technical efficiency of sweet potato production in Nigeria. *J. Rural Dev.* **2008**, *31*, 105–120. [CrossRef]
17. Abate, C.T.; Francesconi, C.N.; Cetnet, K. Impact of agricultural cooperatives on smallholders' technical efficiency: Evidence from Ethiopia. *Ann. Public Coop. Econ.* **2014**, *85*, 257–286. [CrossRef]
18. Ma, W.; Abdulai, A. Does cooperative membership improve household welfare? Evidence from apple farmers in China. *Food Policy* **2016**, *58*, 94–102. [CrossRef]
19. Fischer, E.; Qaim, M. Linking Smallholders to Markets: Determinants and Impacts of Farmer Collective Action in Kenya. *World Dev.* **2012**, *40*, 1255–1268. [CrossRef]
20. Cechin, A.; Bijman, J.; Pascucci, S.; Zylbersztajn, D.; Omta, O. Drivers of pro-active member participation in agricultural cooperatives: Evidence from Brazil. *Ann. Public Coop. Econ.* **2013**, *84*, 443–468. [CrossRef]
21. Marcos-Matas, G.; Hernandez-Espallardo, M.; Arcas-Lario, N. Transaction costs in agricultural marketing cooperatives: Effects on market performance. *Outlook Agric.* **2013**, *42*, 117–124. [CrossRef]
22. Getnet, K.; Anullo, T. Agricultural cooperatives and rural livelihoods: Evidence from Ethiopia. *Ann. Public Coop. Econ.* **2012**, *83*, 181–198. [CrossRef]
23. Michelson, H.; Reardon, T.; Perez, F. Small Farmers and Big Retail: Trade-offs of Supplying Supermarkets in Nicaragua. *World Dev.* **2012**, *40*, 342–354. [CrossRef]
24. Ito, J.; Bao, Z.; Su, Q. Distributional effects of agricultural cooperatives in China: Exclusion of smallholders and potential gains on participation. *Food Policy* **2012**, *37*, 700–709. [CrossRef]
25. Liang, Q.; Hendrikse, G. Core and common members in the genesis of farmer cooperatives in China. *Ann. Public Coop. Econ.* **2013**, *34*, 244–257. [CrossRef]
26. Hu, Z.; Zhang, Q.; Donaldson, J.A. Farmers' Cooperatives in China: A Typology of Fraud and Failure. *China J.* **2017**, *78*, 1–24. [CrossRef]
27. Luo, Q.; Andreas, J.; Li, Y. Grapes of Wrath: Twisting Arms to Get Villagers to Cooperate with Agribusiness in China. *China J.* **2017**, *77*, 27–50. [CrossRef]

28. Kong, X.; Wei, G. Organizational Reconstruction: Action Guarantee of Rural Revitalization. *J. South China Normal Univ.* **2021**, *05*, 108–122. (In Chinese)
29. The Central Committee of the Communist Party of China issued the “No. 1 Document” of the Central Committee in 2007 (Full Text). Available online: http://www.ce.cn/xwzx/gnsz/szyw/200706/27/t20070627_11973029_1.shtml (accessed on 13 June 2022).
30. No. 1 Document of the Central Committee in 2010 (Full Text). Available online: http://www.moa.gov.cn/xw/zwdt/201002/t20100201_1425496.htm (accessed on 13 June 2022).
31. Document No. 1 of the Central Committee in 2012: The State Council, the Central Committee of the Communist Party of China Issued “Several Opinions on Accelerating Agricultural Science and Technology Innovation and Continuously Enhancing the Supply Guarantee Ability of Agricultural Products”. Available online: http://www.moa.gov.cn/ztl/nyfzhjsn/zyhwj/201208/t20120830_2901691.htm (accessed on 13 June 2022).
32. Report on the Reform of Rural Collective Property Rights System in the State Council—April 26, 2020 at the 17th Meeting of the 13th the NPC Standing Committee. Available online: <http://www.npc.gov.cn/npc/c30834/202005/434c7d313d4a47a1b3e9edfbacc8dc45.shtml> (accessed on 13 June 2022).
33. Some Opinions of the Central Committee of the Communist Party of China on Accelerating the Development of Modern Agriculture and Further Enhancing the Vitality of Rural Development (Full Text). Available online: http://www.moa.gov.cn/ztl/yhwj2013/zywj/201302/t20130201_3213480.htm (accessed on 13 June 2022).
34. The Central Committee of the Communist Party of China Issued “Several Opinions on Comprehensively Deepening Rural Reform and Accelerating Agricultural Modernization”. Available online: http://www.moa.gov.cn/gk/zcfg/qnhnzc/201401/t20140121_3743917.htm (accessed on 13 June 2022).
