



## ARTICLE

# Reward Systems to Foster Sustainable Multi-Stakeholders Collective Action: Case in Organic Tea Farming in West Sumatra, Indonesia

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## ABSTRACT

Cooperatives have potential to strengthen communities and benefit their members. In developing countries, cooperatives are an important component of economic development plans in the fields of microfinance, agriculture, and fisheries. In agriculture, cooperatives ensure collective bargaining power, sustainable practices, and knowledge sharing. This can support small farmers to marketing their agricultural products globally. This research is motivated by the challenges in achieving sustainable multi-stakeholder collective action aimed at improving the welfare of organic tea farmers in West Sumatra, Indonesia. Specifically, the study seeks to identify a reward system that can promote sustainability within these cooperatives. Using a qualitative research approach and content analysis of in-depth interviews with 12 key informants, we develop a reward system design to foster sustainable collective action in the context of cooperatives, which has not been widely studied before. The research findings highlight the critical role of an appropriate reward system in creating an environment that supports sustainable collective action. This study emphasizes the importance of policy development that align with the interests of all stakeholders involved, as well as the necessity for effective coordination between cooperatives, local governments, and private companies. In addition, the research suggests that the further studies should focus on implementing this reward system on a larger scale and further testing its effectiveness in enhancing the sustainability of collective action through cooperatives.

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**Keywords:** Collective Action; Cooperatives; Multi-Stakeholders; Organic Tea; Reward System; Sustainability

## 1. Introduction

Achieving common goals among groups often requires collective action. However, collective action often has an irrational nature due to the rationality dilemma, where individuals may choose not to participate if they believe they can benefit without contributing<sup>[1, 2]</sup>. According to rational choice theory, each individual is presumed to act in a way that maximizes their own benefits<sup>[3]</sup>. Since the “invisible hand” would direct the market toward a perfect equilibrium, where individual acts result in the best outcomes for society, individual actions do not pose a threat to society.

It is improbable that this will happen as a result of market failures. The lack of group production and consumption is a major factor in market failure<sup>[4]</sup>.

The complexity of the relationships between the people involved and the existence of information asymmetry can present obstacles to attaining collective action<sup>[4]</sup>. The success of collective action is influenced by the institutional framework, transparency, and participation of the communities involved in the action<sup>[5]</sup>. A comprehensive awareness of these issues is necessary to develop successful collective action methods, especially in communities whose livelihoods depend on natural resources.

There are three main models in collective action theory according to Olson, namely the prisoner’s dilemma, the logic of collective action, and the tragedy of the commons<sup>[1]</sup>. These models are used and become the basis for policy making, but still have shortcomings because they cannot describe real-world conditions. The free-rider problem, for example, because people tend to rely on the efforts of others rather than contributing to group efforts, so that the distribution of group benefits becomes less than ideal. My previous research showed that problems with collective action can be solved with central control carried out by organizations, such as government agencies. However, this strategy will also face obstacles if the implementation of the policy does not run smoothly. This makes it difficult for individuals to

change the rules that lead to the failure to achieve the goals of collective action. Therefore, this research is needed to find out how to develop sustainable collective action.

Farmer organizations are very important, to ensure collective bargaining power, sustainable practices, and knowledge sharing<sup>[6]</sup>. Because this can support small farmers to marketing their agricultural products globally. So, in this study the organization observed was the organic tea producer cooperative. Cooperatives are collective action where participants work together to achieve common goals by managing shared resources. The goal is to achieve better socio-economic well-being, such as increasing their economic bargaining power, sharing risks, and obtaining better prices for their goods and services. Cooperatives can also protect their members from the influence of large monopolies or oligopolies while encouraging collaboration and mutual benefit among them<sup>[7-11]</sup>.

In developing countries, cooperatives are an important component of economic development plans in the fields of microfinance, agriculture, and fisheries. Several industrialized countries, such as Argentina and Japan, have proven the success of cooperatives in improving their economies and the welfare of their communities. In Argentina, cooperatives have become a mainstay in the agricultural and credit sectors. Meanwhile, in Japan, cooperatives are at the forefront of promoting awareness of organic products. However, in Indonesia, the development of cooperatives has significant obstacles such as poor administration and limited access to capital. Cooperatives in Indonesia have the potential to be as successful as cooperatives in other countries if these obstacles can be overcome<sup>[12-16]</sup>.

