Farmers' institutional transformation in the shallot area of Malang District, Indonesia

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Abstract. The main problem in developing the shallot area in Malang District is the weak institutional consolidation of farmers. This article aims to formulate a strategy for the transformation of existing farmer institutions towards the institutionalization of farmer corporations in the shallot area. The research method was carried out with a case study approach through in-depth interviews with eight units of farmer group management, four farmer group associations, and one cooperative institution in two sample subdistricts, namely Ngantang and Pujon, in Malang District, East Java Province. The research was conducted in July 2019. The results showed that the institutional performance of the farmer group association was at a moderate level measured by the role and business activities, while the cooperative was at a less developed level in encouraging the development of competitive and sustainable shallot agribusiness areas. The institutional performance of farmer group associations and cooperatives has shown that they are starting to work, but the working mechanism is not yet effective. The strategy for the institutional transformation of association and cooperatives towards farmer corporations can be carried out by adding new structures to follow an integrated agribusiness, expanding the objectives to be achieved, adding new business activities, and strengthening horizontal and vertical through integrated agribusiness partnerships.

1. Introduction

Malang District is one of the main production centers of shallots in East Java Province. The shallot harvested area in Malang District is 4,124 ha, the productivity level is 10.8–12.0 tons/ha, and the average production is 43,823 tons/year. The location for the development of the shallot area is in Ngantang and Pujon Districts. The dominant variety planted by farmers is the Batu Ijo variety which is in accordance with the upland dryland agroecosystem [1].

Essentially, regional development is the development of an area by taking into account the potential and capacity of the area [2]. Shallot area planning is an effort to harmonize spatial planning in an area so that all development targets can be achieved by sustainably utilizing all potential resources. The integrated agricultural area is an area that contains facilities from the agricultural subsector that have been integrated into one area. These facilities are in the form of main facilities such as seed businesses, on farm, marketing and product processing, and supporting services [3].

The suboptimal performance of the development of the shallot area in Malang District can be traced from the weak performance of the business processes and the supporting institutions. The definition of institutions as a system of norms needed to achieve goals in a particular society [4]. There are three main institutional issues: value systems, relationship procedures, and forms of relationships among...
community members. Institutions and organizations: "an institution is complex norms and behaviors that persist over time by serving some socially valued purpose, while an organization is a structure of recognized and accepted roles" [5,6]. Local institutions consist of six categories: local administration, local government, organizations with local community members, business cooperation organizations, service organizations, and private businesses [5]. Institutions are rules of the game covering structural and cultural dimensions [7]. Institutions are broader than organizations because their arrangements are based on consensus, behavior patterns, agreed norms, and conventions [8,9].

Policies, programs, and activities for developing shallot areas based on farmer corporations have implications for resource allocation, added value, and product competitiveness. The dynamics of the agricultural sector's contribution in creating added value and absorption of labor have increased over time [10,11]. The choice of a business process development strategy can be made by transforming shallot cultivation from resource-based and unskilled labor based towards capital and semi-skilled labor based and towards farming driven by technology capability and skilled labor based.

Problems in institutional transformation in the shallot area include incomplete institutional structure problems, informal legal status, incompatibility between the institutional structure and the roles performed, ineffective coordination systems, and types of business activities or business processes that are not yet integrated. Suppose the existing institutions in the shallot area, such as the farmer group association and cooperative institutions, do not experience an accelerated transformation to a more advanced direction. In that case, it can hamper the development of the area. Therefore, a strategy for the institutional transformation of farmer group associations and cooperatives is needed into a professional farmer corporation with a legal entity.

The purpose of this research is (1) to study the institutional performance of farmers group associations and cooperatives in the shallot area; (2) to study the structure and roles of farmers group association and cooperative institutions to support the development of the shallot agribusiness area; and (3) the institutional transformation strategy of farmer group association and cooperatives towards a competitive and sustainable farmer corporation institution.

2. Materials and methods
The government encourages farmer corporations in agricultural areas to increase business scale, create added value and product competitiveness and increase farmer income [2]. This research uses a case study approach with in-depth interviews with eight farmer group institutions, four farmer groups associations, and one cooperative institution that has been established. The research was carried out in two sample subdistricts which are the locations of the development of the shallot area, namely: Ngantang District and Pujon District, in Malang District. The smallest research unit is a local institution related to the shallot area development program. There are several types of institutions that are specifically observed, namely farmer group institutions, farmer group associations, and cooperative institutions. Data were collected on 11–18 July 2019.

