

Young Farmers' Participation in Indonesian and Kenyan Dairy Cooperatives



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Study Program:

MSc Management, Economics and Consumer Studies (MME)

MSc Minor Thesis Management Studies (MST-80427)

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ABSTRACT

In the Indonesian and Kenyan dairy sectors, dairy cooperatives have an important function as an intermediary between dairy farmers, milk processors and the dairy industry. As the farming population continues to age and large numbers of farmers appear to have no successor, the youth is showing no interest to engage in dairy cooperatives. It is necessary to understand how crucial youth's role to participate as young dairy farmers and cooperative members. Thus, objectives of this study are to identify the importance of young farmers' roles in dairy cooperatives, to explore drivers and constraints based on young farmers characteristics, sociocultural and economic factors that influence their participation young farmers' participation in Indonesian and Kenyan dairy cooperative. This will help us to identify critical areas for further research on youth participation in dairy cooperatives, as well as possible recommendations to enhance young farmers' participation which further used to improve the dairy development and to tackle youth unemployment issues.

The study will compare young farmers' characteristics, sociocultural and economic factors to identify drivers and constraints on young farmers' participation in Indonesian and Kenyan dairy cooperatives. There are four findings in this study: (1) young farmers are important for sustaining, and growing cooperatives, (2) main drivers for young farmers to participate are influence from successful dairy farmers, lack of jobs in urban areas which makes young farmers return to dairy sector, higher income and cash payment. Meanwhile, main constraints to their participation are age issue, lack of youth, lower educational attainment and lack of basic knowledge and skill on dairy farming and cooperatives management, as well as the negative image of dairy farming and cooperatives, strong hierarchical system in dairy cooperatives, a lack of communication between young and old farmers, lack of access to land and long payment time, (3) the levels of young farmers' participation in dairy cooperatives can be characterized as mainly nominal participation, passive participation and consultative participation, (4) this situation can be improved by the cooperatives adopting an active role in increasing young farmers' participation by offering better economic benefits, by their bridging of the ineffective communication between young and old farmers, and by providing training and workshops on dairy farming and cooperative management, as well by researchers, academics and policy makers increasing more data and in-depth study that can be developed further to analyze each factors that contributes to young farmers participation in dairy cooperative into details.

Keywords: *Young farmers, Dairy Cooperative, Dairy farming, Indonesia, Kenya*

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LIST OF ACRONYMS

EADD	<i>East African Dairy Development</i>
CBS	<i>Central Bureau of Statistics</i>
GDP	<i>Gross Domestic Product</i>
ICA	<i>International Cooperative Alliance</i>
ILO	<i>International Labor Office</i>
KDB	<i>Kenya Dairy Board</i>
KNBS	<i>Kenya National Bureau of Statistics</i>
SHG	<i>Self-help group</i>
UNDESA	<i>United Nations Department of Economic and Social Affairs</i>
UNFPA	<i>United Nations Population Fund</i>

1. INTRODUCTION

In the first section of this introduction, the current state of youth in Indonesian and Kenyan dairy cooperatives will be described to understand the background of this study. Indonesia and Kenya were chosen due to the similarity in which both countries are developing countries with high youth and a large agriculture sector. The specific agriculture sector that studied is the dairy sector which has high potential for youth to involve. This study means to compare the participation of youth in dairy cooperatives in Indonesia and Kenya. Dairy cooperatives have an essential role as an intermediate organization in the dairy sector which could facilitate youth to participate in dairy sector as farmers.

In section 1.2 and section 1.3, objectives of this research are listed, as well as research questions. Research questions are essential to fulfilling objectives of this research. The findings that obtained as a result of answering research questions help to understand whether young farmers' participation in dairy cooperatives are important. It also helps to understand both cooperatives and young farmers' perspectives towards young farmers' participation in dairy cooperatives. In the last section (section 1.4), the research framework is illustrated in order to describe stages conducted in this research.

1.1 Research background

Indonesia is a developing country with the largest emerging economy and the largest area in Southeast Asia by 1,811,570 Km² (World Bank, 2017a). The Indonesian population has steadily grown to up to 258 million people with 1.1 percent annual growth in 2016 (World Bank, 2017b). The agricultural sector contributes to 13.45 percent of Indonesian gross domestic product (GDP) in 2016 (Central Bureau of Statistics, 2017). Similar to Indonesia, Kenya is one of leading developing country with emerging economy in East African region with total 582,646 km² of land area (World Bank, 2017a). The population of the country is more than 48 million people with 2.6 percent annual growth (World Bank, 2017b). In 2016, agriculture sector provides approximately 32.6 percent of gross domestic product (GDP) for the country (Kenya National Bureau of Statistics, 2017). The reason for this study to compare Indonesia and Kenya is due to the similarities in which both are developing countries with growing population and emerging economies in which one of countries' highest GDP contribution from the agriculture sector.

The global unemployment rate for youth reach 13.1 percent in 2016 which means 71 million youth are unemployed. It is also stated that 40 percent of the world's active youth population is either unemployed or employed but still living (ILO, 2016b). These global issues need to be

taken seriously. Despite being able to take up a relatively large proportion of the labor market in which offers opportunities to absorb youth unemployment, youth employment in agriculture is declining. Although a sizeable number of young labor force remain in the agriculture sector (ILO, 2017). This sector provides 32.88 percent employment for Indonesian labor market and 61.1 percent labor force of total Kenyan population (World Bank, 2017d). The growing population influence to the increasing of the labor force in both countries.

However, as the agricultural population continues to aging and the large numbers of farmers appear to have no successor, young people are showing no interest to engage in the agricultural sector (Lucchesi & Proctor, 2012). Although the youth unemployment is high, young people prefers to move to urban areas to find a job, instead of working in agriculture sector which provides a large number of the labor market (Leavy & Hossain, 2014; Sumberg et al., 2012). Lack of youth due to urbanization and decreasing of youth population also affects the regeneration of agricultural sectors. On the other hand, there is a changing in agricultural sectors, especially in related to the quality improvement which needs the ability to use technologies and innovation to fulfill market demand and to generate high income for farmers. The changing of agriculture sectors leads to the need for youth to participate in the sectors, especially to adopt technologies and innovation.

In 2016, livestock sector in agriculture has contributed approximately 1.62 percent of total Indonesian GDP in agriculture (Central Bureau of Statistics, 2017). In comparison, Kenya received 4.4 percent of total GDP contribution from livestock sector (Kenya National Bureau of Statistics, 2017). Dairy is the livestock subsector that becomes the focus of this study. There are several dairy value chain types that currently implemented, namely import chain (imported product by commercial farms to fulfil national dairy consumption of other countries), formal chain (integrated and large-scale production aim for rural to urban market consumption, even export), local chain (rural smallholders and pastoralists production with undiversified product, localized and use home delivery to consumers), and subsistence (rural smallholders production that target home consumption, farm household and neighbours) (Van der Lee et al., 2014). Cooperatives can be found in formal and local chains due to function as bulking operator in the chain.

Furthermore, a cooperative itself is a business which owned and controlled by its members. These members voluntary unite and work together to meet common economic, social and cultural needs and aspiration (International Cooperative Alliance, 1995). Both Indonesia and Kenyan dairy cooperatives have similarities regarding their function in which dairy

cooperatives is important between dairy farmers, milk processors and the dairy industry. In general, dairy cooperatives represent groups of dairy farmers that handles the collecting and selling milk from dairy farmers to the milk processing industry (bulking function). Some cooperatives even have their processing and marketing of milk. Dairy cooperatives can also provide credit to farmers and assist them in adopting technical innovations in the dairy sector. This function involves a large number of dairy stakeholders and can provide opportunities to employ youth. However, this study focus on young farmers who become registered members of dairy cooperatives.

However, further questions arise on whether youth have an essential role in dairy farming and dairy cooperatives. Characteristics of youth who become young dairy farmers and dairy cooperative's members also need to be described as means to understand the definition of youth, age group and their educational attainment which can be different depending on organizations or countries. Furthermore, to explore drivers and constraints that influence young farmers to participate in dairy farming and dairy cooperatives, several factors need to be identified, namely sociocultural and economic factors. By understanding drivers and constraints, the possible practice can be explored in order to enhance young farmers' participation in dairy cooperatives.

1.2 Research objectives

This study consists of three research objectives. The first objective is to identify the importance of young farmers' role in dairy farming and cooperatives in order to understand on how crucial young farmers' role and the advantages that obtained by involving them in sectors. The second is to explore drivers and constraints young farmers' participation in Indonesian and Kenyan dairy cooperatives. The third objective is to identify critical areas for further research in youth participation in the dairy cooperative. By reaching these three objectives, it helps to understand on how crucial youth's role to participate as young dairy farmers and cooperative members, as well as possible recommendations to enhance young farmers participation which further used to improve the dairy development and to tackle youth unemployment issues.

The scientific contribution of this study is in giving insight about the importance of young farmers' participation, as well as drivers and constraints that affect their participation in dairy cooperatives which can be used as reference for further research in dairy cooperative management and youth movement in agriculture since the available research in both field are still very limited. In regards for social contribution, this study help to give insight about

possible solution and improvement for dairy cooperatives, researchers and policymakers as means to enhance youth to participate in dairy farming sector, and also in dairy cooperatives.

1.2 General research question

In order to achieve research objectives, the general research question is formulated:

“How do the young farmers participate in Indonesia and Kenyan dairy cooperatives?”

1.2.1 Specific research questions

Four research questions for this study is formulated as follows:

- 1) What is the importance of young farmers’ participation in farming and cooperatives?
- 2) What are the driver and the constraint on young farmers’ participation in dairy farming and cooperatives?
- 3) How is the level of young farmers’ participation in Indonesian and Kenyan dairy cooperatives?
- 4) How to increase the participation of young farmers in the dairy cooperative?

1.4 Research framework

A theoretical approach is the first step in the research framework that needs to be completed. It is further followed by a conceptual framework, data collection, data analysis, conclusion, and recommendation (Figure 1).

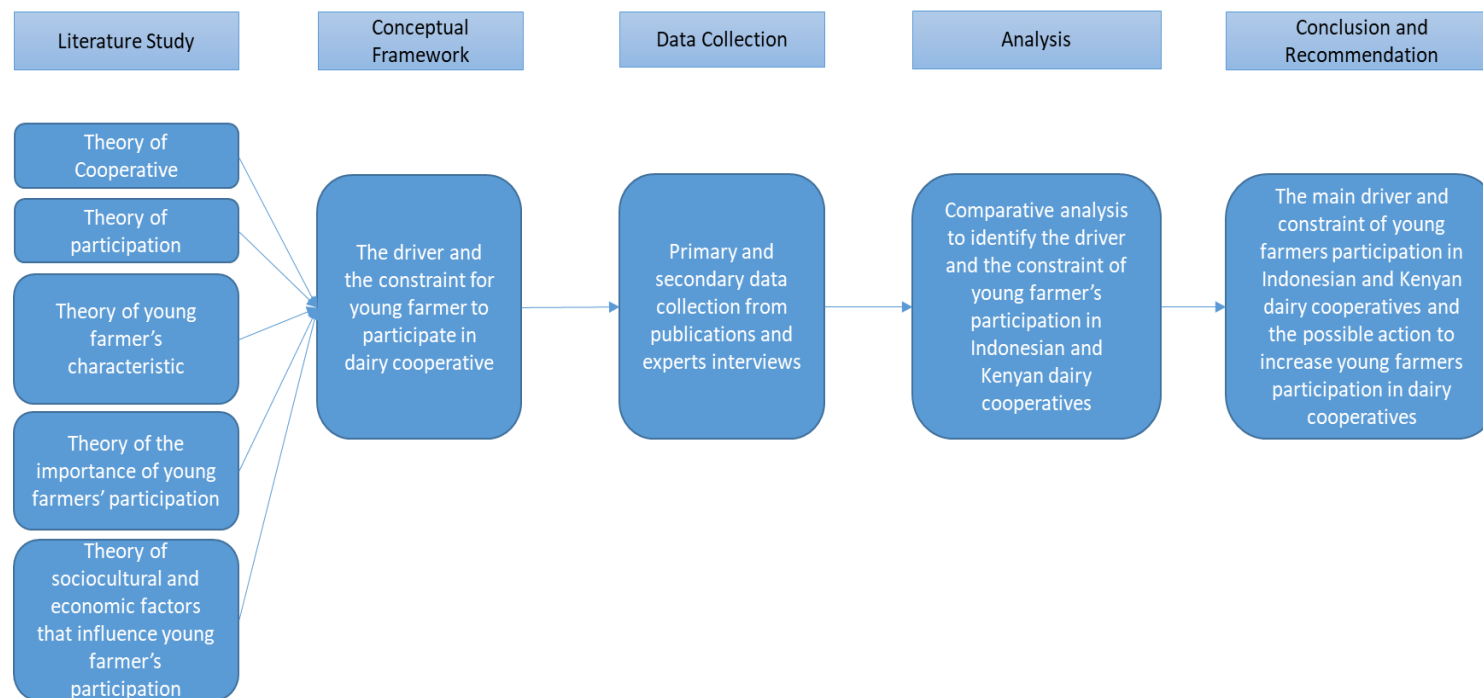


Figure 1. Research Framework

2. LITERATURE REVIEW

A literature review is used to provide a theoretical background for this study and has a key role in shaping the research problems as means to help in understanding the subject area better (Kumar, 2011) which in this case is young farmers' participation in dairy cooperatives. This chapter consists of four sections and presents theories that gathered from previous studies.