Further research is needed to examine the reward system for collective actions carried out by many parties collaborating in developing cooperatives. Previous studies have observed and analyzed collective action by individuals and social capital relationships between individuals (members) in cooperatives<sup>[17-23]</sup>. Research on multi-stakeholder collective action for sustainable small-

holder plantations through cooperatives offers a number of differences and novelties compared to previous research, both in terms of findings and theories used. One of the main differences is the focus of this research on smallholder plantations, which have unique characteristics in terms of scale, crop type, and local community involvement. Previous research has focused more on cooperative communities in the context of animal health and marine resource management. My research is expected to enrich the literature by providing specific insights into the dynamics of collective action in the context of smallholder plantations, which may involve various challenges and strategies in resource management and cooperative member participation.

This study integrates a reward system to encourage active participation, which has not been widely explored in the context of smallholder plantations. For example, a case study of the Chitwan District<sup>[24]</sup> provides insights into the importance of traditional knowledge and the challenges of commercialization but does not specifically examine how rewards can be used to increase participation and sustainability. Thus, this study contributes to a more comprehensive understanding of how a combination of different theories and approaches can be applied to create a more effective and sustainable smallholder plantation management system through cooperatives.

The management of small holder's organic tea plantations in West Sumatra, Indonesia is carried out with a collaborative approach involving various stakeholders in the organic tea agribusiness. This collaboration, which involves organic tea producer cooperatives, local governments, and private companies, uses the cultural philosophy of the Minangkabau indigenous people, known as "Tungku Tigo Sajarangan". This phrase represents the interconnected leadership roles that play an important role in community leadership<sup>[15]</sup>. Using this philosophy aims to ensure that multi-stakeholder collaboration can be implemented sustainably with interrelated leadership roles.

However, in reality the cooperative stopped after ten years of operation (2009–2019). Initial findings from the pre-survey showed that this was because the benefits received by each party did not match their ex-

pectations. Smith and Rothbaum<sup>[15]</sup> in their paper on Cooperatives in the Global Economy stated that benefits or rewards are one of the important factors that need to be considered for the sustainability of cooperatives. Therefore, it is important to conduct research that can explore the reward system in multi-stakeholder collaboration.

This study of reward systems is relevant to address collective action failures. Several previous studies have shown that rewards can effectively encourage collaboration in various situations, as rewards are an important tool for encouraging collaboration in social dilemma situations<sup>[25]</sup>. Similarly, Declerck<sup>[26]</sup> emphasizes that it is important to understand individual motivations for working together. Additionally, Narloch<sup>[27]</sup> states that the role of external reward systems in the dynamics of collective action, especially in the context of agricultural communities. In organizational contexts, Ladley<sup>[28]</sup> found that group-based reward systems were better at stimulating cooperative behavior and improving group performance than individual-based reward systems. Their research indicates that individual rewards can enhance contributions to collective action. In this study, we examine reward system within groups engaged in collective action, specifically focusing on collaboration through cooperatives, with the aim of formulating a reward system that supports sustainable collective action through cooperatives.

## 2. Materials and Methods

This research was conducted using qualitative research method, grounded in post-positivism philosophy, which relies on the interpretation or construction of research results<sup>[29,30]</sup>.

### Location

This research was conducted at the Sebelas Jurai Saiyo Organic Tea Producer Cooperative (KPTO Sebelas Jurai Saiyo), Gunung Talang District, Solok Regency. This cooperative was chosen because it is a smallholders tea farmer cooperative that has succeeded in producing premium export quality of organic tea.

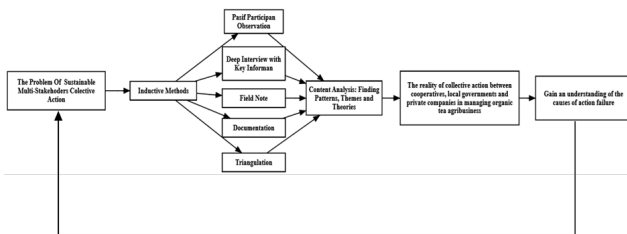
### Data Collecting Methods

Data were collected using in-depth interviews with key informants from the cooperative, local government,

and private companies. The research begins by gathering information about “what, who, where, when, why, and how” (5 W 1 H) of the multi-stakeholder collaboration process until it resulted in failure. We used an inductive method to identify the causes of failure in sustaining collective action among multi-stakeholders in managing organic tea through cooperatives. Data were collected through observation, 48 semi-structured interviews, and 12 in-depth interviews with stakeholders, including cooperative members, administrators, and government officials.