This study prioritizes a qualitative approach and interviews with administrators and members of farmer group associations and cooperative institutions. To obtain more in-depth information, interviews were also conducted with business actors, such as shallot farmers and traders at various levels. Respondent unit in this research is farmers group association and cooperative institutions selected purposively. The collection of data and information is extracted through interviews and direct field observations, both individually and in groups. Data analysis was carried out descriptive qualitatively with a focus on analyzing the institutional transformation of farmer groups and cooperatives towards a more advanced and legal entity farmer corporation.

Three institutions are pillars of supporting the socio-economic life of rural communities, namely local community institutions (voluntary sector), market institutions (private sector), and political system or government institutions (public sector) [5]. Analysis of the three institutions, namely a combination of farmer groups, cooperatives, and management and technology assistance towards the development of farmer corporations, can be a good framework for transforming traditional institutions to strengthen or empower the rural economy [12].
The data analysis focused on economic institutions, especially the institutions of farmer group associations and cooperatives in the location of shallot agribusiness development program in Malang District. Efforts to carry out an institutional transformation of farmer group associations and cooperatives towards a more professional and legal corporate institution are expected to strengthen the development of integrated agribusiness in the shallot area.

3. Results and discussion

3.1. Farmers group and cooperative institutional performance

The Farmer Group Association is a collection of several farmer groups in one village who join and work together to increase economic scale and business efficiency [13]. The purpose of establishing farmer groups and cooperative institutions is to strengthen existing farmer institutions so that government guidance for farmers is focused on a clear target group [2,14]. Until 2020, at least 52,000 farmer group institutional units have received a Rural Agribusiness Development (RAD) budget allocation of IDR 100,000/unit. However, only 7,000 units have been successfully transformed into Agribusiness Microfinance Institutions (AMI). Most of the AMI in East Java Province and Malang District are managed in the form of savings and loan cooperatives and multibusiness cooperatives.

The institutional formation of farmer group associations in the shallot area is still emphasized to strengthen horizontal ties rather than vertical ties (breeding business, making organic fertilizer, farming business). However, it was found that several cases of farmer group associations had been oriented towards post-harvest handling and product processing, joint marketing, and building agribusiness partnerships.

The institutional form of farmer groups association that has been developed is relatively uniform. The principle of establishing farmer institutions tends to facilitate distribution and control of distributed agricultural development program assistance and is less oriented towards growing innovation and creativity. In addition, the vision to strengthen agribusiness systems in the shallot region is still weak. This can be shown that there are still many farmer group association institutional structures, especially in the formation of business sections, which still rely on the commodity subsector or commodity groups and not the business sections in building a competitive and sustainable agribusiness system and business.

Coaching activities are carried out using an individual, group, and field assistance approach driven by extension workers as well as managers of farmer groups and farmer group associations. At the same time, the tasks and functions of cooperatives that have been formed are still very limited. The institutional development of farmer groups associations and cooperatives tends to use a structural approach to form an organizational structure. However, the job descriptions and functions are not yet compatible with the built structure. There is less emphasis on content aspects, such as building a value system, rule of the game, rule of representation, and coordination system, so it lacks support and is not institutionalized.

The introduction of innovations in seeding, on-farm and post-harvest handling still emphasizes a material culture approach rather than strengthening institutional aspects and community empowerment. This can be seen in the institutional development of farmer group associations and cooperatives for the provision of production facilities, such as shallot seeds, agricultural tools, and machinery, as well as business capital assistance. Meanwhile, the institutional consolidation of farmer group associations and cooperatives, value systems, rules of the game, rules of representation, and coordination systems has not been well developed. The importance of evaluating the rules of the game has been agreed upon and contained in the Memorandum of Association/Articles of Association. Business processes and business networks have not been developed in an integrated manner. The institutional development of farmer group association through the RAD program is partly still ongoing. Cooperative institutions have not received support from shallot traders and involve the local Cooperative Office. The importance of dividing business activities or business processes among farmer group associations, cooperatives, and trade operators who already exist in the shallot area.

The supporting institutions for the farmer groups association and cooperatives in the shallot area have not yet developed optimally because the implementation of cooperative development is trapped in
sectoral and short-term approaches. Opportunities to transform group association and cooperative institutions into farmer corporate institutions with legal status have the opportunity to be realized by appointing professional managers and being supported by qualified human resources.