35. Several Opinions of the Central Committee of the Communist Party of China on Implementing the New Concept of Development, Accelerating Agricultural Modernization and Realizing the Goal of Overall Well-off Society (Full Text). Available online: http://www.moa.gov.cn/ztl/2016zyyhwj/2016zyyhwj/201601/t20160129_5002063.htm (accessed on 13 June 2022).
36. Several Opinions of the Central Committee of the Communist Party of China on Deepening the Structural Reform of Agricultural Supply Side and Accelerating the Cultivation of New Kinetic Energy of Agricultural and Rural Development. Available online: http://www.moa.gov.cn/ztl/yhwj2017/zywj/201702/t20170206_5468567.htm (accessed on 13 June 2022).
37. Notice on Printing and Distributing the Special Clean-up Work Plan for “Empty Shell Society” of Farmers’ Professional Cooperatives. Available online: http://www.moa.gov.cn/nybgj/2019/0201903/201905/t20190525_6315400.htm (accessed on 13 June 2022).
38. Several Opinions of the Central Committee of the Communist Party of China on Adhering to the Priority Development of Agriculture and Rural Areas and Doing a Good Job in “Agriculture, Countryside and Farmers”. Available online: http://www.moa.gov.cn/ztl/jj2019zyyhwj/2019zyyhwj/201902/t20190220_6172154.htm (accessed on 13 June 2022).
39. Opinions of the Central Committee of the Communist Party of China on Comprehensively Promoting Rural Revitalization and Accelerating Agricultural and Rural Modernization. Available online: http://www.moa.gov.cn/ztl/jj2021zyyhwj/2021zyyhwj/202102/t20210221_6361867.htm (accessed on 13 June 2022).
40. Twenty-One of the Five-Year Series Propaganda of Agricultural Modernization: Farmers’ Cooperatives to Achieve Standardized Promotion. Available online: http://www.jhs.moa.gov.cn/ghgl/202106/t20210617_6369793.htm (accessed on 13 June 2022).
41. Adler, P.S.; Kwon, S.W. Social capital: Prospects for a new concept. *Acad. Manag. Rev.* **2002**, *27*, 17–40. [CrossRef]
42. Granovetter, M. The impact of social structure on economic outcomes. *J. Econ. Perspect.* **2005**, *19*, 33–50. [CrossRef]
43. Iliopoulos, C.; Valentinov, V. Cooperative Longevity: Why Are So Many Cooperatives So Successful? *Sustainability* **2018**, *10*, 3449. [CrossRef]
44. Mateos-Ronco, A.; Guzman-Asuncion, S. Determinants of financing decisions and management implications: Evidence from Spanish agricultural cooperatives. *Int. Food Agribus. Manag. Rev.* **2018**, *21*, 701–721. [CrossRef]
45. Martinez-Victoria, M.; Sanchez-Val, M.M.; Arcas-Lario, N. Spatial determinants of productivity growth on agri-food Spanish firms: A comparison between cooperatives and investor-owned firms. *Agric. Econ.* **2018**, *49*, 213–223. [CrossRef]
46. Huang, Z.; Fu, Y.; Liang, Q.; Song, Y.; Xu, X. The efficiency of agricultural marketing cooperatives in China’s Zhejiang province. *Manag. Decis. Econ.* **2013**, *34*, 272–282. [CrossRef]
47. Nilsson, J.; Svendsen, G.L.H.; Svendsen, G.T. Are Large and Complex Agricultural Cooperatives Losing Their Social Capital? *Agribusiness* **2012**, *28*, 187–204. [CrossRef]
48. Efendiev, A.; Sorokin, P. Rural social organization and farmer cooperatives development in Russia and other emerging economies: Comparative analysis. *Dev. Ctry. Stud.* **2013**, *3*, 106–115.
49. Wei, G.; Ma, X. Promote the high-quality development of standardized cooperatives. *China Coop. Econ. Rev.* **2021**, *1*, 85–91. (In Chinese)
50. Law of People’s Republic of China (PRC) on Farmers’ Professional Cooperatives. Available online: http://www.gov.cn/xinwen/2017-12/28/content_5251064.htm (accessed on 13 June 2022).