**Data Analysis**

Data were transcribed and tabulated to facilitate analysis. Triangulation was performed by comparing information from various sources to enhance the validity of the findings. Subsequently, content analysis was used to identify themes and categories that emerged from the data, which were then interpreted to determine the factors contributing to the failure of collective action. The stages of research are shown **Figure 1**. Based on these findings, we formulated a reward system that we propose will result in sustainable collective action.



**Figure 1.** Research stages.

1. The first stage carried out is to analyze the role of multiple parties in cooperative management by describing the role of each actor as: Policy maker, Coordinator, Facilitator, Implementer, and Accelerator.
2. The second stage is to identify the benefits expected by each party from collective action. This identification is done through tabulation of interview findings (48 farmers), available documents and content analysis from the results of in-depth interviews with the key informants.
3. The third stage is to formulate a reward system for sustainable collective action. The data used at this stage are the findings from the first and second

stages, which are then expressed in the form of a design formulation that contains a reward system to strengthen good performance and support sustainable processes. The formulation is based on the roles played, the benefits expected from collaboration between various parties, and the benefits desired so that collective action can be realized.

4. Based on the findings at the three stages, the research results are expected to provide suggestions for a model for improving the cooperative system that involves stakeholders in sustainable smallholder’s plantations.
5. The sustainable cooperatives referred to in this study are cooperatives that can continue to operate and develop in the long term by utilizing resources efficiently and responsibly and providing economic, social and environmental benefits for their members and the surrounding community.

**3. Results**

**3.1. Overview of the Research Area**

Solok Regency is the one of tea-producing region in West Sumatra Province. Statistical data shows that by the year 2022, the tea cultivation area expanded from an initial 522 hectares in Solok Regency to 1,117.85 hectares, with an additional 595.85 hectares of new plantations in Lima Puluh Kota Regency, although these new plantations have not yet produced tea. Statistical data indicates that out of the total tea plantation area in West Sumatra Province, Solok Regency produced 980.08 tons of tea leaves<sup>[31, 32]</sup>. The number of farmers involved in smallholder tea plantation businesses was recorded at 442 farmers (BPS-Statistic of Solok Regency, 2023). These data show that efforts to manage smallholder tea plantation agribusiness should be prioritized to maximize its potential for regional development. Collaboration among various stakeholders can play a part in this.

**3.2. Cooperative Profile**

KPTO Sebelas Jurai Saiyo is a cooperative whose members are Organic Tea Farmers who carry out activ-

ities to procure raw materials (tea shoots) and provide assistance to its members. Established on April 20, 2017 with 26 (twenty-six) founding members. Decree of the Minister of Cooperatives and Small and Medium Enterprises Number: 004461/BH/M.KUKM.2/VI/2017. The number of members of the KPTO Sebelas Jurai Saiyo cooperative until February 2018 was 99 people. However, since 2019 until now the number of members has decreased by 66 people. So, the number of members who are still active is 33 people. Members come from Four (IV) Farmer Groups that have been registered with the Solok Regency Regional Government, which are spread across two (2) Districts, Gunung Talang and Danau Kembar, and three (3) Nagari: Batang Barus, Aia Batumbuak & Simpang Tanjung Nan Ampek.

### 3.3. Why Did the Collection Action Stop?

The failure of collective action can be attributed to several factors. Firstly, there has been a significant decrease in cooperative membership since 2019. The organic tea farmer cooperative was initially formed by representatives of four farmer groups: Rawang Saiyo, Serumpun Hijau Lestari, Kabun Bau, and Lurah Ingu Sejahtera, representing 11 villages, hence the cooperative's name Sebelas Jurai Saiyo. However, the number of cooperative members has declined sharply. In 2018, there were 99 cooperative members, but by 2019, the number had decreased to only 33 active members. Secondly, information gathered through in-depth interviews with several farmers revealed that joining the cooperative was not beneficial for them. Consequently, some members decided to leave, further contributing to its decline.