The first section (section 2.1) focuses on dairy cooperatives, which present the definition of cooperatives and dairy farmers' cooperative management in order to give the general idea of dairy cooperatives. The second section (section 2.2) focuses on participation which aims to present the definition of participation and type of participation that used in this study based on the review of previous studies.

The third section (section 2.3) will review the young farmers' participation in four sections. The first section (section 2.3.1) describes the characteristic of the young farmer in which provide information on the definition of youth and its age group. The definition of youth and the age group are varied between countries. Therefore, this section helps to identify the right definition of youth and the age group that used in this study. The second section (section 2.3.2) focuses on the importance of young farmers' participation in cooperatives. This section provides main reasons for this study to address on how important young farmers need to participate in cooperatives (in general) and dairy cooperatives. It also addresses the benefit from the increase of participation that could gain by both cooperatives and young farmers themselves. The next sections will address sociocultural and economic factors that affect young farmers to participate in cooperatives and dairy cooperatives. Section 2.3.3 which describe the influences of the sociocultural factor on participation helps to give understanding on several sociocultural factors that affect the increasing or the decreasing young farmers' motivation to participate in cooperatives and dairy cooperatives. On the other hand, section 2.3.4 will focus on the economic factor that influences the participation of young farmers' in cooperatives and dairy cooperatives.

A conceptual framework that presents in the last section (section 2.4) of this chapter aims to provide a deeper understanding of the structure of the research.

2.1 Dairy cooperatives

According to International Cooperative Alliance (ICA) (1995), a cooperative is defined as a jointly-owned and democratically-controlled enterprise which members voluntary unite in

order to meet common economic, social and cultural needs and aspirations. Members of this association have a role as the owner which they run the business and also aims to gain benefit for themselves. Members have equal right to work together as means to improve the organization management, which allow members to share profits. Most important things are sharing values and principles for all cooperative's members. There are seven cooperative principles which are voluntary and open membership, democratic member control, member economic participation, autonomy and independence, education, training and information, cooperation among cooperatives, and concern for the community (ICA, 1995). In a simple definition, a cooperative is a business that owned and controlled by the user (or in this case is their members) and distributes benefits by work on the cooperative together (Barton, 1989).

There are several types of cooperative, such as farmer cooperatives, financial cooperatives or worker cooperatives. Farmer cooperatives, which is also called agricultural cooperatives, usually consist of farmers or producers of a particular commodity as members. Those members supply and market their agricultural products through the cooperative. On the other hand, the farmer cooperative provides facilitation (e.g., technology, inputs) and credits for farmers to support their agricultural productions. On the other hand, financial cooperatives typically provide a wide range of financial service to their members. Several examples of financial cooperatives are cooperative banks, savings and credit cooperatives and credit unions (Shaffer, 1999). Furthermore, worker cooperatives are owned by workers which cooperatives' objective is to maximize the net income each worker, rather than maximizing total profits (Ward, 1958 in Burdin & Dean, 2009).

However, this study focus on farmer cooperative, specifically dairy farmers cooperatives. According to (Holloway et al., 2000) cooperative handles milk purchasing from dairy farmers, distribution process, and milk marketing. By participating in the cooperative, farmers gain the benefit of assured supplies, deliveries, and the market for the milk (related to equal price for all farmers in a given location and a distinct period). Cooperatives have functions in overcoming access barriers to assets, information, services, and indeed, the markets within which small-holders wish to sell high-value items (Holloway et al., 2000).

Cooperatives can offer processors or marketers the advantage of an assured dairy supply based on known intervals, fixed price and controlled quality) in which also provide the option of making collateralized loans to farmers (Holloway et al., 2000). Cooperatives can also have a role as processors or marketers. For example, they can eliminate the principal-agent issues faced by collectives and out-grower schemes that monitored by the individual producer,

provide better relations with local communities than large-scale farms, avoid the expense and risk of investing, share production risk with the farmer, and help to ensure consistent quality production by farmers (Grosh, 1994; Delgado, 1999).

2.2 Participation

Participation itself is defined as the process, through which stakeholders' influence and share control of the development initiatives, the decisions, and resources that affect them (UNDP, 1997). Participation could enhance efficiency and effectiveness of investment and promote the process of democratization while empowering those who participate (Cleaver, 1999).

2.2.1 The level of participation in a group

In order to understand the level of young farmers' participation in a group, this study will use Agarwal theory. By using this theory, the young farmers' participation can be identified during the cooperative's activities, such as general assembly, or regular meeting.

Agarwal (2010) stated that definitions of participation might differ depending on what it is expected to achieve, whom it is expected to involve and how it is to be brought about. The narrow definition of participation in a group is the nominal membership. Meanwhile, the broadest definition of it is related to a dynamic, interactive process, which the disadvantaged have a voice, and influence in decision-making (Agarwal, 2010). Young farmers' participation in this study will also be explored base on their level of participation in dairy cooperatives. According to Agarwal (2001), there is six level of participation that will be given in Table 1.

Table 1. Level of participation in a group

Level of Participation	Characteristics features
Nominal participation	Membership in the group
Passive participation	Being informed of ex-post decision <i>facto</i> , attending meetings and listening in on decision making, without speaking up
Consultative participation	Being asked an opinion in specific matters without guarantee of influencing the decisions
Activity-specific participation	Being asked to (or volunteering to) undertake specific tasks
Active participation	Expressing opinions (whether or not solicited) or taking initiatives of other sorts
Interactive (empowering) participation	Having voice and influence in the group's decisions; holding positions as office bearers

Source: Agarwal (2010)

2.3 Young farmers' participation

“Cooperatives are principle-based enterprises that put people, rather than the pursuit of profit at the center of their business. They follow a broader set of values by making a profit, namely self-help, self-responsibility, democracy, equality, equity and solidarity” (ILO, 2012:2). The democratic nature of cooperatives is associated with member participation which has been defined and measured in a variety of ways in studies of agricultural cooperation (Gasson, 1977 in Grace, 2011).

As crucial resources in cooperatives, members own and use the cooperative in order to achieve the common value and principles. Members are also responsible for supplying the cooperative with raw materials and capital. Therefore, cooperative's members have an important role and their participation can success the cooperative management (Xiang & Sumelius, 2010). Several studies mention the relation between members and sociocultural factor in the farmer cooperative (Hellin, Lundy, and Meijer 2009 in Verhofstadt & Maertens, 2015). According to Verhofstadt & Maertens (2015), several sociocultural factors that have a positive impact on the cooperative membership are farmers' educational attainment, age, farming experience, as well as access to information and social networks. Regarding economic factors, the physical capital and farmers' asset endowments, also play a role in affecting the membership participation.

2.3.1 The Characteristics of young farmers

In this section, young farmer's characteristics will be explained based on three factors. The first is the definition of youth according to age group. Second is the legal age for young farmers to be able to participate in cooperatives. The last factor includes young farmers' attainment for education.

Definition of youth and age group

Youth is further associated with the transition from childhood to adulthood that linked to the capacity to engage in labor markets, gender, education, marital status, legal status and independence from senior household members (Pyburn & Audet-bélanger, 2015). Youth are also defined by themselves, by society and by culture (Osti et al., 2015). Age has been assumed by most of the cited studies as a significant variable to the extent that youth are deemed to be more willing to take risks and are therefore more open to change which has been confirmed by the findings of Wynn et al. (2001) and Bonnieux et al. (1998).

As this study focuses on young farmers' participation in dairy cooperatives, previous studies about the definition of youth are taken into account. The definition of youth is varied

depending on the focus of each organization and characteristics of the population in each country. At first, For example, Leavy & Smith (2010) refers youth as people with age distribution from 12 to 35 years, while MIJARC/IFAD/FAO (2012) define youth to be people with ages between 8 to 35 years old. The UN has lower ages range for youth focus on people between 15 to 24 years old. The limit of person to be called youth are quite varied. Developing countries mostly have higher limitation for youth's age group, such as the 30s to 40s years. Furthermore, youth who involve in agriculture sector as farmers are also considered to have higher age group which can be varied between 35 years to 41 years. For example, African Union (2006) labels men and women from the age of 15-35 as a youth. European Council of Young Farmers (CEJA, 2017) has stated the definition of a young farmer is an active farmer whom under 41 years of age and has the required level of agricultural education.

However, the prospective members of the cooperative need to fulfill several requirements to be able to participate in a cooperative legally. One of the requirement includes the minimum age of the member which is usually associated with the local laws where the cooperative is located (Dutta & Kumar, 2014). Therefore, the minimum age that qualifies a person to become a cooperative member differs per place. For example, the member of agriculture cooperative in Hongkong must have attained the age of 18 years (AFCD, 2006). 18 years of age is the minimum age attainment that applicable for cooperatives member in Georgia (MATSNE, 2013). The same qualification also applied in Kenyan cooperatives which a member has attained the age of 18 years (Kenya Law, 2009). Meanwhile, in Indonesia, a person is granted by law when he or she reaches 17 years of age which means, the person can be under cooperative regulations at that age.

In other cases, such as in British Columbia, Canada, the cooperative members shall be at least 16 years of age, although the legal age of youth according to common law is 19 years old (BC Laws, 1999). However, the admission of legal minors depends on the civil law of cooperatives' country. The possibility for minors to participate in a cooperative shall be carefully studied in related to responsibility and financial liability, the right to vote and the eligibility to the post of responsibility. Therefore, for this case, the number of minors and also their rights are usually limited by the cooperatives as means to prevent them from controlling the cooperatives. The participation of minors in further cooperative needs to be under supervision and permission of their legal guardians as means to prevent. On the other hand, the exceptions for minors to be part of the cooperative council can only be made for school and student cooperatives (ILO, 2015).

The definition of youth is placed at the beginning of this section to give the general idea about the meaning of youth and the age group for a person to be called youth. Meanwhile, the discussion about minimum age attainment for youth in cooperative is placed at the end as means to narrow the information whether youth that have been defined before can be actually participate in cooperatives, legally. By defining the minimum age attainment for cooperative members from several studies, it will give the information whether youth can legally participate in the cooperatives based on local laws where the cooperative are located. However, many youths are considered underage which obstructs them to participate in the cooperative. The minimum age of youth from most of organizations and countries are lower than cooperatives' regulation. Although a person has age 15 years old and can be included in the youth class (based on youth definition in the country is included in the youth class), this person cannot join and actively participate in the cooperative because of minor age (according to local laws).

Educational attainment

Education is assumed to be a critical indicator that able to encourage participation, generally (Defrancesco et al., 2006). In most rural areas of the world, youth has grown up with more formal education than their parents had. At the same time, youth has become prolonged as youth stay longer in school or college, marry later and postpone entry into the labor force (White, 2015).

The lower education background mainly dominates young dairy farmers (one of the cooperative's members) in developing countries. The lack of interest from higher educated people to participate in the dairy value chain can be assigned to the image of working in the agricultural sector (Sloot, 2016) which is associated with hard labor or lower income. The education level is one of the essential factors (besides age group) to understand the characteristic of youth in the agricultural sector or even in dairy cooperatives. Young farmers' education levels affect their frequency of participation (Xiang & Sumelius, 2010). Educated young farmers can have a better understanding towards the cooperative management policies, and they also communicate more frequently with the management than their less educated peers (Xiang & Sumelius, 2010). More-educated young farmers become more efficient at improving farm than less-educated (Verhofstadt & Maertens, 2015).

2.3.2 The Importance of young farmer's participation in cooperatives

Many of previous studies discuss the drivers and the constraints for youth (especially young farmers) participate in the agricultural sector and also in the cooperative sector. Only a few

studies that mainly discussed the important role of youth and young farmers. Youth's role is usually associated with a high population which can be the resource for the regeneration in agriculture and cooperative sector. This is because in most countries, the farming population continues to aging and a large number of farmers appear to have no successor (Lucchesi & Proctor, 2012). The high rural youth unemployment further can be associated with the high level of poverty. Although this sector can provide high employment and reduce poverty in rural areas, many youths reluctant to enter the agriculture and cooperative sector. Therefore, youth characteristics are important to identify in this section.

Youth is identified to be remarkably resilient and resourceful, a useful combination when starting an agricultural business (Afande, Maina, and Maina, 2015). They tend to be more open towards new practices, which are needed to ensure increased production and food security in the future (Osti et al., 2015). Youth is also stated to be the key to innovation, energy, and creativity in developing new environmentally responsible and highly productive farming practices (Chicago Council (2011) adopted from White, 2015). Young farmers are usually practicing new, smart and creative ways of production and making a decent living out of it which can potentially have a powerful impact. Young farmers who are relatively well-educated eager to obtain farmland to practice innovation and creative farming that have different ways from their fathers did (Lucchesi & Proctor, 2012).

2.3.3 The influence of sociocultural factors on participation

Some people limit participation to economic patronage while others may attend meetings, serve on committees, serve as elected officers, and recruit other members. If participation is only limited to economic patronage, a cooperative is little more than any other business. However, member participation in governance gives cooperatives their distinctive character (Gray & Kraenzle, 1998).

Previous studies on agricultural cooperatives have shown the importance of members' trust in the cooperative management, and the participation of members in the cooperative (Barraud-Didier, Henninger, & Akremi, 2012; Fulton & Giannakas 2001; James & Sykuta 2005; Gall & Schroeder 2006). Barraud-Didier, Henninger, and Akremi (2012) complete the previous research by using organization commitment aspect to link the members' trust and their participation in the cooperative. Commitment has a role as the mediator effect between trust and participation. Therefore, the members' trust influences their commitment to participate in the cooperative (Barraud-Didier, Henninger, & Akremi, 2012).