51. Yang, D.; Liu, Z. Does farmer economic organization and agricultural specialization improve rural income? Evidence from China. *Econ. Model.* **2012**, *29*, 990–993. [CrossRef]
52. Kirezieva, K.; Bijman, J.; Jacxsens, L.; Luning, P.A. The role of cooperatives in food safety management of fresh produce chains: Case studies in four strawberry cooperatives. *Food Control* **2016**, *62*, 299–308. [CrossRef]

53. Hao, J.; Bijman, J.; Gardebroek, C.; Heerink, N.; Heijman, W.; Huo, X. Cooperative membership and farmers' choice of marketing channels—Evidence from apple farmers in Shaanxi and Shandong Provinces, China. *Food Policy* **2018**, *74*, 53–64. [CrossRef]
54. Snider, A.; Gutierrez, I.; Sibelet, N.; Faure, G. Small farmer cooperatives and voluntary coffee certifications: Rewarding progressive farmers of engendering widespread change in Costa Rica? *Food Policy* **2017**, *69*, 231–242. [CrossRef]
55. Kumar, A.; Saroj, S.; Joshi, P.; Takeshima, H. Does cooperative membership improve household welfare? Evidence from a panel data analysis of smallholder dairy farmers in Bihar, India. *Food Policy* **2018**, *75*, 24–36. [CrossRef]
56. Liang, Q.; Hendrikse, G. Pooling and the yardstick effect of cooperatives. *Agric. Syst.* **2016**, *143*, 97–105. [CrossRef]
57. Zhou, J.; Li, K.; Liang, Q. Food safety controls in different governance structures in China's vegetable and fruit industry. *J. Integr. Agric.* **2015**, *14*, 2189–2202. [CrossRef]
58. Williamson, Q.E. The new institutional economics: Taking stock, looking ahead. *J. Econ. Lit.* **2000**, *38*, 595–613. [CrossRef]
59. Liang, Q.; Lu, H.; Deng, W. Between social capital and formal governance in farmer cooperatives: Evidence from China. *Outlook Agric.* **2018**, *47*, 196–203. [CrossRef]
60. Henriksen, I.; Hviid, M.; Sharp, P. Law and Peace: Contracts and the Success of the Danish Dairy Cooperatives. *J. Econ. Hist.* **2012**, *72*, 197–224. [CrossRef]
61. Gonzalez, R.A. Going back to go forwards? From multi-stakeholder cooperatives to Open Cooperatives in food and farming. *J. Rural Stud.* **2017**, *53*, 278–290. [CrossRef]
62. Fonte, M.; Cucco, I. Cooperatives and alternative food networks in Italy. The long road towards a social economy in agriculture. *J. Rural Stud.* **2017**, *53*, 291–302. [CrossRef]
63. Grashuis, J.; Magnier, A. Product differentiation by marketing and processing cooperatives: A choice experiment with cheese and cereal products. *Agribusiness* **2018**, *34*, 813–830. [CrossRef]
64. Chagwiza, C.; Muradian, R.; Ruben, R. Cooperative membership and dairy performance among smallholders in Ethiopia. *Food Policy* **2016**, *59*, 165–173. [CrossRef]
65. Ma, X.; Wei, G. Leading the rural industrial integration and development with innovative ideas. *China Econ. Trade Guide* **2021**, *3*, 101–102. (In Chinese)
66. Mojo, D.; Fischer, C.; Degefa, T. The determinants and economic impacts of membership in coffee farmer cooperatives: Recent evidence from rural Ethiopia. *J. Rural Stud.* **2017**, *50*, 84–94. [CrossRef]
67. Hoken, H.; Su, Q. Measuring the effect of agricultural cooperatives on household income: Case study of a rice-producing cooperative in China. *Agribusiness* **2018**, *34*, 831–846. [CrossRef]
68. 2022 Analysis Report on the Development of New Agricultural Business Subjects in China (II)—Based on the Survey of Farmers' Cooperatives in China. Available online: <http://www.farmer.com.cn/2022/12/27/99904362.html> (accessed on 13 June 2022).
69. Reply of the General Office of the Ministry of Agriculture on the Pilot Implementation Plan of Promoting the Quality Improvement of National Farmers' Professional Cooperatives in the Whole County. Available online: http://www.moa.gov.cn/govpublic/NCJJTZ/201902/t20190212_6171244.htm (accessed on 13 June 2022).
70. Benos, T.; Kalogeras, N.; Verhees, F.; Sergaki, P.; Pennings, J. Cooperatives' Organizational Restructuring, Strategic Attributes, and Performance: The Case of Agribusiness Cooperatives in Greece. *Agribusiness* **2016**, *32*, 127–150. [CrossRef]
71. Ji, C.; Chen, Q.; Trienekens, J.; Wang, H. Determinants of cooperative pig farmers' safe production behaviour in China—Evidences from perspective of cooperatives' services. *J. Integr. Agric.* **2018**, *17*, 2345–2355. [CrossRef]
72. Cai, R.; Ma, W.; Su, Y. Effects of member size and selective incentives of agricultural cooperatives on product quality. *Br. Food J.* **2016**, *118*, 858–870. [CrossRef]

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