Furthermore, the process of forming multi-stakeholder collective action had its weaknesses. The collective action, which initially stemmed from a shared desire to form a cooperative aimed at improving welfare, was disrupted by the emergence of collaboration offers that were only agreed upon by some individual cooperative members and rejected by others. According to theory, collective action should arise as a consciousness movement to improve a situation [1, 2, 33-36]. However, in this case, the collective action processes were disrupted by the introduction of new processes that did not

consider the desires of others. This led to disharmony within the group and conflicts between members who agreed to the collaboration offer and those who rejected it. In this regard, it is crucial for all parties to listen to and consider the interests and desires of all group members so that the collective action process can proceed smoothly.

Moreover, after the collaboration took place, none of the parties involved in the action felt the expected benefits. Farmers who were part of the cooperative did not benefit, and the private company incurred losses because the significant investment did not yield the expected returns. Ostrom emphasized the importance of understanding institutional differences in collective action, as the opportunities and constraints faced in the collective action process depend on the rules involved, which will lead to the benefits obtained<sup>[37]</sup>. Therefore, in this case, the failure of the action occurred because the benefits did not align with the desires of each party involved in the action.

### 3.4. An Overview of Collective Action

Multi-stakeholder collective action is a form of cooperation among various parties with common interests and goals to achieve mutually beneficial results or solutions<sup>[38]</sup>. This action is crucial because each party has different roles in implementing a system or project. In the context of agricultural cooperative management, these actions may involve farmers, central and local governments, Non-government Organizations (NGO), private sectors, and other community leaders to achieve the goal of improving farmer welfare and agricultural management efficiency<sup>[39]</sup>. In this research, the parties involved in the action include the cooperative, local government, CSOs, and private companies. Through multi-stakeholder collaboration, the potential human and material resources from each party can be combined<sup>[40]</sup>. The activities of each party in the action are as follows:

#### 3.4.1. The Initial Stage of the Action

According to key informant interviews, farmers in Alahan Panjang District's Aia Batumbuak subdistrict wanted access to capital in 2009 for their everyday necessities and farming operations. As a result, they de-

cided to form Maju Bersama, a Micro Agribusiness Financial Institution (LKMA). The growing number of members joining the cooperative is proof that this idea acquired traction in the community. There were 130 members of LKMA Maju Bersama by the year 2011. This caught the interest of the Solok Regency Cooperative and SME Agency, which advised the LKMA. As a result of this guidance, a savings and loan cooperative named Maju Bersama was established.

Over the next 2 years since its establishment as a cooperative, the number of memberships of Maju Bersama Cooperative continued to grow, reaching 400 members. In 2013, the cooperative generated an income of Rp. 1,600,000 per member, as reported by the cooperative's management. This profit encouraged members to remain active in the cooperative, as it provided additional income beyond their primary farming activities. Meanwhile, in 2005, the development of organic tea in Solok Regency, particularly in Aia Batumbuak subdistrict, was initiated by farmers independently. That same year, the West Sumatra Plantation Office, along with a private company, conducted community empowerment activities through organic tea development in Solok Regency, specifically in the *Aia Batumbuak* area. This activity involved community social institutions in empowering organic tea farmers. To support the marketing of organic tea, a cooperative was formed as a community organization to collaborate with the private sector in purchasing and marketing organic tea for export. The results of this study are in line with what was conveyed by Noglait<sup>[41]</sup> in Assam tea farming in India, who state that collective marketing through cooperatives can enable farmers to obtain better economic benefits.

However, this cooperative failed due to challenges in reaching an agreement among the participating farmers. In 2013, an NGO requested to collaborate with Maju Bersama cooperative, which had successfully operated its cooperative business. The request to transform Maju Bersama cooperative into an organic tea cooperative led to conflict because the new cooperative would operate under a different name, no longer using the name of Maju Bersama cooperative. This disagreement between the management and members of Maju Bersama cooperative resulted in its dissolution, and all assets, includ-

ing members' savings, were returned to the cooperative members. A meeting of members was called after a few accepted the offer, and Sebelas Jurai Saiyo was formally established as a new cooperative. As a result, a new cooperative was founded in 2014, with the participation of certain Maju Bersama cooperative members and additional smallholder tea producers who received assistance from the NGO.

Multi-stakeholder collective action requires democratic decision-making systems, effective communication between all parties engaged, and a clear knowledge of the action's objectives<sup>[42, 43]</sup>. Furthermore, this research suggests that collective activity is significantly influenced by elements like mutual regard, trust, and the capacity to adjust to change. Furthermore, it is important to fully understand the obligations and duties that each person involved in the action has. Accountability and transparency are also important components in ensuring the success of the action.