Members' trust in cooperative depends on the cooperative's capacity to act competently and reliably and to take the right decision while still showing their goodwill, having a close relationship with the members, heedful of their demands and also showing strong concern towards members' interest. Those factors have a positive link between trust and commitment aspects (Barraud-Didier, Henninger, & Akremi, 2012). Furthermore, the relationship between commitment and participation show that members participate actively in the cooperative when they have attached to the cooperative effectively (Barraud-Didier, Henninger, & Akremi, 2012). Members show greater participation in the cooperative if they completely trust and commit to the cooperative. The attachment of members toward cooperative can only happen if both members and cooperative develop frequent communication and share information with their members (Barraud-Didier, Henninger, & Akremi, 2012). The equality and fairness in cooperatives could also influence the members' trust to the cooperative.

The use of information and communication technologies could improve smallholder farmers to access information and market (Lucchesi & Proctor, 2012). Information and communication technologies are still a relatively new tool for smallholder farmers. Therefore, information and communication technologies are used for information exchange between farmers and other parties (i.e., cooperative, buyers). While, for urgent matters are still undertaken face to face (Lucchesi & Proctor, 2012). Despite the perception of young farmers' greater potential interest in those technologies and its application, young farmers do not always receive benefit from the information and communication technologies more than older farmers. In general, those technologies are considered to be equal age usage (Lucchesi & Proctor, 2012).

According to Xiang and Sumelius (2010), the members' knowledge, beliefs, and perception towards their cooperative could also influence their participation in the cooperative. Hakelius (1999) found that old and young farmers view their cooperative commitments differently. Older farmers view their commitment as a way of achieving solidarity with their peers. The economic aspect being of secondary importance for them. Meanwhile, several young farmers see their commitments toward the cooperative as a means of obtaining an economic advantage (Hakelius, 1999). On the other hand, cooperative values and principles become attractive to other young farmers because of the democratic nature of the cooperative encourages participation, broadens ownership and fosters empowerment of young farmers (ILO, 2012).

There are different constraints in representing youth by youth-only and mixed organizations (those with both young and older members). Youth-only organizations tend to informal and

lack human and financial resources, generally (FAO, 2012). On the other hand, youth are frequently not well represented in and excluded from decision-making processes even though they have a large percentage of the membership in the mixed organizations (FAO, 2012). Culture and traditions characterized by the hierarchical relationship in which young people are expected to obey older community members. In the hierarchical relationship, sometimes older members also complicate youth's participation in cooperatives (FAO, 2012).

However, there is growing recognition of the importance of ensuring adequate representation of young farmers in cooperatives and also ensuring active participation. Therefore, many cooperatives have been expanding their membership bases to young farmers, establishing youth structures within the organization, and promoting youth leadership.

However, the apathy of members toward cooperative and the cooperative activities is one of the major problems that affect the member's participation (Bhuyan, 2007). As the cooperative grows bigger and employs more professional managers, many members may feel less of voluntary team spirit and sense of belonging to the cooperative because they cannot control their organization as before. It could also be affected by the less frequency of communication between members and the managers (Bhuyan, 2007). If the cooperative's members are dissatisfied, the negative feelings and behavior towards the cooperative may develop. This is further can cause the normal operations of the cooperative (Bhuyan, 2007).

In the end, sociocultural factors could be considered more important than economic factors in influencing members' participation in cooperative management, although economic factors still have an irreplaceable role in cooperative development.

2.3.4 The influence of economic factors on participation

According to Ito, Bao, and Su, (2012), the agricultural cooperative system is important revenue for farmers to improve their economic status. In regards to the effectiveness of dairy farmer cooperatives, it positively affects farm revenues and farmers' income. Young farmers face several constraints to join a cooperative, such as land ownership and the payment of the membership fees. The cooperative by-laws stipulate membership conditions which often cannot adhere by young farmers (FAO, 2012).

Furthermore, Lucchesi and Proctor (2012) stated that youth usually face particular challenges in securing formal credit for business start-up due to their lack of collateral and proven business experience. Access to credit is essential for accumulating and retaining other assets which can support to enhance participation of youth in the sector (Lucchesi & Proctor, 2012).

Therefore, this is also a factor that motivates farmer to participate in cooperative management because the cooperative allow them to borrow money or capital to the cooperative with lower interest and easy repayment (Xiang & Sumelius, 2010).

Several studies also indicate positive effects of cooperative membership on farmers prices and their market participation (Verhofstadt & Maertens, 2015; Ito, Bao, & Su, 2012; Holloway et al., 2000). According to Davis et al. (2007), younger household heads who are engaged in farming tend to gain a higher income from their agricultural activities compared to the older household. Although farmers are more likely to adopt improved technologies after they become cooperative members (Verhofstadt & Maertens, 2015), the younger generation is more open to new technologies that produce higher yields.

Although farmers tend to be able to improve their revenues and income by participating in the cooperative, another factor that cannot be separated from farmers' economic factor is land access. The extent to which land is available to small-scale farmers or newcomers to agriculture to purchase, lease or rent as means to expand their areas of production varies between places (Lucchesi & Proctor, 2012). Over time rural populations tend to cluster in areas with the best agro-ecological conditions and access to markets and services, leading to a more concentrated pattern of settlement (Lucchesi & Proctor, 2012). Thus, it could affect the higher price for farmers to buy or to rent the land for a farm.

However, not all of the farmers can purchase the farm which it usually happens to smallholder farmers. The rapid rise in farmland prices makes farmland an attractive target for corporate investment and large-scale industrial farming, at the same time as it puts land beyond the reach of young people who would like to make a start in farming (White, 2015). The only thing that smallholder farmers can do is to rent the land as a purpose for their farming practice. Farmers that owned their farm usually transfer it as the inheritance for their next generation (e.g., children) (Lucchesi & Proctor, 2012). Nevertheless, the tension regarding the transfer of land and other assets from older generation to the next happens commonly. Young farmers may have to wait a long time to gain access to the farm (Makoni, Mwai, Redda, van der Zijpp, & van der Lee, 2013). In Kenya, inheriting is mostly considered the almost exclusive means of land transfer (Lucchesi & Proctor, 2012). Meanwhile for other countries (e.g., Ethiopia and Ghana), renting or borrowing land at somewhat have a higher price. In related to transfer land as an inheritance, the land still needs to be divided according to the number of children (as the next generation) in the family. It is difficult to divide the small land area to many children which means the children have limited land area that can be used as a farm (Lucchesi &

Proctor, 2012). Other challenges faced by youth are the average farm size and agriculture area to agricultural population ratios, the anticipated increases in rural youth populations and an assumption of increased longevity of current household heads, a crisis looms for both timing of land access (i.e., inheritance) by the next generation and land available for future viable small-scale farming occupations (Lucchesi & Proctor, 2012). However, cooperatives can also play a significant role in facilitating land access for young farmers. For example, in Burkina Faso where cooperative negotiated with village chiefs to convince them to give land to youth in their communities (FAO, 2012).

However, attention should be paid to members whose proportion of agricultural income in their total annual income is higher, as their frequency of communication with the cooperative management paradoxically is less than for others (Xiang & Sumelius, 2010).

2.4 Conceptual framework

Following the findings of literature reviews, the conceptual framework of present research, which depicts the steps to be conducted for this research process. This study focus on four aspects. The first aspect is the characteristic of the young farmer was found out based on three factors, namely age group for youth, the legal age for young farmers to be able to participate in the cooperative and the level of educational background. The second is the sociocultural factor. The other aspect that also studied was economics factor.

From Figure 2., it can be seen that all of the three factors (i.e., the characteristic of the young farmer, sociocultural and economic factors) are assumed to influence the interaction between young farmer's participation and the dairy cooperative's management (which is showed by the arrow). All three factors (i.e., the characteristic of the young farmer, sociocultural and economic factors) consists of drivers and constraints. Driver factors influence the increasing of young farmers' participation in dairy farming and cooperatives. Meanwhile, constraints are allegedly preventing youth from participating in dairy farming (being young dairy farmers) and cooperatives (being the cooperative's members and participating in decision-making activities). Furthermore, young farmer participation is explored based on six level, namely nominal participation, passive participation, consultative participation, activity-specific participation, active participation, and interactive participation. The level of participation is used to understand how young farmers mostly participate as cooperative members during the decision-making activities. On the other hand, dairy cooperative's management can enhance young farmers' participation by strengthening drivers and finding the solution to reduce constraints.

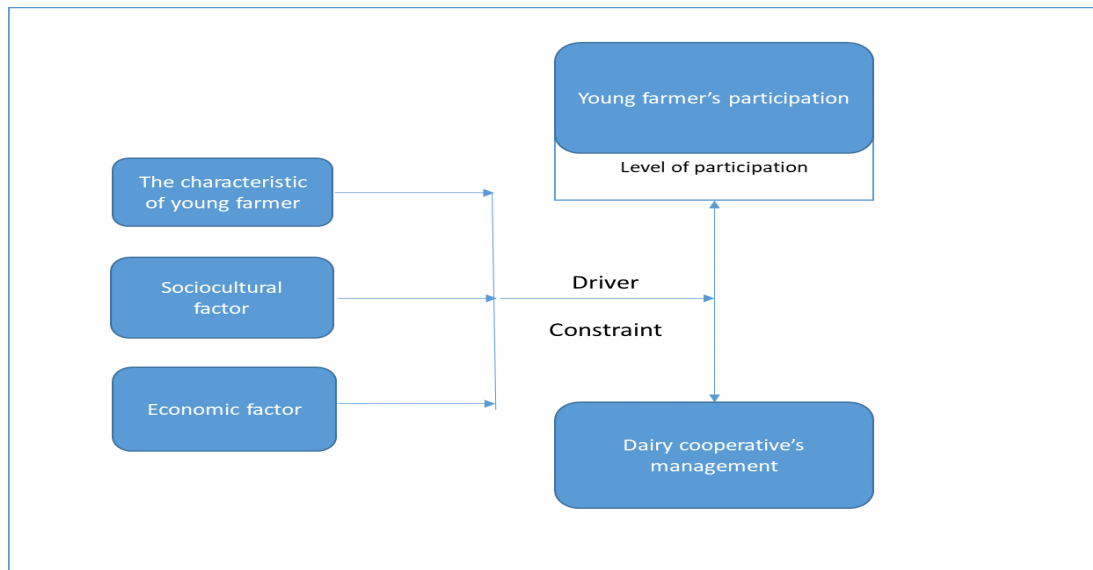


Figure 2. Conceptual framework

3. RESEARCH METHODOLOGY

The research methodology chapter will consist of two sections. First, the research design and data collection that followed in this study are described in section 3.1. The information regarding data analysis is included in section 3.2.

3.1 Research design and data collection

Qualitative study is used to collect the data for young farmers' participation in Indonesian and Kenyan dairy cooperatives. Qualitative study allow researchers to gather multiple forms of data (e.g., documents and interview), instead of single data source (Creswell, 2014). As this study try to explore young farmers' participation in Indonesia and Kenya dairy cooperatives, several data sources. For example, public documents (e.g., official reports, relevant research literature) are collected firstly and will be interpreted in order to understand the study better.

There are three phase of data collection for this study which aims to gather both primary (i.e., public documents) and secondary data (i.e., expert interview). The first phase was collecting data from official reports and papers that published by policymakers and organizations. Those data are available and can be accessed from policymakers and organizations' website, as well as from public search engine (i.e. Google) that connect to those website.

Second phase, four search engines are used in this study to access reliable and relevant data from previous studies. The search engines are Scopus, ScienceDirect, WUR Library and Google Scholar. Both Scopus and Science Direct are full-text scientific database that offer million articles and book chapter which provided by Elsevier through thousands peer-reviewed journals and books. On the other hand, WUR Library website is a database owned by Wageningen University Library. WUR Library obtain data from other scientific database, such as Scopus, ScienceDirect, Taylor & Francis Online, JSTOR, and Springer. Google Scholar provides scholarly literature across many disciplines and sources with many type of publication, such as articles, theses, books, abstract, and online repositories.

At the beginning of data collection, Scopus and ScienceDirect are used to explore previous studies by using certain keywords that determined beforehand. Findings was trying to be gathered from both engines by using combining of all search terms (i.e., by using 'OR' function), adjusting and reducing the search term combination (i.e., by using 'AND' function), applying exclusion and inclusion (i.e., published year, languages and subject area), and screening the title, abstract and keywords. Since there is no relevant literature that suitable for these study findings after the last phase of searching the literature (i.e., screening the title,

abstract and keywords), WUR Library and Google Scholar are used to obtain relevant literature. In WUR Library and Google Scholar are simpler search engines compared to Scopus and ScienceDirect. The exclusion and inclusion for search terms are only on published year and languages. After that, articles that found will be screening according to the title, abstract and keywords.

For the last phase, interviews with several professional are conducted through face-to-face interview and email interview. These interview are done by using open-ended questions which have few questions and intended to gather views and opinions from the experts (Creswell, 2014). Interview with experts are used to triangulate findings from secondary data that found previously.

3.1.1 Official data reports and papers

Official data reports and papers are used to gather information for dairy sector in general, as well as youth participation and role in agriculture. Both reports and findings provide reliable data since it is obtained from policymakers and organization website. In Table 2, the information about reports and papers that used as source of findings in this study are present.