In achieving the goals set by the farmer groups association and cooperatives in the shallot area in Malang District, they carry out productive economic business activities. First, the savings and loan business unit is managed by AMI managers and/or cooperatives. This business activity is getting more intensive after receiving an injection of RAD funds of IDR 100 million/unit and various assistance from various stakeholders, such as storage warehouses and dryers from Bank Indonesia. The Directorate General of Infrastructure and various agricultural facilities and infrastructure assistance from the Directorate General of Horticulture (mulch, solid organic fertilizers, liquid biological fertilizers, bio pesticides, yellow glue or pest traps, ferromon bgw, and bio biological). The RAD budget allocation grew from 100 million to IDR 115–147.5 million through these productive economic activities.

Second, the production facility procurement unit, especially in providing superior quality shallot seedlings of the Batu Ijo variety, subsidized fertilizers, pesticides, and joint marketing initiatives through cooperatives. These activities are mostly institutional of farmer group associations and cooperatives running in the shallot area in Malang District.

Third, there is no shallot processing business unit until now, while post-harvest activities are carried out by individual farmers, farmer groups, and traders. Even though on a home industry scale, both in Ngantang and Pujon District, there are already several household-scale processing industries for fried shallots, pasta, and flour. This means that the shallot area has the potential to develop a shallot processing industry.

The joint marketing business unit for shallot commodities through cooperative institutions has initiated joint marketing but is experiencing bottlenecks. The problem is the lack of capital and limited post-harvest facilities and infrastructure. In addition, another problem is the lack of support from traders because these business actors are worried that the existence of cooperatives will displace their business. Thus, it is necessary to restructure and rearrange so that cooperatives and traders' marketing can be harmonized.

### 3.2. Factors that need to be transformed

Business processes are an important element in carrying out business functions in an organization or company [2]. The shallot business process involves various business actors (farmers, post-harvest handling, processing industries, and traders) and requires resources (land, production facilities, agricultural tools and machinery, as well as a logistics system). Proper management of business processes can improve the performance of the organization or the company as a whole [15]. It can be said that the business process is an important concept in facilitating effective collaboration [16]. Business processes can be defined by a single organization or by business processes carried out by other companies [17]. In the business process, the logistics costs and cost structure of each stakeholder need to be identified so that cost reduction measures can be implemented [18–20]. Thus the development of farmer corporations is the organization of farming activities carried out by farmers and supply chain actors from upstream to downstream which are carried out in an integrated manner to produce certain agricultural products which are expected to become business institutions that are legal entities [13].

Farmers' institutional factors that need to be transformed include: legal entity status, organizational goals or orientation, organizational structure, division of tasks and functions, coordination systems, types of business and management activities, quality of management human resources, and products produced. In addition, the importance of transforming marketing strategies. In detail the factors that can be transformed include: legal status of the organization, farmer group association institutions can be transformed from non-legal institutions to farmer-owned enterprises (BUMP), AMI institutions can be transformed into primary cooperative institutions and cooperative institutions that have been formed at the regional level can be transformed into cooperatives secondary legal entity.
Table 1. Institutional transformation that has existed in the shallots area, in Malang District, 2019.