### 3.4.2. The Role of the Stakeholders in Collective Action

Each person's function in terms of structure and governance is well defined and established. Each party has different duties and authorities to ensure effective and efficient cooperation between all parties. To ensure that disputes or conflicts can be resolved peacefully and fairly; while upholding the stated objectives of the activity, it is also expected to have procedures for handling disputes or conflicts that arise. This is useful to ensure that the collaboration runs according to plan and meets the objectives set by the parties involved.

**Table 1** shows the structure and governance of the multi-stakeholder collective action in administering the cooperative, as determined by the key informant interviews:

In **Table 1**, it is clear that each of the parties has played part as anticipated in the collaboration activities. The roles include:

1. Regulator was in the hand of government
2. Privately owned company was involved in the role of the coordinator
3. While the implementation of the facilitator was done by the government
4. The strategies formulated under Implementer

**Table 1.** Roles in the structure and governance of collective action by multi-stakeholders.

No	Stakeholders	Form of Role				
		Policy Maker (Regulator)	Coordinator	Facilitator	Implementer	Accelerator
1	Cooperatives				V	
2	Private Company		V		V	V
3	Local Government	V		V		

was also carried out by the cooperative as well as the private company

5. Accelerator was carried out by private company

The private company simultaneously held three roles: While the coordinator evaluates and initiates the Futures Studies, the accelerator employs and monitors its application, and the cooperative is limited only to the application of Futures Studies. As indicated in **Table 1** and the previous analysis, it can be deduced that multi-stakeholder collaboration in this collective action has been effective. However, to maintain it and make it effective, there are needed some changes and more functions mentioned below. Firstly, the government should enhance its authority in regulation by having more elaborate and relevant regulation that will respond to the emerging situation or meet emerging needs. This includes improving police tools and supervision of the regulation enforcement besides establishing supervising and reviewing mechanism to measure the effectiveness of the collective action.

Secondly, private parties have to find ways how to maximize its coordinating function which means that there has to be more accountability in the process of decision making and allocation of resources. They also need to organize better and efficient means of communication for the purpose or including all the stakeholders. Thirdly, the government and third parties' engagement should increase the provision of training and support for conflict resolution skills, negotiation and management of trust. They also have to secure acquisition of certain needed resources and information, as well as develop fora for exchange of information and ideas among the various players and interest groups. Lastly, the cooperatives and private companies should enhance the implementation role through developing the monitoring and evaluation procedure in order to assess the effectiveness of the program both in terms of the process and outcomes. They also have to improve on how the various

implementers collaborate and complement each other to reduce duplication. Fifthly, independent parties have to be involved into the process as monitors and evaluators to provide impartial and clear-sight assessment of the implementation of collective action. This will come up with recommendations for improvement and thus improve multi-stakeholder effectiveness in collective action.

Additionally, the role of mass media is crucial in disseminating information and educating the public about collective action, building positive public opinion, and supporting collective action, and increasing the accountability of involved parties. Collaboration and open communication among stakeholders<sup>[44]</sup> are the key to ensuring the sustainability and effectiveness of this multi-stakeholder collective action.

### 3.4.3. Role of Cooperative of the Organic Tea Farmer

Farmers involved in the collaboration have a direct relationship with the cooperative as they, its members. In their interaction with the cooperative, based on interviews conducted with representative members using the question, "What is the role of the cooperative for its members?", it was found that the cooperative plays a role in providing capital, production facilities, and marketing harvested products at better prices and to a wider market. Additionally, the cooperative offers access to training and mentoring to enhance their skills in organic tea farming. The cooperative's role is high valued because farmers' active involvement indicate they receive direct benefits from this organization<sup>[45]</sup>, although challenges remain in maintaining stable membership.