Table 2. Findings from official data reports and papers

No	Finding	Indonesia		Kenya		RQ
		Data	Source	Data	Source	
1	Dairy sector and youth characteristics:	<ul style="list-style-type: none"> Dairy cooperative and dairy value chain 	<ul style="list-style-type: none"> Dairy industry development in Indonesia: Final report (Morey, 2011) Dairy sector development Indonesia options for cooperation with The Netherlands (Wouters, 2009) 	<ul style="list-style-type: none"> Annual population growth Labor force Percentage Agriculture and livestock sectors contribution for the National GDP Dairy production 	<ul style="list-style-type: none"> Annual population growth of Indonesia and Kenya (World Bank, 2017c) Economic survey 2017 (KNBS, 2017b) The dairy value chain in Kenya: A report for EADD program (EADD, 2008) Dairy development in Kenya (Muriuki, 2011) Cooperating out of poverty: the renaissance of the African cooperative movement (Wanyama, 2008) 	1,2,3
	Age group	Youth age group	Ministry of Youth and Sport	Youth age group	(Ministry of Home Affairs, 2002)	1,2,3
	Educational attainment	<ul style="list-style-type: none"> Indonesian population based on age group and educational status in rural areas Indonesian population based on age group and highest education level that has been completed in rural areas 	Population Census 2010 (Central Bureau of Statistics, 2010)	Kenyan population based on age group and educational attainment	<ul style="list-style-type: none"> Statistical abstracts 2016 (KNBS, 2017a) Small-scale farming and youth in an era of rapid rural change (Lucchesi & Proctor, 2012) 	1,2,3
2	The importance of young farmer's participation in cooperatives	<ul style="list-style-type: none"> Indonesia Population Pyramids by 1990, 2000 and 2010 Age distribution and population aging in Indonesia by 1971-2010 and 2010-2035 	<ul style="list-style-type: none"> Population Census 1990 and 2010, and Indonesia Population Projection 2010-2035 (UNFP, 2014) 	<ul style="list-style-type: none"> Rural & urban population percentage Urban population percentage Population pyramids 	<ul style="list-style-type: none"> Kenya rural population (% of total population) (World Bank, 2017j) Kenya urban population growth (annual %) (World Bank, 2017h) World Urbanization Prospects UNDESA Kenya profile (CIA World Factbook, 2017) 	1
3	The level of participation	-	-	Youth participation in cooperative	Small-scale farming and youth in an era of rapid rural change (Lucchesi & Proctor, 2012)	4
4	The influence of the sociocultural factors on participation	<ul style="list-style-type: none"> Growth rate of GDP for Agriculture, Forestry, Hunting and Fishery for period 2013-2016 Employment rate in agriculture (2016) Employment rate in agriculture (1990, 2003 and 2005) 	<ul style="list-style-type: none"> Gross Domestic Bruto 2013-2017 report (Central Bureau of Statistics, 2017) Employment in agriculture (% of total employment) (World Bank, 2017d) Jobs and skills for youth: Review of policies for youth employment of Indonesia (ILO, 2015) 	-	<ul style="list-style-type: none"> Gross Domestic Bruto on Economic survey 2017 (KNBS, 2017b) Employment in agriculture (% of total employment) (World Bank, 2017d) 	

Continue from Table 2.

No	Finding	Indonesia		Kenya		RQ
		Data	Source	Data		
5	The influence of the economic factors on participation	<ul style="list-style-type: none"> • Annual growth of population in 2016 • GDP contribution of agricultural sector in 2016 • GDP contribution from livestock subsector in 2016 Youth unemployment Youth projection for labor force 	<ul style="list-style-type: none"> • Annual population growth of Indonesia and Kenya (World Bank, 2017c) • Gross Domestic Bruto 2013-2017 report (Central Bureau of Statistics, 2017) • Jobs and skills for youth: Review of policies for youth employment of Indonesia (ILO, 2015) • Analysis of trends and challenges in the Indonesian labor market (Allen, 2016) 	<ul style="list-style-type: none"> • Rural & urban population • Wage percentage • Total employment Lack of access to land and finance 	<ul style="list-style-type: none"> • Kenya rural population (% of total population) (World Bank, 2017i) • Kenya urban population (% of total) (World Bank, 2017g) • Youth and agriculture; Key challenges and concrete solutions (FAO, IFAD & CTA, 2014) • Employment in agriculture (% of total employment) (World Bank, 2017d) • Small-scale farming and youth in an era of rapid rural change (Lucchesi & Proctor, 2012) • Youth and women empowerment through agriculture in Kenya (Njenga et al, 2013) Influence of access to land and finances on Kenyan youth participation in agriculture Njeru & Gichimu (2014) 	2

3.1.2 Relevant research literature

In order to collect information and data for relevant research literature on young farmers' participation in dairy cooperatives, secondary data collection is conducted through four search engines. Those search engines that used to find relevant literature for this study are Scopus, ScienceDirect, Google Scholar, and WUR Library. As it has been explained in the beginning of section 3.1, the formulation of search term is done to gain relevant literature that can be used to provide necessary information for this study.

In Table 3, the steps to obtain relevant literature in Scopus and ScienceDirect are present which also contain information about the formulation of search term. However, after conducting each steps, previous studies that related to dairy development, dairy value chain, dairy sector and dairy cooperative in Indonesia and Kenya cannot be found.

Table 3. Search term combination in Scopus and ScienceDirect (for general information on dairy sector)

No	Activities	Search term combination	No. of results	
			Scopus	ScienceDirect
1	Combination of all search terms	TITLE-ABS-KEY ("dairy development" OR "dairy value chain" OR "dairy sector" OR "dairy cooperative") AND TITLE-ABS-KEY ("Indonesia" OR "Kenya")	49	3
3	Applying exclusion & inclusion	(same as above, but in refined results: specified some criteria) Limit to: published year (2007-2017), languages (English), source type/ document type (article, review & conference paper), subject area (Agricultural and Biological Sciences, Business, Economics, Econometrics and Finance, Management and Accounting, and Social science)	23	-
4	Screening the title, abstract, and keywords	(same as above)	-	-

Therefore, WUR Library and Google Scholar are used as other search engines to find previous studies that provide general information on dairy sector in Indonesia and Kenya. Both search engines allow simpler search term combination which can be seen on Table 4. Several relevant literature are found from the result of searching on Google Scholar. After screening the title, abstract and keywords, those findings that obtained from Google Scholar will be describe in Table 7.

Table 4. Search term combination on WUR Library and Google Scholar (for general information on dairy sector)

No	Search Term	WUR Library			Google Scholar		
		No. of results			No. of results		
		Before applying exclusion & inclusion	After applying exclusion & inclusion	Screening the title, abstract, and keywords	Before applying exclusion & inclusion	Applying exclusion & inclusion	Screening the title, abstract, and keywords
1	Dairy development "Indonesia"	65	44	-	46	16	2
2	Dairy development "Kenya"	184	101	-	109	36	1
3	Dairy value chain "Indonesia"	5	5	-	2	2	-
4	Dairy value chain "Kenya"	32	31	-	29	28	2
5	Dairy sector "Indonesia"	107	84	-	4	2	1
6	Dairy sector "Kenya"	199	162	-	43	18	1
7	Dairy cooperative "Indonesia"	29	14	-	5	1	-
8	Dairy cooperative "Kenya"	57	37	-	25	17	2

In order to gain more detail information about young farmers' participation on dairy cooperatives in Indonesia and Kenya, another search term combination is conducted for Scopus and ScienceDirect. After the final step is done (screening the title, abstract and keywords), relevant literature from previous studies related to young farmers participation in dairy cooperatives cannot be found. The result of search term combination on Scopus and ScienceDirect are available on Table 5.

Table 5. Search term combination on Scopus and ScienceDirect for more specific information (young farmers' participation in dairy cooperatives)

No	Activities	Search term combination	No. of results	
			Scopus	ScienceDirect
1	Combination of all search terms	TITLE-ABS-KEY ("young farmer participation" OR "youth participation" OR "cooperative member participation" OR "farmer participation" OR "Indonesia" OR "Kenya" OR "dairy cooperative" OR "agricultural cooperative" OR "dairy value chain" OR "dairy development")	100,775	431
2	Adjusting and reducing the search term combination	TITLE-ABS-KEY ("young farmer" OR "youth" OR "cooperative member" OR "farmer") AND TITLE-ABS-KEY ("participation") AND TITLE-ABS-KEY ("Indonesia" OR "Kenya") AND TITLE-ABS-KEY ("dairy cooperative" OR "agricultural cooperative" OR "dairy value chain" OR "farmer cooperative" OR "dairy development")	3	2
3	Applying exclusion & inclusion	(same as above, but in refined results: specified some criteria) Limit to: published year (2007-2017), languages (English), subject area (Agricultural and Biological Sciences, Business, Management and Accounting, Economics, Econometrics and Finance, and Social science)	1	1
4	Screening the title, abstract, and keywords	(same as above)	-	-

Literature search is further conducted by using WUR Library and Google Scholar as search engines which is present in Table 6. Several relevant literatures are found as a result of screening the title, abstract and keywords. Same literatures can be appeared after using different search terms. After eliminating same literature from each search term, the relevant literature that used for this study can be find in Table 7.

Table 6. Search term combination on WUR Library and Google Scholar for more specific information (young farmers' participation in dairy cooperatives)

No	Search Term	WUR Library			Google Scholar		
		No. of results			No. of results		
		Before applying exclusion and inclusion	After applying exclusion and inclusion	Screening the title, abstract, and keywords	Before applying exclusion and inclusion	Applying exclusion and inclusion	Screening the title, abstract, and keywords
1	dairy cooperative OR agricultural cooperative OR farmer cooperative "youth participation" "Indonesia"	51	32	-	44	30	2
2	dairy cooperative OR agricultural cooperative OR farmer cooperative "youth participation" "Kenya"	82	51	-	117	97	5
3	dairy value chain OR dairy development "youth participation" "Indonesia"	159	117	-	60	31	-
4	dairy value chain OR dairy development "youth participation" "Kenya"	202	148	1	174	145	3
5	dairy cooperative OR agricultural cooperative OR farmer cooperative "farmer participation" "Indonesia"	123	80	1	550	297	2
6	dairy cooperative OR agricultural cooperative OR farmer cooperative "farmer participation" "Kenya"	210	134	1	943	621	5
7	dairy value chain OR dairy development "farmer participation" "Indonesia"	355	249	-	771	427	-
8	dairy value chain OR dairy development "farmer participation" "Kenya"	582	381	2	1390	155	3
9	dairy cooperative OR agricultural cooperative OR farmer cooperative "member participation" "Indonesia"	165	100	-	105	427	2
10	dairy cooperative OR agricultural cooperative OR farmer cooperative "member participation" "Kenya"	194	122	1	190	135	2
11	dairy value chain OR dairy development "member participation" "Indonesia"	506	338	-	126	72	-
12	dairy value chain OR dairy development "member participation" "Kenya"	496	331	2	207	143	3
13	"youth" agriculture	112	74	2	473	294	5
14	Koperasi susu "partisipasi anggota" (search term in Bahasa Indonesia)	-	-	-	193	160	4

In Table 7, the information of each literature that found from search term combination on four different search engines (i.e., Scopus, ScienceDirect, WUR Library and Google Scholar) are present. These information contain author name, year of publication, title of literature, research objectives, method, and result. Each literature is obtained to answer certain research question and also to provide necessary information about young farmers' participation in dairy cooperatives in Indonesia and Kenya. These information in Table 7 is also used to prove the reliability of the data that used for this study.

Table 7. The list of relevant literature for findings

No	Author (year)	Title	Objectives	Method	Result	RQ	For country
1	Afande, et al (2015)	Youth engagement in agriculture in Kenya: Challenges and Prospects	To evaluate the nature and extent of youth engagement in agriculture, to investigate the constraint and to explore the strategies to improve youth involvement in agriculture	Primary data collection from structured interview that analyzed using statistical analysis	Youth is mainly concentrated in agriculture production which face constraints on access to land, finance and social capital. Thus, robust relationship between youth and agriculture organization need to increase	1,2	Kenya
2	Fatmala & Muflikh (2013)	Performance analysis of relationship between participation and benefit for cooperative members (A case study in village cooperative Puspa Mekar, West Bandung)	To identify factors that influencing the dairy cooperative performance, member (farmers) participation, social and economic benefit, as well as their relationship	Primary and secondary data collection from structured interview, observation and the cooperative documents that analyzed using statistical analysis	Social and economic benefit influence farmers participation in the cooperative	2	Indonesia
3	Jakiyah (2011)	Members' participation and performance analyses in the Sumber Alam village cooperative (A study case in Dramaga, Bogor district, West Java)	To analyze economic and social benefit that members obtained from cooperative and its relationship to members' level of participation	Primary and secondary data collection from structured interview, observation and the cooperative documents that analyzed using correlation analysis	Social and economic benefit influence medium level of farmers participation in the cooperative (due to lower communication and limited activities for members)	2	Indonesia
4	Leavy & Hossain (2014)	Who wants to farm? Youth aspirations, opportunities and rising food prices	To identify opportunities for youth in agricultural sector	Data is collected from interview and group discussion with young people, parents, local youth leaders, official and representatives in the communities that analyzed using qualitative data analysis software	Desire for higher social status preferences, constraints on access to land and inputs and negative perception towards agriculture	1,2, 3	Indonesia and Kenya

Continue from Table 7.