| On going | Transformed factor | Forward transformation |
|----------|--------------------|------------------------|
| Short-term production increase | Farmers group association institutional goals | Improving farmer welfare |
| Economic profit oriented | Cooperative institutional goals | Economic profit oriented and social justice |
| Partial farmers group association with a subsector approach | Organizational form | Farmer-owned enterprises integrated with the agribusiness system approach sistem |
| Agribusiness microfinance institution that only handles savings and loans | Organizational structure | Primary cooperatives that handle upstream and on-farm subsystems |
| Legal entities farmers' cooperatives whose business activities are not yet clear | Organizational structure | Secondary cooperatives with legal entities that provide services for agricultural tools and machinery, post-harvest handling, processing and joint marketing |
| The division of tasks and functions is irregular and not based on work specialization | The division of tasks and functions of each institution that exists in the shallot area | Organic division of tasks and functions based on work specialization |
| Ineffective oral and written coordination system | The inter-institutional coordination system that exists in the shallot area | A more effective coordination system in writing through online systems, such as WA, Telegram, and virtual groups |
| Partial and fragmented agribusiness systems and businesses based on local resource potential | Types of business activities, business processes and business management | An integrated agribusiness system and business oriented towards market demand and consumer preferences |
| Sources of science and technology are locally sourced with limited accuracy | Source of science and technology | Information source for high-precision science and technology, precision agriculture and industry 4.0. |
| Microfinance services agribusiness savings and loan products with conventional systems | Product services agribusiness microfinance institutions/primary cooperatives | Primary Cooperative Services for savings and loan products with conventional, sharia-based systems, and others business activities |
| Farmers' cooperatives whose economic institutions are not yet clear | Institutional form of existing farmer cooperatives in the area | Secondary cooperatives in the form of agribusiness cooperatives |
| Low skilled human resources and low managerial capability | Human resources manager of the shallot area | Skilled human resources and high managerial capability |
| A closed and not accountable management system | Business management system in the shallot area | Transparent, professional and accountable |
| Low economic value added raw/fresh products | The final product produced | Intermediate product/final products with high added economic value |
| Conventional pattern marketing strategy with limited goals and market segments | Product marketing strategy | Conventional and digital pattern marketing strategies with an online system with broader goals and market segments |
| The pattern of transactions for both farmers and business actors is individual, which is only oriented to the domestic market | Patterns of business relationships between business actors | Integrated upstream to downstream Agribusiness Partnership with domestic and global market orientation |

3.3. Farmers group and cooperative institutional transformation strategies towards farmer corporations

The strategic role of the agricultural sector in reducing poverty in rural areas [21]. Agricultural development policies, programs and activities that are conducive to the development of innovation and
adaptive institutions are the key success factors for economic transformation in line with the overall economic development agenda.

3.4. Farmers group transformation strategy

The alternative transformation strategy for institutional of farmer groups association is as follows: First, the addition of a new organizational structure can be in the form of additional business sections or new business units, such as seed/captive business units, shallots post-harvest handling business activities. The addition of a new organizational structure must be supported by professional human resources in the new business section or business unit.

Second, strengthening the tasks and functions carried out by the institution of farmer group association in the shallot area. Institutional strengthening is carried out in the aspects of management, capital and business activities and increases member participation.

Third, the expansion and deepening of the institutional objectives of the farmer group association can be carried out through the following steps: (a) formulating clear and measurable objectives; (b) developing productive economic business groups, including business in seeding and post-harvest handling; (c) provide benefits or benefits from economic and social aspects; and (d) increasing the welfare of farmers in a wider area, both breeders, farmers, traders, and the product processing industry.

Fourth, the formation of horizontal bonds. So far there has been no horizontal bond between farmer group associations in a subdistrict in order to strengthen the bargaining position of farmers and farmer institutions through joint production planning based on the dynamics of market demand and consumer preferences. Additional activities in the economic sector through institutional transformation of AMI into a primary cooperative institution that is used as guidance in the management of various economic activities in the on farm subsystem, such as nurseries, Agricultural Tools and Machinery Service Unit, cultivation and post-harvest.

3.5. Transformation strategy of cooperative towards farmer corporations

The transformation from the existing savings and loan business unit in the institution of farmer group association to Agribusiness Microfinance Institutions (AMI) in the shallot area in Malang District has shown a relatively good performance, because it is based on existing business units. AMI institutions that are not yet legal can be transformed into legal primary cooperative institutions which are operationally in the form of farmer cooperatives. Meanwhile, the cooperative institution in the shallot area can be transformed into a farmer corporation with a secondary cooperative legal entity. Operationally it can be carried out in the form of an agribusiness cooperative or an Agribusiness Limited Company. Primary cooperatives carry out business activities for seeding, on-form and post-harvest handling of shallots.

Transformation can be carried out by adding new structures and strengthening existing structures. The transformation of the AMI institution is in the form of the addition of new structures, such as the addition of a division or business unit for the secretary, treasurer, cashier / teller, as well as marketing and collection. Meanwhile, secondary cooperatives or agribusiness cooperatives can carry out agricultural machinery business activities, transportation service business, as well as processing and marketing. In order to carry out its business activities, it is necessary to establish an Integrated Agribusiness Partnership Institution (IAPI) to integrate the synergy of primary upstream cooperative business activities with secondary cooperatives and processing companies or market access. The addition of a new structure must consider the existing conditions faced, such as business development, financial capacity, and member participation. Strengthening existing institutional structures can focus on aspects of organizational structure, leadership, management, and in building member participation.