### 3.4.4. Non-Governmental Organizations

The involvement of Non-Governmental Organizations (NGOs) in the action is as intermediaries between private companies and cooperatives. They facilitate communication, education, and to the building of strong rela-

tionships between these entities. In the collaboration observed in this study, NGOs collaborate with private companies to establish partnerships with cooperatives. In addition, NGOs also bridge the interests of the community with the government. This is in line with the results of research conducted by Tran<sup>[46]</sup> which states that organizations have a mediating role in the relationship between individuals and organizations. To build effective relationships between private companies and cooperatives, NGOs need to collaborate with various stakeholders, including the government, academics, and the media. In this study, NGOs interacted with the government to ensure that cooperation between companies and cooperatives could be realized. Furthermore, NGOs do not only act as intermediaries or supervisors; they help build community independence and provide training to farmers. This collaboration is important to create synergy in achieving goals<sup>[47, 48]</sup>.

### 3.4.5. Government

The role of government in collaboration is to provide consultation and guidance related to activities carried out by cooperatives. In addition, the government also plays an important role in providing assistance for production facilities such as seeds, harvest infrastructure and mediating conflicts between cooperatives and private companies or NGOs<sup>[49]</sup>. There is limited interaction between the government and other parties in the collaboration. The government's presence as an advisor is evident during the signing of cooperation agreements, helping to bridge the needs for land for factories and nurseries, and during the resolution of conflicts or disputes.

### 3.4.6. Private Companies

The private multinational company involved in the collaboration has a social mission to work with farmers to improve their welfare. The company's role includes processing and marketing tea products for export. To ensure tea quality meets export standards, the company provides guidance to farmers on organic tea cultivation, from land preparation to harvesting. This guidance is provided through field supervisors appointed by the company.

## 3.5. Reward System for Multi-Stakeholders Collective Action

### 3.5.1. Model of Multi-Stakeholder Collective Action

The design of a multi-stakeholder collective action model is crucial for solving complex problems and involving various stakeholders. In this study, the collective action undertaken by multiple stakeholders failed to be sustainable because each party involved did not obtain benefits aligned with their goals for joining the action. Research findings indicate that the primary reason for the failure of collective action is lack of perceived benefits. During the collaboration process, the company incurred a loss of Rp. 84.3 billion for the investment made over 10 years. This investment was in form of a tea processing plant located in Rawang village, Jorong Lubuk Selasih, Batang Barus subdistrict, Gunung Talang District, Solok Regency, on a 26,100 m<sup>2</sup> land area provided by the Solok Regency government. Throughout the activities, the company managed to sell products worth Rp. 1.7 billion, but the activities eventually ceased. When compared to the investment value, the returns could not cover the investment made. Additionally, cooperative farmers struggled to meet the expected tea quality, resulting in purchase prices that did not meet their expectations, leading to the cessation of the collaboration.

### 3.5.2. Importance of a Reward System

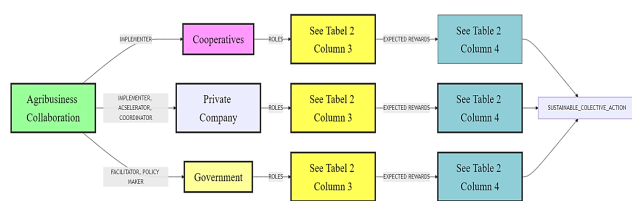
Lastly, there is the need to ensure that a proper award structure for all the concerned parties is applied in an attempt to meet their goals. Why is this important? Because in any organization, the reward system plays a major factor in encouraging the employees, improving their efficiency, increasing the staff's loyalty and stability, as well as supporting organizational objectives and strategies<sup>[50-54]</sup>. It can also ensure that people are willing participants in collective action and committed to the actions of the group hence making such a system a recipe for success. In addition to that, structures for disseminating information and for cooperation between the involved parties play the most significant roles to enhance the possibility of opening's sustainability and efficiency of collective actions. Effective communication channels



make it possible for all the stakeholders to convey important information, proposals, and feedback that is requisite in the realization of objectives. Co-ordination facilitates the distribution of the assignments and responsibilities in the group action so as to avoid duplication and reduce possibility of an ineffective implementation in this process. Whenever efficiency in the flow and exchange of information and knowledge is well executed, all the stakeholders involved can co-ordinate and function cohesively in a harmonious manner thus enhancing the possibilities of its members achieving a positive-sum outcome.