No	Author (year)	Title	Objectives	Method	Result	RQ	For country
5	Noorani (2015)	To Farm or Not to Farm? Rural Youth Perceptions of Farming and their Decision of Whether or Not to Work as a Farmer: A Case Study of Rural Youth in Kiambu County, Kenya	To identify personal aspirations, social (peer and parental) influences, and structural (land, finance, market, and agricultural education) constraints that influence rural youth perceptions of farming and their interest to work as a farmer	Data is collected from semi-structure interview which is analyzed using descriptive analysis	Youth held negative perceptions of farming and barriers (e.g. lack of land) which cause them to migrate to other areas as means to avoid farming.	2	Kenya
6	Osti et al (2015)	The future of youth in agricultural value chains in Ethiopia and Kenya	To analyze youth position in agricultural value chain	Data is collected from semi-structure interview with experts from Ethiopia and Kenya, and also from literature reviews which is analyzed using descriptive analysis	Important conditions for youth to participate in agricultural value chain (i.e., land availability, perception and aspirations, finance, infrastructure and market access, income and education)	1, 2	Kenya
7	Septianto (2013)	Members' participation level analysis in North Bandung Dairy Cooperative West Java	To analyze economic and social benefit that members obtained from cooperative, members participation on cooperative activities and relationship between benefit and level of participation	Data is collected from structured interview with cooperative members and management that analyzed using statistical analysis	Social and economic benefit influence farmers participation in the cooperative	2	Indonesia
8	Sloot (2016)	Youth councils in cooperatives: A description of practices, views and perspectives on youth councils at Dutch cooperatives & Agriterra's clients	To gain insight on practices at Dutch cooperatives with regards to their youth councils and perspectives and views of Agriterra's clients on youth in cooperatives, in terms of internal opportunities, benefits and challenges	Data is collected from desk study interview, focus group discussion and workshop with all stakeholders which is analyzed using descriptive analysis	Young members and board members can describe opportunities, benefits with of youth involvement at cooperatives, although lack of communication is still occurred.	1,2	Indonesia
9	Sulo et al (2012)	Assessment of youth opportunities in the dairy sector in Uasin Gishu Country, Kenya	To determine the extent of youth involvement in the dairy industry, the key constraints, the preferred existing opportunities in the dairy industry	Primary data collection from structured interview that analyzed using statistical analysis	Youth have no access to land, lack of financial services, lack of technical skills	1,2	Kenya

3.1.3 Expert interview

In order to triangulate findings as means to support recent findings and to fill the information gap from secondary data collection (namely statistics data report and relevant research literature), primary data collection through interview with experts are done. A semi-structure interview using open-ended questions with several professional are conducted via email (personal communication) and direct meeting (face-to-face). Another purpose of gathering experts' opinions is to understand the nuance of the ground condition in the study area. Several experts with sufficient knowledge and experience in Indonesian and Kenyan dairy cooperatives have been contacted. Experts that interviewed in this study have experience on dairy cooperatives as well as knowledge about young farmers as members of cooperative and their participation in agriculture and dairy cooperatives sector, especially in Indonesia and Kenya. Four experts that are interviewed in this study can be seen in Table 8.

Table 8. List of experts

No	Name of expert	Occupation	Date of interview	Type of interview	Code
1	Dedi Setiadi	The chairman of Indonesian Association of Dairy Cooperatives	27-11-2017	Direct meeting	DS
2	Jan van der Lee	Senior Advisor Sustainable Livestock Systems	24-10-2017	Direct meeting	JL
3	Xavier Lugaga	A lecturer at Egerton and Laikipia Universities, Kenya	28-11-2017	Personal communication	XL
4	Nicole Slood	Business Adviser	23-10-2017	Personal communication	NS

3.2 Data Analysis

The information that has been gathered as result of data collection will be analyzed using comparative analysis. This data analysis method will compare young farmers' participation in Indonesian and Kenyan dairy cooperative based on young farmers' characteristics (age group, legal age for young farmers' to be able to participate in dairy cooperatives and educational attainment), the importance of young farmers' participation in cooperatives the influence of the sociocultural and economic factor, and level of participation.

First, the general information that gathered from official reports and papers will give insight about youth important role and factors that influence young farmers to participate in dairy cooperatives in Indonesia and Kenya. For example, youth negative perception and lack of access to land and finance as factor that influence youth participation are found from reports and papers. Those factors will be basic information to gather more detail information about the influence of each factor on young farmer participation, as well as their level of

participation in dairy cooperatives in Indonesia and Kenya. After finding the same factors, comparison analysis is conducted. By comparing young farmers' participation in dairy cooperative, this study is expected to give insight and recommendation on the importance of youth participation, the driver and the constraint for young farmers' to participate in dairy cooperatives, as well as their level of participation in cooperatives.

4. FINDINGS

Following the previous chapter that discusses the research methodology, this chapter presents findings that were collected from secondary data and during expert interviews. These findings are used to answer research questions on young farmers' participation in Indonesian and Kenyan dairy cooperatives. The information regarding the importance of young farmers' participation is obtained to answer the research question (RQ) 1. Meanwhile, the information about the sociocultural and the economic factors' influence can help to answer the RQ 2 which focuses on the driver and the constraint that faced by young farmers in order to participate in dairy cooperatives (RQ 3). The information related to the level of participation can be used to answer the way young farmers' participating in dairy cooperatives.

This chapter covers two sections which divided based on findings from each country. The first section of this chapter is about young farmers' participation in Indonesian dairy cooperatives. The second section is about young farmers' participation in Kenyan dairy cooperatives.

4.1 Young Farmers' Participation in Indonesian Dairy Cooperatives

Young farmers' participation in Indonesian dairy cooperatives has been studied in several publications and annual reports by, among others, the Indonesian Central Bureau of Statistics, the World Bank, the International Labor Organization (ILO), the United Nations Fund Population (UNFPA), as well as the CIA Factbook and several local publications from Indonesian universities. In order to gain additional perspectives on the findings brought forward in those publications and annual reports, and also to give a better insight toward young farmers' participation in Indonesian dairy cooperatives, expert interviews were conducted. Several questions regarding young farmers' age group and educational attainment, young farmers' role, sociocultural and economic factors, as well as young farmers' participation in a group were asked to experts by open interviews.

4.1.1 The cooperative position in Indonesian dairy value chain

Indonesia dairy sector is dominated by the smallholder production in which approximately 97 percent of the dairy production is located in Java (Morey, 2011). The milk production has increased annually by an average of 16.9 percent from 7.86 million tons in 2013 to 9.2 million tons in 2017. East Java is reported to have the highest production with 54.5 percent of the total national milk production in 2017. While in the same year (in 2010), West Java contribute

31.9 percent of the milk production and Central Java follows it with 11.6 percent, respectively Directorate General of Livestock and Animal Health Services, 2017).

Beforehand, dairy development in Indonesia approximately began in around the late of the 19th century or 1905 which firstly introduced by Dutch. At that time, Holstein-Friesian cattle in foreign dairy farm estates that established in mountainous regions in Central Java, before expanding to West Java and East Java. In 1945, Indonesia gained independence which affects those foreign farms to dissolve, and smallholder dairying emerged due to the cattle distribution to local farmers. In 1962, the first dairy cooperative established in Malang, East Java, under the name SAE Pujon and in 1979 (Nugraha, 2010).

The Indonesian Association of Dairy Cooperatives (GKSI) was established in 1979. GKSI consists of primary dairy cooperatives as their members (Wouters, 2009). The main purposes of GKSI are to give service guidelines of dairy farmers to dairy cooperative, to upgrade the services rendered, to strengthen both cooperative management, to provide credit in the form of input facilities, to give advice to Indonesian government regarding policy making of dairy sector, to negotiate with milk processors about the milk price and milk quality, to facilitate the importation of dairy cattle for dairy cooperatives and farmers (Nugraha, 2010; Sulastri et al. 2002). Dairy cooperatives in Indonesia are mainly located in Java due to a high number of dairy farmers and stakeholders in the area. Therefore, three main GKSI branches are located in three provinces in Java, namely East Java, Central Java and West Java (Wouters, 2009). GKSI have responsibilities in managing the cooling facilities for the milk, transportation facilities, and marketing system of the dairy value chain, and also establishing policies which allows them to give an access for farmers to receive funding for infrastructure, cattle and to have better milk price negotiation (Morey, 2011; Wouters, 2009).

According to study from Wouters (2009), the stakeholders who are active in the formal dairy chain in Indonesia consists of milk producers, dairy farmers group, primary cooperatives (village cooperatives), the Indonesian Association of Dairy Cooperative (GKSI), milk processors and the government (Ministry of Agriculture and its departments). The dairy cooperative has a crucial role as an intermediary between dairy farmers, milk processors and the dairy industry. Dairy cooperatives can represent and assist the dairy farmers by collecting and selling their milk to the milk processing industry or by the processing and marketing of their milk which is available in Figure 3.

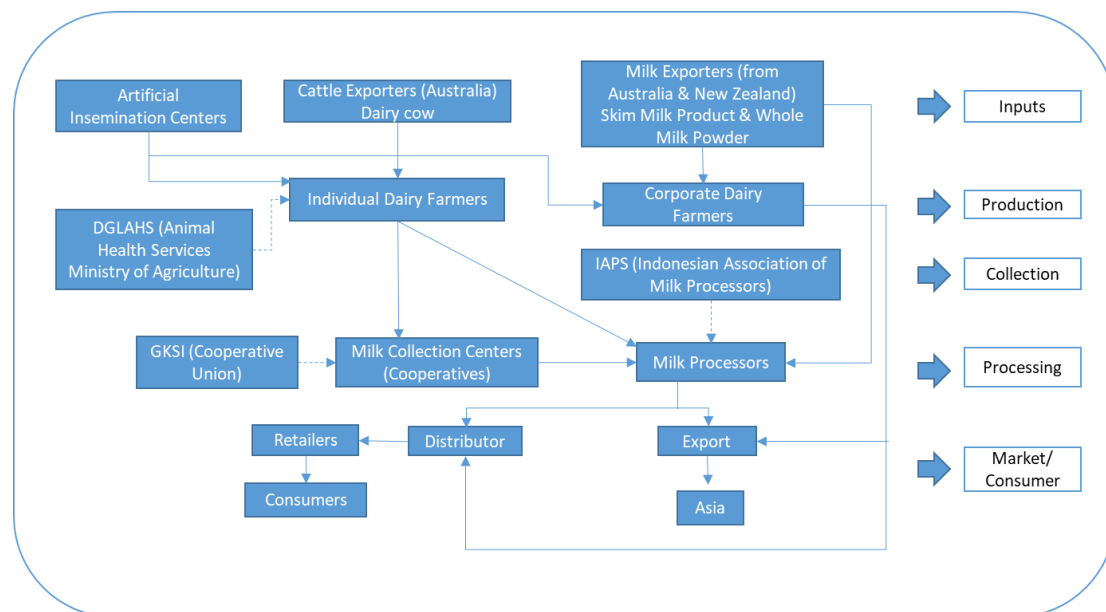


Figure 3. Indonesia Dairy Value Chain (Morrey, 2011)

Based on Indonesia dairy value chain map by Morrey (2011), both Indonesian dairy farmers and corporate dairy farmers receive inputs, namely artificial insemination (from AI centres in East Java and West Java) and dairy cow exports (as result from the Indonesian government's subsidy to encourage the development of dairy and beef industries).

Individual dairy farmers who are mostly smallholder farmers also receive impact from the Directorate General of Livestock and Animal Health Services at the Ministry of Agriculture (DGLAHS) which oversees the national strategy, government policy and funding related to the dairy industry. Most of the individual farmers supply their fresh milk to milk collection centers, such as KUD (village cooperatives) or a well-established cooperatives (e.g., KPSBU or KPSBS) and only a few of them who directly supply their milk to milk processors.

Primary Village Cooperatives (KUD) supply farmers with advice and services; for example on production, or animal health. KUDs also play a role as the local milk collection center and the intermediary between farmer and milk processor. The KUDs further collects and distributes money to the farmer based on milk quality and volume of the milk (Morey, 2011). The cooperatives collect milk from their members and can provide cooling facilities at the collection centers. The cooperatives purchase the cooling facilities either on loan, pre-paid by the dairy industry, supplied from the donor funds, or financed by the cooperative itself. However, for the cooperatives without the cooling facilities are using the GKSI's facilities where milk is cooled and transported to the dairy plants (Wouters, 2009).

A well-developed cooperative, such as Bandung Northern Dairy Farmer Cooperative (KPSBU) or Bandung Southern Dairy Farmer Cooperative (KPSBS) provides concentrate feeds,

veterinary services, artificial insemination (AI) services to the members who are paid collectively through collective deduction from the milk price. The cooperative employs extension staff, veterinarians, and AI technicians. Moreover, the cooperative establishes a shop, processes part of the milk, and sells small quantities of pasteurized milk (Wouters, 2009). The dairy farmer cooperatives play an important role in improving the milk production and the quality of milk (Moran, 2009).

These cooperatives put high quality as the aim for their dairy productions. Therefore, the program and the facilities offered in the cooperatives are focused on the quality improvement of dairy milk productions. However, all of the cooperatives that join in the Dairy Cooperatives Union of Indonesia are also focuses on the high quality of dairy milk. There are two types of dairy cooperatives in Indonesia. First is dairy cooperative with the single purpose, which means that the cooperatives only have one function to serve dairy farmers. The cooperative provides services and technologies that need by their members, which are dairy farmers. Meanwhile, the other type of dairy cooperatives has multipurpose by providing service both for dairy farmers and non-dairy farmers. This type of cooperatives is usually village cooperatives (DS, 27-11-2017, Lembang).