Expanding objectives, the AMI institution was originally a savings and loan business unit that had very limited capital capacity, with an injection of Direct Assistance for Rural Agribusiness Program Communities funds in 2006 amounting to IDR 100 million and continued to develop to approximately IDR 115–147.5 million and experiencing expansion of objectives. Initially, it is only serving members and focused on farming activities, then it became not limited to members and could be accessed by non-
member farmers, agricultural business units for other commodities, livestock business, product processing, and trading business. Meanwhile, secondary cooperatives are expected to be able to obtain capital allocation and not only from member output and rely on government programs, but are expected to be able to access sources of People's Business Credit (PBR) capital, sources of CSR (Corporate Social Responsibility) SOEs and private companies, capital community participation and other non-binding sources.

The establishment of horizontal linkages, as found in the cooperatives that have been built in the shallot area in Malang District. Even though the cooperative has been formed and its management consists of managers from the farmer group association, even if the members consist of members from the farmer group association, it does not necessarily immediately work well. The problem is the lack of capability of cooperative management, both from the aspect of technical capability and managerial capability. The cause is the absence of assistance from the Cooperative Office and the lack of support from members, especially traders who have existed before. Some shallot traders who have been operating are worried that their position will be displaced by the existence of a cooperative formed in the shallot area. Thus, the existence of secondary cooperatives should not frontally replaced the existing traders.

The addition of activities to primary cooperative institutions is based on the fact that almost all business units are limited to saving and loan businesses with a conventional system. Meanwhile, credit products can be developed to conventional system credit, sharia system credit, and electronic credit or online credit. There are several business units that can be developed in the upstream subsystem, namely, the nursery business, the business of providing production facilities, the business of making organic fertilizers, the cultivation business and the post-harvest handling business unit. Meanwhile, secondary cooperatives can handle Agricultural Tools and Machinery Service Business, shallot processing and marketing business, as well as business partnership business units. The importance of a marketing transformation strategy from a general trading pattern or free sales to an agribusiness partnership pattern and from conventional marketing to an online marketing strategy by developing e-commerce.

The shift in the level of institutional autonomy of primary cooperatives and secondary cooperatives. In East Java Province, the primary cooperative which was initiated from AMI which previously a business unit fully under the institution of farmer groups association, after being transformed into a primary cooperative institution was given full autonomy in managing finances under the cooperative which was handled by a professional manager and staff with skilled human resources quality. Meanwhile, secondary cooperative institutions can be transformed into secondary cooperative institutions that are legal entities in the form of agribusiness cooperatives that control upstream and downstream business units, while on-farm businesses are still handled by primary cooperatives. In order for the management of an agribusiness cooperative to run well, it must be managed by a professional manager with the support of reliable staff, a cooperative office and supporting facilities and infrastructure as well as social cohesion among its members.

4. Conclusions
The institutional performance of the association of farmer groups at a moderate level and cooperatives at a less developed level in encouraging the development of shallot agribusiness areas based on farmer corporations. The performance of agribusiness institutions in the shallot agribusiness area is still fragile and has not been coordinated in an integrated manner. The institutional performance of the farmer groups association and cooperatives has shown that they are working, but the working mechanism is not yet effective. This is shown by the development of an organizational structure, a division of roles or functions, an ineffective coordination system, no development of upstream, on farm and downstream business activities. The importance of integrated agribusiness consolidation institutions both from the aspects of management, capital, and member participation to encourage cohesiveness between actors and integration of shallot products. In its operations, an integrated agribusiness partnership institutional unit can be formed to integrated business activities from upstream to downstream.
The strategy of institutional transformation of the farmers groups association and cooperatives into a farmer corporation institution can be carried out through (a) the establishment of a farmer corporation institution that can be done in the form of an agribusiness cooperative; (b) Addition a new structure to the existing cooperative institutions by following an integrated agribusiness system, by establishing a shallot seed breeding business unit, a business management unit for agricultural equipment and machinery services, a post-harvest handling business, product processing and joint marketing, as well as a partnership integrated agribusiness unit; (c) addition and deepening of new business activities in the shallot business process, both in the upstream and downstream agribusiness subsystems, conventional savings and loan systems to the development of sharia savings and loans, post-harvest business activities to product processing, as well as expansion market destination and market segments; and (d) strengthening horizontal linkages can be done through consolidation of management and member participation and vertical linkages can be done through integrated agribusiness partnerships so as to build integration of product processes and between business actors.

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