### 3.5.3. Proposed Reward System

Expectancy theory developed by Victor Vroom<sup>[55]</sup>, states that individuals are motivated to act in a certain way if they expect positive results from the action. Vroom stated three main variables in the reward system, namely: Expectancy, which is related to the best effort or effort made will produce the best performance. Second, Instrumentation, which is related to the belief that good performance will result in rewards. The third is Valence, namely individuals will have value or satisfaction in the rewards they receive. This will be related to the drive or motivation to carry out an activity in an organization or other activities<sup>[55]</sup>. Therefore, the design of the reward system that will be built in this study contains how efforts in the form of the role of each party are linked to expectations of the benefits to be obtained in order to produce encouragement to continue to contribute sustainably in collective action because of the emergence of satisfaction (valence) towards the rewards that have been received. Referring to the description, **Figure 2** presents a suggested incentive scheme that aims to reduce the difficulties associated with multi-stakeholder cooperative action.



**Figure 2.** Reward system of sustainable collective action.

This figure illustrates how a reward system can be

implemented in a collective action conducted through cooperatives by multi-stakeholders. Based on the results of tabulation, content analysis and data triangulation as well as matching with documents that were found during the research process, the role and benefits expected from the collaboration carried out to create sustainable collective action can be seen in **Table 2**.

These expectations will drive the parties to contribute and allocate their resources to achieve the goal. The action can only be sustainable if the benefits are well distributed according to each party's expectations. By focusing on these aspects, multi-stakeholder collaboration can be more effective and sustainable, achieving the shared goal of improving farmer welfare and agricultural management efficiency<sup>[56-58]</sup>.

Based on the results of research conducted through interviews with key informants, who are stakeholders involved in this collective action, information was obtained regarding the roles and benefits expected, as shown in **Table 2**. When the roles and benefits align with the expectations of the stakeholders, it is anticipated that the collective action can be sustain, unless there are other factors not identified in this research. The fulfillment of these benefits is key to the sustainability of the collective action. This pattern not only applies to small-scale organic tea plantations, but can also be applied to other collaborations with similar concepts.

## 4. Discussion

### 4.1. Causes of Collective Action Failure

According to the results of the research that has been conducted, the failure of collective action is caused by the Lack of Direct Benefits received by each party involved in the action. For example, cooperative members tend to leave if they feel that the benefits they get are not commensurate with the efforts given. The private sector then stops because they do not get any benefits from the investment that has been made. This is in accordance with the theory of rationality theory<sup>[59-61]</sup>, that people will only engage in collective action if there are benefits that are felt directly or in the long term. Furthermore, the absence of an Appropriate Reward System can undermine the active participation of members. When coop-

**Table 2.** The roles and rewards expected by each stakehoders.

No	Stakeholders	Roles	Expected Reward
1	Cooperatives	<ol style="list-style-type: none"> <li>1. Organic tea farming activity</li> <li>2. Labor provider for farming</li> <li>3. Carrying out training and farming business development</li> <li>4. Liaison institution between farmers, companies, and the government</li> </ol>	<ol style="list-style-type: none"> <li>1. The price of tea leaves is higher than the market price</li> <li>2. Market certainty</li> <li>3. Benefits of cooperatives</li> <li>4. Increased revenue</li> <li>5. Assistance for agricultural production facilities and infrastructure</li> </ol>
2	Private Company	<ol style="list-style-type: none"> <li>1. Determining suitable land for farming</li> <li>2. Supervise farming businesses to ensure they comply with organic farming requirements</li> <li>3. Control the quality of organic tea that is free from chemical levels</li> <li>4. Provide labor for quality control, harvesting, and plantation managers</li> <li>5. Processing tea leaves</li> <li>6. Marketing tea through national and international markets</li> </ol>	<ol style="list-style-type: none"> <li>1. Fulfilled quantity of raw materials (tea leaves)</li> <li>2. Guaranteed quality of raw materials according to organic product requirements</li> <li>3. Increased business profits</li> <li>4. Increasing business scale</li> <li>5. Increase in the number of product marketing</li> </ol>
3	Government	<ol style="list-style-type: none"> <li>1. Cooperative advisory board</li> <li>2. Facilitator between cooperatives and private companies</li> <li>3. Provision of cultivation rights status for the establishment of an organic tea processing factory</li> <li>4. Provision of production facilities and infrastructure such as production roads</li> </ol>	<ol style="list-style-type: none"> <li>1. Increased investment value in government areas</li> <li>2. The growth of new agroindustry</li> <li>3. Absorption of the workforce</li> <li>4. Increased Regional Income</li> <li>5. Increasing the number of public facilities such as production roads, and others</li> </ol>

eratives fail to offer adequate financial or non-financial incentives, members may feel undervalued, leading to a lack of motivation to continue participating in collective action. Meanwhile, the reward system is the key to success in achieving good performance<sup>[28, 53, 54]</sup>.