Fresh milk that is collected by cooperatives is supplied to milk processors in which it is mixed with imported skim milk product and whole milk product. These milk processors purchase the milk from the GKSI members; which in some cases the IAPS directly purchased from some big farmers and imported the milk powder to supply their needs (Morey, 2011). The IAPS has to negotiate with the GKSI to determine prices that are considered fair by both parties. Most of the dairy cooperatives agree on direct contracts with the milk processors in their area (Wouters, 2009). Several milk processors that are members of IAPS, namely Frisian Flag, Sari Husada, Nestle, Ultra Jaya, Indolakto, and Diamond. Meanwhile, Green Field Danone and Cimory are milk processors that are not part of IAPS (Herawati & Priyanto, 2013).

Milk that has been processed (i.e., liquid, powder, and sweetened condensed milk) is used to supply to national distributor and export to Asia countries (i.e., Singapore and Hongkong). Most of the milk is prioritized to fulfill national market and consumers, while the only small amount of milk that exported to other countries.

Meanwhile, corporate dairy farmers who come from some large dairy companies who established dairy producers and manufacturers receive import for skim milk product and whole milk product to mix with those corporate dairy farmers' fresh milk product before it is exported to other Asia countries (i.e., Singapore and Hongkong). Corporate dairy farmers also

supply their products to national distributor in which it is supply to retailers (i.e., traditional and modern market) and in the end to consumers.

However, this study is more focus on the participation of dairy farmers in Indonesian dairy cooperatives, rather than the whole Indonesia dairy value chain. It can be seen in Figure 4.

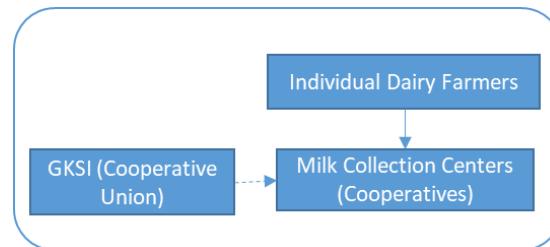


Figure 4. Dairy cooperatives and dairy farmer chain

These dairy cooperatives consist of both cooperative management (council) and members. For the management or council, the cooperative has a small board of directors, including a chairman, a secretary and a treasurer, and supervisory boards (Wouters, 2009). Meanwhile, cooperative members are mainly farmers and related stakeholders in the dairy value chain. Cooperative's employees are usually focused on an individual farm visit to the member and tend to be more reactive to farmer's request (Wouters, 2009).

Cooperatives usually have requirements for the prospective members that need to fulfill, such as the cow ownership, being able to supply their dairy production continuously, being active as a member in the cooperatives and being registered only at one cooperative (DS, 27-11-2017, Lembang).

4.1.2 Young farmers' participation

The characteristics of young Indonesian farmers

Young farmers' characteristics might differ between Indonesia and other countries, as well as between organizations and institutions. Therefore, this section will explore characteristics of young farmers in Indonesia based on the age group and legal age for youth to be able to participate, and educational attainment.

Youth age group and legal age for youth to be able to participate in cooperatives

According to Bennell (2007), youth is often understood as the period of transition from childhood to adulthood, encompassing processes of sexual maturation and growing social and economic autonomy from parents and careers. Age group for a person to be considered as youth is different from each country. According to Law of Youth in Indonesia, youth is defined as Indonesian citizen who are entering 16 and 30 years (UU No 40/2009, article 1.1).

Based on NS (23-10-2017, personal communication), youth in Indonesian cooperatives is often considered to be older than 35 years old, namely up to 40 years old. This information is in line with the information from DS (27-11-2017, Lembang) about the requirement for young farmers to be members of the cooperative. The age requirement is between 17 to 40 years and/or having married status. Therefore, for example, a member age 35 years old but have single status still considered young farmer. Meanwhile, a member with age 17 with married status can be considered adult or older. These findings can give the insight that young farmers must reach the legal age to be able to become part of dairy cooperatives. Although youth themselves are defined to be Indonesian citizen between 16 to 30 years old, young farmers cannot join the cooperative if they are still under 16 years old which makes them be still considered as minors. These findings relate to sociocultural factors which can be the constraint for young farmers to be able to actively participate in dairy cooperatives before they reach legal age (17 years old). These findings affect the research question (RQ 2).

The majority of dairy farmers in cooperatives are older farmers with age group above 40 years. Most of the cooperatives consist of 70 percent of older dairy farmers, and 30 percent of young dairy farmers. However, there is an expectation about the ideal percentage for old and young farmers in the cooperative which is consist of 50 percent of old and 50 percent of young farmers. These percentages are ideal because of the cooperative need equal collaboration from old and young farmers' strength (DS, 27-11-2016, Lembang).

Youth in Indonesia is considered reach the age of majority at 17 years old by Indonesian Law in which allow a person to be able to receive legal identity card from the government. Youth who reach 17 years old are also considered to be independent of having social and economic autonomy from parents, and also reach the sexual maturation.

Although young farmers are categorized under 40 years old, a young farmer can join cooperative membership if this person has reached 17 years old, which means they already reach the age of majority and receive legal identity card from the government (DS, 27-11-2017, Lembang).

[Educational Attainment](#)

Young people remain longer in the state of partial or complete dependency on the parental generation when they remain enrolled in education longer, the average age at first marriage rises and entry into the labor force is postponed. Although youth might be biologically mature, youth are still not ready to enter the social adulthood. Youth boundaries are also class-specific. For example, many urban middle-class men or women in their late twenties, still single and

living with their parents, completing an advanced degree and not yet having entered professional employment would consider themselves (and be perceived as) ‘youth.’ Meanwhile, other youth in the early twenties, having left school at age 15 or even earlier, and have been working as a laborer or market trader for many years, they can be married with two or three children and maybe would consider themselves (and be perceived as) ‘adult’ in their communities (Naafs & White, 2012).

The youth characteristic is used to determine the drivers for youth to participate in the dairy cooperative based on their educational attainment in this section. Education can be crucial to the participation of young farmers in dairy cooperatives. More-educated young farmers can have a better understand and efficiency on related to cooperatives management.

The agricultural sector is bound to rural areas. However, the specific data that include about total youth population in rural areas is not available. Therefore, the information about total youth population in rural areas can be obtained by categorizing the rural population data based on age group and educational attainment. Indonesian population data in rural areas is presented in Table 3.

Table 9. Indonesian population based on age group and educational status in rural areas

Age Group	Educational Status				
	Have not/ Not attending school	Attending school	Quit/ Graduate from school	Not asked	Total
5-6	3,108,217	1,655,617	0	5,812	4,769,646
7-12	594,887	13,901,972	329,313	23,422	14,849,594
13-15	141,354	5,622,157	1,190,907	56,800	7,011,218
16-18	141,646	2,810,859	3,038,962	58,332	6,049,799
19-24	328,201	949,376	9,459,627	61,808	10,799,012
25-29	367,747	154,650	9,307,756	32,788	9,862,941
30-34	451,019	56,613	8,828,841	18,103	9,354,576
35-39	567,503	38,486	8,368,401	12,917	8,987,307
40-44	833,136	32,512	7,249,273	9,253	8,124,174
45-49	1,033,560	16,216	6,048,695	5,996	7,104,467
50-54	1,150,036	5,210	4,802,187	4,218	5,961,651
55-59	994,018	1,304	3,440,282	2,126	4,437,730
60-64	1,064,270	297	2,328,182	1,608	3,394,357
65-69	978,566	185	1,684,090	820	2,663,661
70-74	923,618	0	1,096,705	600	2,020,923
75-79	577,627	0	584,023	280	1,161,930
80-84	364,050	0	319,331	220	683,601
85-89	144,214	0	116,092	84	260,390
90-94	61,612	0	42,762	36	104,410
95+	41,128	0	24,885	28	66,041
Total	13,866,409	25,245,454	68,260,314	295,251	107,667,428

Source: Central Bureau of Statistic, 2010

From the Table 3, the majority of people with age group under 40 years old are attending the school and graduate from school. The highest number of people who quit or graduate from school came from age group 19 to 24 years old. At around that ages, youth are usually attending tertiary education (i.e., university). This means that youth in rural areas are mainly stopped attending school after graduating from High School and a bachelor degree in University. It is correlated with the high number of youth with age group between 16 to 18 years old who are attending High School.

Table 10. Indonesian population based on age group and highest education level that has been completed in rural areas

Age group	Highest Education Level that has been completed										Total
	Have not/ Not attending school	Not graduate from elementary School	Elementary school	Junior High School	Senior High School	Vocational School	D I/II	D III	D IV/ University	Master/ PhD	
5-6	3,108,217	1,661,429	0	0	0	0	0	0	0	0	4,769,646
7-12	594,887	13,118,730	1,135,977	0	0	0	0	0	0	0	14,849,594
13-15	141,354	978,432	4,590,058	1,301,374	0	0	0	0	0	0	7,011,218
16-18	141,646	267,387	1,702,452	3,180,234	697,359	60,721	0	0	0	0	6,049,799
19-24	328,201	513,212	3,500,642	3,182,709	2,753,090	247,820	99,433	76,877	96,005	1,023	10,799,012
25-29	367,747	505,043	3,810,493	2,655,768	1,824,288	192,045	139,927	105,501	257,654	4,475	9,862,941
30-34	451,019	560,773	4,304,886	2,071,570	1,456,552	145,079	86,627	72,115	200,153	5,802	9,354,576
35-39	567,503	625,216	4,359,006	1,748,330	1,283,495	106,408	63,783	47,799	178,441	7,326	8,987,307
40-44	833,136	793,199	3,964,526	1,092,226	1,034,531	90,092	70,207	42,869	193,705	9,683	8,124,174
45-49	1,033,560	947,231	3,692,607	630,909	498,992	49,317	60,666	32,324	149,659	9,202	7,104,467
50-54	1,150,036	943,321	3,030,106	428,544	242,611	30,974	40,539	19,229	71,374	4,917	5,961,651
55-59	994,018	760,300	2,147,528	281,486	155,179	21,780	31,189	12,816	31,308	2,126	4,437,730
60-64	1,064,270	638,944	1,399,394	143,996	92,431	13,637	19,379	8,961	12,460	885	3,394,357
65-69	978,566	535,581	972,784	89,161	61,400	8,559	7,279	4,871	5,023	437	2,663,661
70-74	923,618	427,444	576,156	44,573	36,289	5,670	2,962	2,108	1,904	199	2,020,923
75-79	577,627	253,495	299,212	16,635	11,383	1,654	697	576	590	61	1,161,930
80-84	364,050	148,261	156,749	8,532	4,777	599	222	205	180	26	683,601
85-89	144,214	56,774	54,854	2,812	1,363	172	71	55	66	9	260,390
90-94	61,612	22,666	18,288	1,131	575	54	29	15	37	3	104,410
95+	41,128	13,539	9,737	948	537	54	24	22	51	1	66,041
Total	3,866,409	23,770,977	39,725,455	16,880,938	0,154,852	974,635	623,034	426,343	1,198,610	46,175	107,667,428

Source: Central Bureau of Statistic, 2010

Youth in rural areas have completed the education at elementary school level which can be seen from Table 4. Elementary school level has the highest number of people who attend, compare to junior high school or senior high school. However, youth with age group between 15 to 18 years old are completing their education level at junior high school. Meanwhile, only a small number of youth are attending senior high school and higher education.

The number of youths from age group 19 to 24 years old who graduated from junior high school is higher than youths who finished their study at senior high school. On the other hand, the lowest number of youth came from those who completed the tertiary education (i.e., university). These young people are usually moving to urban areas to attend university or higher educational institutions. Therefore, it seems that youth in rural areas mainly completed their education at the primary level (i.e., elementary school, junior high school) only.

Among other countries in Asia-Pacific, Indonesia has more than 10 percent youth with educational attainment at less than primary level. Youth employment in agriculture also shows dominance in primary educational attainment with more than 60 percent, while secondary school came with less than 20 percent. Youth with the tertiary educational background (i.e., bachelor degree, master degree or Ph.D.) only 1 percent participated in agricultural employment (Allen, 2016).