#### 4.2. Possible Advantages of Novel Models for Improving Cooperative Systems and the Importance of Policy Development among Stakeholders

The reward system formulated in this study is based on previous explanations related to the roles and benefits expected by each party involved in collective action. This system is designed to ensure that each actor in

the collaboration receives appropriate recognition and incentives based on the roles each party plays. These benefits are not only in the form of finance but also in the form of awards for their contributions to environmental and social sustainability. Thus, this reward system functions as a tool to motivate and maintain the involvement of all parties in a joint effort to realize sustainable community plantation development through cooperatives.

In this design, it can be seen that if farmers are willing to allocate their resources to carry out farming, either in the form of land allocation, labour, cultivation skills and knowledge, and cost allocations to support farming, then the cooperative must provide training and counselling to improve farmers' knowledge and abilities. Then, the company as a partner that needs production

results as raw materials for its industry must be willing to buy production results at a higher price than the market price, provide fertilizer assistance, provide tools and machines, and adequate transportation so that the transportation of raw materials can be carried out on time according to the company's needs. In addition, to ensure sustainability, the government must also provide supporting policies such as land use rights policies, pricing policies, marketing policies, and act as a bridge between companies and cooperatives in terms of cooperation, so that the hope of growing investment for regional development can be realized<sup>[62-64]</sup>.

The sustainability of collaboration within the cooperative context plays a crucial role in ensuring the continuity and success of collective action. Understanding and enhancing mutual benefits are key aspects in maintaining collaboration sustainability. Cooperative members need to see the positive value of their participation, both economically and socially, to stay motivated to contribute. Active participation from each member is essential in achieving sustainable collective action, where consistent support and involvement help keep the initiative moving forward. Transparency in cooperative management and building trust among members are also critical factors. Clear information about the cooperative's finances, decisions, and outcomes can foster trust, which ultimately supports the sustainability of the collaboration. Effective conflict management, through the creation of mutual understanding and open communication, is key to addressing potential disputes that could harm the sustainability of the collaboration.

The findings of this study then prove that the theory of rationality which states that the level of participation in action will be influenced by the benefits received by the actors involved<sup>[1-3, 36, 65]</sup> in it is true. In addition, the findings of this study also provide additional knowledge related to the theory of rationality in the practice of multi-stakeholders' collaboration involving cooperatives, private companies and the government in the management of small holder's plantations. The results of this study are expected to provide a positive contribution to similar collaborative practices in the future both in Indonesia and the world.

## 5. Conclusions

Collective action faces challenges, particularly due to a sharp decline in cooperative membership since 2019, as benefits received have not lived up to expectations. Conflicts within organizations and unfulfilled promises from some stakeholders create discord, leading to a decline in membership and the failure of joint efforts. Success in collective action depends largely on the ability of all stakeholders to reach agreements that accommodate common interests and foster an understanding of each other's needs. In multi-stakeholder collaborations, each participant plays a critical role: cooperatives provide capital and market access to farmers, NGOs facilitate communication and provide training, governments offer guidance and mediate conflicts, and private companies handle processing and marketing. Challenges arise when expectations are not met, such as loss of investment for companies or farmers who fail to meet product standards. For collective action to be sustainable and effective, a well-structured reward system is essential for all parties. This system is designed to foster long-term engagement and commitment by ensuring that rewards are distributed fairly according to each party's expectations. Furthermore, clear communication and strong coordination can reduce the risk of failure in implementing collective action. For a reward system to be truly effective, it is important to design clear and fair incentives for all stakeholders. In addition, involving an impartial third party as a monitor and evaluator can help ensure that all activities remain aligned with the intended plan and objectives, while also providing suggestions for continuous improvement. Such actions can only be sustainable if the benefits are well distributed according to the expectations of each party.

## Author Contributions

R.H., M.N., E.R. and H. played a role in designing the study. R.H. wrote the manuscript. M.N., E.R., and H. provided input in revising the manuscript. R.H. conducted the research. M.N., E.R. and H. provided advice on the interpretation of the research findings. All authors read and approved the final manuscript.

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Not available.

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## Conflict of Interest

All authors disclosed no any conflict of interest.

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