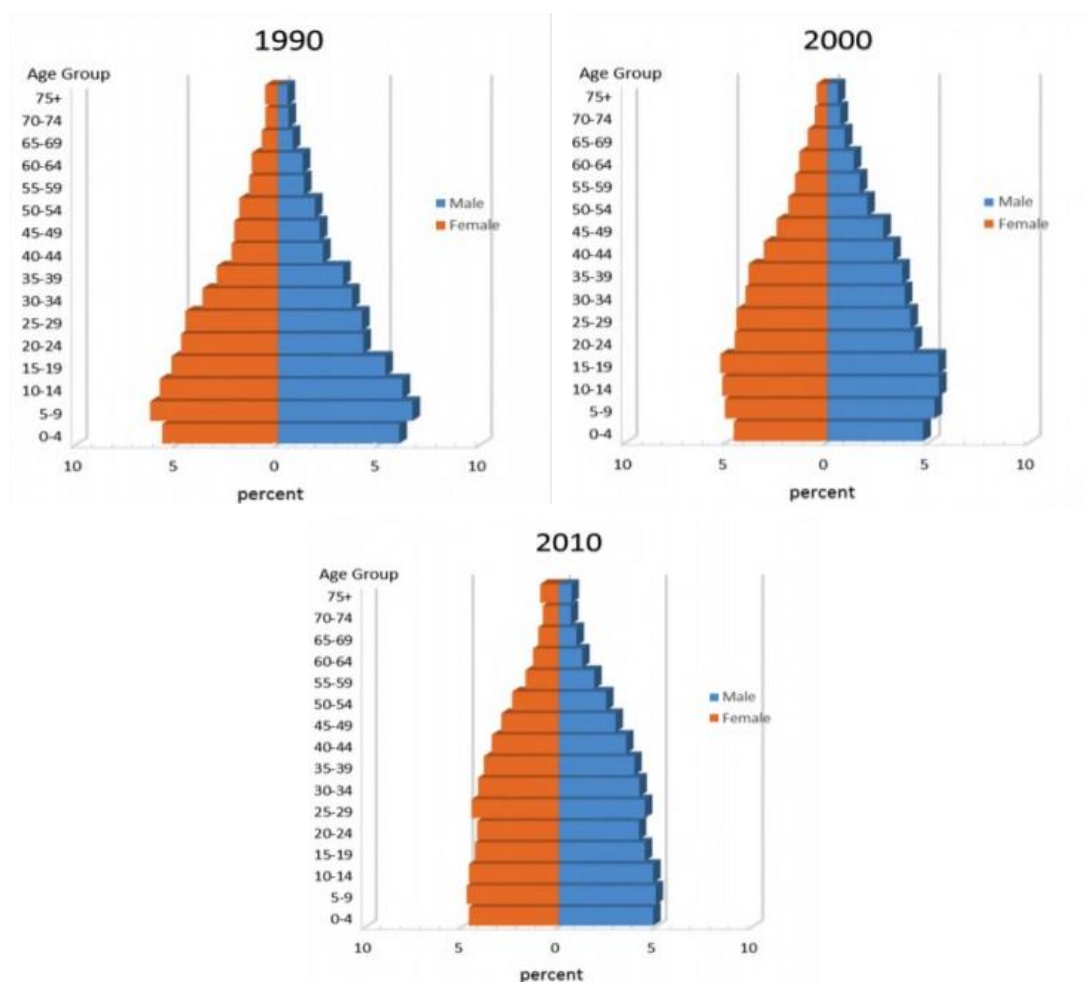
Although we cannot find secondary data that specifies the educational attainment for young dairy farmers, we can assume that several studies from local universities can also provide information about the educational attainment of young farmers active in Indonesian dairy cooperatives.

One of the studies that found in related to young farmers' educational attainment is focused on Bandung region. This region has both village dairy cooperatives with the medium number of members and more establish cooperatives with the high number of members (approximately thousands of dairy farmers). Therefore, previous studies that used which focuses on this region can be the example to represent the ratio for educational attainment both for cooperative members. The majority of cooperative members (i.e., 72 percent) in a village dairy cooperative in Bandung region had educational attainment for elementary school. The percentage consists of approximately 31 percent of cooperative members who could not finish the elementary school and 41 percent for members who are elementary school graduates. This can be a weakness for the cooperative due to limited mindset, perspective and perception to solve problems that influence members' role and active participation (Fatmala & Muflikh, 2013). A similar situation also faced by a dairy cooperative in Bandung which its members are dominated by elementary school graduates (Septianto, 2013). These studies are conducted by using the interview to collect the primary data which later analyzed using benefit and path analyses. Both studies do not specify the definition of 'youth' since both are more focus on general cooperative members. Since it is difficult to collect information from previous studies that specifically focus on youth, the ratio of youth

and their educational attainment can be identified from the data that available in both studies which are categorized by age group.

The importance of young farmer's participation in cooperatives

In this section, information about demographic characteristics of Indonesia has been collected in order to give insights into the age distribution for youth. Population pyramids can represent total Indonesian population through a bar chart which can be used to gather information about age distribution in Indonesia in the last 20 years. The data related to total Indonesian population was collected from population census in 1990, 2000 and 2010. From Figure 5, it can be seen that there is a trend in Indonesian population which the population pyramids become more even within 20 years. The ratio of youth can be assumed based on age group categorization in the population pyramids in Figure 5.



*Figure 5. Indonesia Population Pyramids by 1990, 2000 and 2010
(Population census 1971, 1990 and 2010 in UNFPA report (2014))*

The population pyramids show changes since 1990 to 2010 in which the age distribution becomes more evenly in 2010 compared to in 1990. The number of young people (age

population between 16 to 30 years old) has decreased within 20 years. In 1990, the population was dominated by a child (ages 0 to 15 years old) and youth age group. However, in 2000, the percentage of child and youth has decreased to approximately 40 percent of the total Indonesian population. The young population is decreasing and only contributes to less than 20 percent of total population.

On the other hand, the adult and older population have increased significantly since 1990. At first, total population for adult and older age group (i.e., 30 years old to over) was approximately 48 percent. However, it grew to more than 60 percent by 2010 which indicates the increase of an aging population.

In the 2010 Population Census data estimation, the average of life expectancy at birth for Indonesian is 70 years, and it is projected to increase to 72 years by 2035 (UNFPA, 2014). If the projection is realized, the number of adults and older people will continue to increase. On the other hand, the young population will continue to decrease, and the percentage of all age groups may equalize (population pyramids will be flatter). The distinction between young and older population are made to obtain the information about the ratio between those populations. It can help to indicate whether the increasing and the decreasing of the young population influence youth participation in agriculture and cooperatives sector, more specifically in dairy cooperatives.

The demographic distribution in Indonesia shows a similar trend to all ages. Youth population is still sizeable. However, old population is increasing since the life expectancy increased. Furthermore, gradual changes in higher age groups due to declining fertility and improving life expectancy has affected age structure changes in Indonesia within years. The changes in age distribution from 1990 to 2010 which is based on Indonesian Population Census and from 2010 to 2030 based on population projection is given in Figure 6.

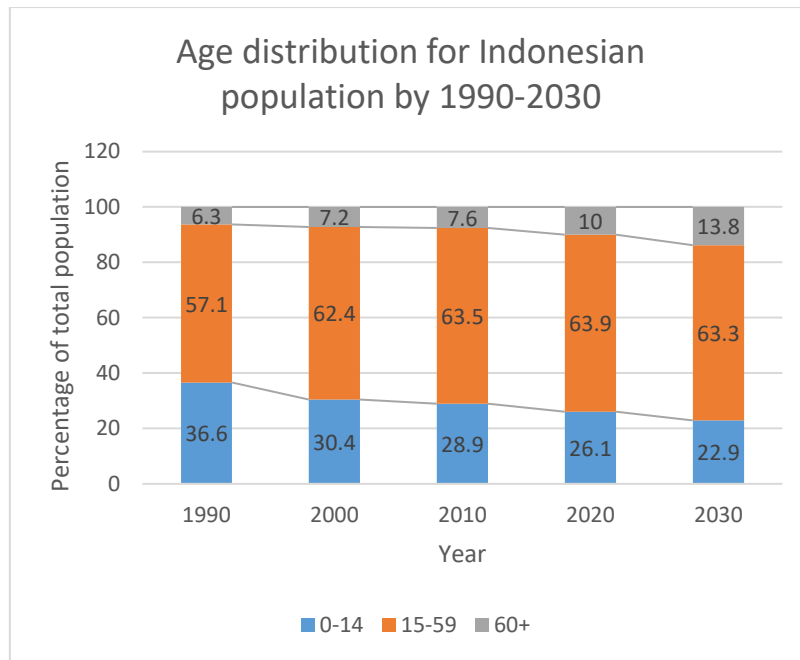


Figure 6. Age distribution for Indonesian population by 1990-2030 (Population Census 1990 and 2010, and Indonesia Population Projection 2010-2035 in UNFP, 2014)

Indonesia differentiates the age group based on productive age category. They are three age group, namely 0 to 14 years indicating child group, 15 to 59 years which indicate adult group and above 60 years old for the older group. Both child group (0 – 14 years old) and older group (60 years old to over) are included in age dependency group. This group cannot meet their own basic needs because they are not capable of working. On the other hand, the adult group is considered to be productive due to the ability to work and to fulfill their own needs.

The percentage for the adult group (i.e., 15 to 59 years old) has gradually increased from 57.1 percent in 1990 to 63.5 percent in 2010. The population projection also shows a slight decrease in productive age group by 2020 and 2030. Meanwhile, the number of older group (i.e., above 60) is expected to increase to 13.8 percent by 2030. It indicates the aging population in Indonesia will continue to grow.

The consistent increase in the older population can be seen in Table 5, which it is expected to double within the next 25 years. Meanwhile, the child and the adult population will be much smaller by 2035. The dominance of the aging population in Indonesia is rapidly increased compared to the past.

Table 11. Population ageing in Indonesia by 1971-2010 and 2010-2035

Period	Increments in population (000)				Increment as % of increase in total population		
	Total	0-14	15-59	60+	0-14	15-59	60+
1971-2010	119,273	16,563	89,973	12,737	13.9	75.4	10.7
2010-2035	67,1341	-2,432	39404	30,162	-3.6	58.7	44.9

Source: Indonesia Population Census 2010, and Population Projection 2010-2035 in UNFPA (2014).

Youth describe as the transition from childhood to adulthood. However, the data that obtained from the Indonesian Population Census and Population Projection does not include youth as part of the demographic category based on age group. According to the definition of youth from Indonesian Law of Youth, it can be concluded that the percentage of age distribution for youth have been gradually decreasing and equal within the age group.

Another information from the 2010 Census enumeration in UNFPA (2014), the older population in rural area accounted for 8.7 percent, which is higher than the older population in urban areas with 6.5 percent. The higher proportion of the aging population in rural areas caused by rural-urban migration. Most of the youth migrate from rural areas to urban areas to obtain higher education and better employment.

In 2017, the total labor force for people with age distribution above 15 years old is 124,538,849 people. About 39,678,453 people of total labor force with age above 15 years old are working in agriculture and related sector which means that this sector has the highest labor force in another sector.

As much rural youth who are prospective young farmers migrate to urban areas, the proportion of farmers in rural areas is still dominated by older people. Since the number of youth population slowly decrease, therefore, youth become essential in regenerating the farmers' population in agriculture and especially in dairy cooperatives.

Sloot (2016) distinguish the benefit that the cooperative can gain from the participation of young farmers are new energy and fresh idea owned by young farmers, knowledge on ICT, innovation within cooperative and enhance the image of farming.

Based on DS (27-11-2017, Lembang) that cooperatives have been tried to increase young farmers participation by actively involved them in a program that focuses on youth, such as Young Farmers Academy that was held by FFI. By supporting young farmers to join that

program, young farmers could increase their skills, knowledge, and experience which later can be distributed to other farmers.

The level of participation in a group

In this section, level of participation for youth in the agricultural sector will describe firstly. Afterwards, relevant information about youth participation in Indonesian dairy cooperatives that have been collected from several studies (e.g., national scale publication, university publications) will be explained. The previous studies that used to explore the level of young farmers participation in Indonesian dairy cooperative focus on the influence of economic and social benefit to the cooperative members' participation. The previous studies used Likert scale to answer the economic, social and participation indicators which further analyzed using correlation analysis. Previous studies that focus only on young farmers' participation in dairy cooperatives is very limited. Although these findings focus on the general cooperative members, instead of youth, they are relevant to this study in which help to answer and to understand the level of cooperative members participation during decision-making activity (i.e., annual meeting) in two type of cooperatives, namely a village cooperative and a well-established cooperative.

The first research that helps to explore the youth participation in the dairy cooperative is from Jakiyah (2011). This study focuses on the member participation in a village cooperative in the Bogor region. This study is chosen to give an overview of the current situation of one of village cooperative in Indonesia before discussing more Indonesian dairy cooperatives. According to Jakiyah (2011), cooperative member participation regarding organization can be seen from their attendance during Members' Annual Meeting and member's frequency to give an opinion on the council and management. Members' willingness to fully give their attention and share their opinion or ideas during the Annual Meeting are also essential factors to determine the participation in the cooperative. Members' Annual Meeting is the most important activity in the cooperative. During the activity, it can be revealed how much members' concern toward the progress of cooperative. The members' participation in purchasing goods (i.e., farming input) provided by cooperative was also measured. The research reveals that members highly participate in the savings and loans activity. Meanwhile, members' attendance at the annual meeting is considered medium. It is a common problem in a cooperative which all of the cooperative members are not always attend the annual meeting. Farmers, who are part of cooperative members, sometimes found that the annual meeting was not held during their free time. Thus, they could not attend the meeting due to their work on the farm. The less communication between the cooperative management staffs

and the farmers also triggered lower farmers' attendance at the Annual Meeting. Cooperative members are having limited knowledge about the village cooperative's progress and development. They are more likely to be passive to share their opinion and ideas. Jakiyah (2011) stated that this could be caused by lack of training and lack of service from the village cooperative management to their members. Members' participation in the cooperative is the consequence of social and economic benefit they gained from cooperative.

The second study from Septianto (2013) who is focused on research about members' participation in a dairy cooperative in Bandung region. Members' participation were identified based on the several aspects, such as attendance during Annual Meeting, shared opinion, and ideas, willingness to become part of the council, put attention for the Annual Meeting report and the quality of training and workshop for members. From the study, it is found that members highly participated by attending Members' Annual Meeting and giving opinions related to annual report and council selection processes. Members show high participation in understanding determine the quality of cooperative's activities and performance of cooperative management. However, members had lower participation in giving their opinion and ideas during the Annual Meeting and the discussion session of Annual Meeting report. The cooperative tried to limit members' participation to give their opinion and ideas individually during the meeting. All of the members of each farmers group gave their opinion and ideas to head to farmers group from each Cooperative Service Location (TPK) which later share it during the meeting. Meanwhile, the reason for members to less participate as the cooperative council is members' considering themselves un-capable for such position due to lower education level and lack of experience as a council. The willingness to participate in cooperative council was lower. Members were rarely visited the cooperative if it was not necessary. Most of the members (farmers) are busy taking care of their cattle, and long distance between the cooperative and their farm made became the two main reasons for them to visit the dairy cooperative rarely. They were also less participated in cooperative activities which requires creativity and innovation. Regarding the quality of training and workshop, members showed medium-level participation.

Another study from Yunasaf and Tasripin (2011) describes that farmers have not optimized their right as members of the cooperative. Most of them understand cooperative member's right to receiving service, cooperative's remaining profit and attending members' annual meeting which has not fully optimized. In this study, members' ability to control the cooperative to provide more benefit for it members were still low. It was described that the cooperative's response to members' complaint remains slowly. Members were also found

difficult to participate in the cooperative's policy-making, activities or programs which gave consequences of lowering cooperative's service to members, such as a slow increase in milk prices and irrelevant cooperative's activity for members.

According to DS (27-11-2017, Lembang), the percentage of members who attend the meeting consists of 40 percent young and 60 percent older farmers. Many of the members that attend the meeting are not the dairy farmers that registered in the cooperative. Since dairy farmers cannot leave the farm, they usually delegate their family members to attend the meeting. It can be their wife or their children, but most of the case, the majority of the attendees are women. Interview 1 also gave an example in KPSBU, which most of the members are actively share their opinions during the members' annual meeting.

Level of participation in cooperatives can be included as nominal, passive and consultative participation. The characteristic feature for nominal participation is a membership in the group. Meanwhile, passive participation means members being informed in related to ex-post decision facto, as well as attending group meetings and listening to the decision making (without speaking up their ideas and opinion). Last, members being asked for an opinion without guarantee of influencing those opinion in the final decisions.

Although there were several studies about members' participation in Indonesian dairy cooperatives, the information for young farmers' participation is mostly not available. The information from previous are more likely related to general member participation in the dairy cooperative. Therefore, the result of expert interview helps to give insight about young farmers' participation in dairy cooperatives.

The influence of the sociocultural factors on participation

According to Central Bureau of Statistics (2017), GDP growth rate for Agriculture, Forestry, Hunting and the Fishery sector was 3.25 percent for period 2013 – 2016. In 2016, the employment in agriculture was 32.88 percent of total employment in Indonesia (World Bank, 2017) and most youth worked in the agricultural sector. However, its proportion showed a decreasing trend, from 55.7% in 1990, to 42.8% in 2003, and to 41.1% in 2005 (ILO, 2015). The contrary, the proportion of youth who worked in non-agricultural sector demonstrated an increasing trend. Although the definition for youth between those findings (15 – 24 years old) and in Indonesia in general (16 to 40 years old) might be different. Findings from the Central Bureau of Statistics (CBS), the World Bank, and the ILO can be used to get the insight about youth employment trend in the Indonesian agricultural sector since the information regarding it (with age group between 16 to 40 years old) is hard to find.

On the other hand, the employment growth rate for the sector was the lowest among other sectors. It only grew 0.2 percent during 2005 – 2009 period, and it was even reached -1.6 percent for the next period (within 2010 – 2014) (Allen, 2016). The profound proportion of youth in the agricultural sector was most likely due to the engagement of rural youth in this sector. Urban youth, on the other hand, would most likely work in non-agricultural sectors such as manufacturing and trade (ILO, 2015).

Although there are limited publications and report regarding sociocultural factors that influence the participation of young dairy farmers in cooperative, the interview session with DS (27-11-2017, Lembang) confirm that the current constraints for young farmers to participate in the general agricultural sector also happen to dairy sector and dairy cooperative sector.

The majority of dairy farms in Indonesia are owned by individual farmers and with an average of three or four cows (Morey, 2011). However, dairy farmers who own up to 20 cows can still be classified as smallholder dairy farmers (Moran, 2009).

The interview with DS (27-11-2017, Lembang), about the older generation (especially older farmers), view suitable job for their children in the future and the communication between older and young farmers. Some dairy farmers have tendencies to suggest their children to continue working on the dairy farm if the parents are successful dairy farmers. It is because the parents have gained more benefit and profits as the dairy farmers (DS, 27-11-2017, Lembang). On the other hand, less-successful dairy farmers suggest their children find another job outside the dairy sector. However, there are also young who involve in dairy cooperative without having the family background of farmers. The smallholder dairy farmers are associated with the high competitiveness and high endurance during the situation where the opportunity costs of family labor and wages remain low (Moran, 2009).

“... there are also young farmers who join the cooperative as a dairy farmer, although these farmers are not coming from dairy farmer family. Those type of young farmers is motivated to join the dairy sector and dairy cooperatives because they saw many people success being dairy farmers, and gain a lot of benefit and profits. It then motivates them to become dairy farmers and in the end become the cooperative’s members. However, many of youths engage to the dairy sector and dairy cooperative because that is their last option due to lack of a job. These young farmers cannot find better employment in their hometown or other cities which makes them decided to

go back to their home and instead become a dairy farmer (DS, 27-11-2017, Lembang)."

Sloot (2016) has been collected through interview with several stakeholders from Indonesian dairy cooperative resulting that young farmers tend to be impulsive while old farmers are generally speaking more quiet and thoughtful. Thus, the struggling process for young farmers to participate in the dairy cooperative is also contributed by effective communication between youth and older generations. The study from Sloot is focused on youth councils in agricultural cooperatives in which youth defined as the cooperative's members with age 15 to 34 years old. This study use desk study, interviews, and workshop with board members and managers of different cooperatives in Indonesia in which four of those cooperatives are dairy cooperatives in Indonesia. The result of Sloot's study (2016) is lack of communication and trust between youth and the board of the cooperative, as well as lack of knowledge with regards to youth involvement practices at cooperatives, such as setting up a youth council.

An interview with NS (24-10-2017, personal communication) was held, and through the interview, it is said that:

"I noticed that some older members could be very open towards youth involvement, but they expect a lot from the youth. For example, if you ask them what they expect from the youth you get a long list of activities they think the youth should be involved in the marketing of the product (finding new markets), bringing innovation into the cooperative, increasing production of the cooperative, bring knowledge into the cooperative.

Some older members are hesitant to involve youngsters because they do not trust youth (youth want quick wins, short-term profits), they are easily distracted, they do not know much about the cooperative and the benefits a cooperative can bring (NS, 24-10-2017, personal communication)."

Moreover, another interview was conducted with DS (27-11-2017, Lembang) in which DS mention communication seems to be the essential factor to connect young and older farmers in the cooperatives. It is said that older farmers tend to be more thoughtful and careful due to long-time experience in dairy cooperatives, while young farmers might be more impulsive and enthusiastic compared to older farmers. For older to be able to more open towards young farmers, the communication needs to be done carefully, politely and patiently. Most of the times, old farmers cannot take young farmers opinion due to miss communication between

young farmers and older farmers, in which the way young farmers explain the opinion might not acceptable for older farmers (DS, 27-11-2017, Lembang).

Regarding the ideal percentage for members in the cooperative. DS in his interview stated that:

“The ideal percentage should be consist of 50 percent of young farmers and 50 percent of older farmers. This balance would give a greater collaboration between young and older farmers’ strength (DS, 27-11-2017, Lembang)”.

The ideal percentage of dairy cooperatives members is still cannot be realized. This is because the current cooperative councils are still dominated by older people, and most of the cooperatives are still do not have separated youth council. Although there are young farmers as members of the cooperative, members tend to choose the council based on long time experience, knowledge, and maturity (DS, 27-11-2017, Lembang).

“I joined the dairy cooperative when I was young. After a long time, I eventually became a part of the council when I am older because the other members trust my longtime experience and knowledge (DS, 27-11-2017, Lembang).”

The statement from DS is also supported by NS which said that hierarchical structures are still happen in cooperative management.

“There are certain hierarchical structures within cultures that basically state that experience and knowledge comes with age. Because of that, cooperatives or management or board of cooperatives can be hesitant in giving the youth certain responsibilities or the possibility to share their opinion (NS, 24-10-2017, personal communication).”

Youth’s entry into farming either while still young or as a next lifetime option, which they found a job at other places and when retired, they come back to rural areas to start farming.

The influence of the economic factors on participation

The annual growth of the Indonesian population in 2016 is 1.1 percent, to reach 258 million people (World Bank, 2017). The agricultural sector provides about 32.88 percent of total employment rate. As the agricultural sector contributes 13.45 percent of total GDP in Indonesia by 2016 (Central Bureau of Statistics, 2017), there is an opportunity for the sector to provide sufficient employment for young people. One of the agricultural subsectors that

could be an alternative for youth employment is livestock. This subsector contributes approximately 1.62 percent of total GDP for agriculture in 2016 (Central Bureau of Statistics, 2017).

Considering that the majority of youth worked in the agricultural sector and the percentage of youth who work in the informal economy is relatively high, agriculture might be the alternative solution to adsorb youth employment (ILO, 2015). Agriculture and other informal employment represent economic activities with easy entry and exit. For examples in some cases, people can easily enter the farming sector after they retired from their previous job in urban areas which provided them capital to purchase land and inputs to start farming. Another case in general agricultural crops, farmers can easily go to urban areas and work as construction laborers or other informal jobs during the famine season of farming. As previously stated, high unemployment and underemployment can be the reason for youth to enter the informal economy (ILO, 2015).

Prospective workers who enter the labor market are better educated and have a higher capacity for adopting new technology more than current average workers (Allen, 2016). The share of youth, which Allen (2016) defines as people with age group 15 to 29 years old, is projected to decline to 34 percent by 2035. The aging population will increase, the benefit of having youth with better-educated labor force will dissipate.

In addition, the interview with DS (27-11-2017, Lembang) stated that young farmers tend to have more business and economic oriented, which makes them take into account about the improvement of dairy production and quality.

“...young farmers are more open towards technology that aims to improve the production and quality of dairy. They are also more likely to adapt to those technologies, easily. By producing a high-quality product and high production, dairy farmers will receive high payment from cooperative because of high milk price (DS, 27-11-2017, Lembang).”

4.2 Young farmers' participation in Kenyan dairy cooperatives

Several publications and annual reports have been used to explore the young farmers' participation in Indonesian dairy cooperatives, such as reports by the World Bank, the International Labor Organization (ILO), the United Nations Population Fund (UNFPA), the CIA Factbook and several local publications. Expert interviews were also conducted to explore the findings and to give a better insight into young farmers' participation in Kenyan dairy cooperatives.

There are two sections in this chapter. First, the cooperative position in Kenyan dairy value chain (section 4.2.1) is described. Second, young farmers' participation (section 4.2.2), is described based on the characteristics of young farmers, the importance of young farmers' participation in cooperatives, the influence of the sociocultural and economic factors toward young farmers' participation, and levels of participation.

4.2.1 The cooperative's position in Kenyan dairy value chains

The agricultural sector has a crucial role in Kenya's economy. One of the largest GDP contributors for the agricultural sector and also a vital source of livelihoods in rural areas is dairy (East African Dairy Development, 2008). This sector provides an income and employment to over 1 million people across the dairy value chain in the country (Rademaker, Bebe, & Lee, 2016) and also contributes to 4 percent of the National GDP (Kenya Dairy Board, 2014). The Kenyan dairy value chain requires lengthy processes which provide opportunities for many stakeholders to involve at each step of the processes (East African Dairy Development, 2008). The processes for the dairy value chain includes the distribution of milk from dairy farmers to the chilling and bulking centers which is done by the dairy cooperative. Milk that has been collected in the cooperative is transported to the milk processing facility. The distributor will distribute the milk that has been processed by milk processor to the point of sale (East African Dairy Development, 2008). This information gives the insight that the Kenyan dairy value chain can provide opportunities for youth employment in its sector, especially in dairy cooperatives. The process of the dairy value chain in Kenya is similar to the value chain in Indonesia which makes both countries comparable to be studied.

In the past, Kenyan dairy cooperative contributed significantly to the development of smallholder milk marketing and also provided inputs and services at relatively low cost to their farmers. However, in the 1990s, many of Kenyan cooperatives showed a decline in their performance due to the liberalization of the dairy industry. It can be seen as a result of high

competition, inability to adapt to change, small pay-outs, the loss of large sums of money, poor management and political interference (Muriuki, 2011).

Dairy farmers as cooperative members have made limited participation and contributions to the cooperative management. Most of the members have limited access to participate in the election for the cooperative's council (Muriuki, 2003). These members are considered fail to organize themselves through a collective approach to their cooperative management which cause the inefficient and the small dairy cooperatives and groups (Muriuki, 2011). Many dairy farmers in Kenya who seek the ability to have higher participation and contributions choose to form self-help groups (SHG) which are smaller than dairy cooperatives. The self-help groups allow members to have more influence on the group's activities and actively participate in it. However, the disadvantage of these type of self-help groups is that members difficult to borrow capital because of their legal status (Muriuki, 2003).

A cooperative cannot be separated from their members due to its principle as an organization that owned and controlled by their members to gain benefit together. For a dairy cooperative to sustain, the existence of cooperative members become important. Therefore, as many of Kenyan dairy farmers leave the cooperative and move to SHG, it gives the insight about the importance of the cooperative management to give a higher opportunity to contribute and participate in the dairy cooperative's management in order to create more efficient and bigger cooperatives. The well-established dairy cooperatives can provide more benefits to dairy farmers, such as easy access to financial institutions. By allowing members to participate and contributes more to the management, the cooperative can also gain benefit from having more efficient management and loyal members.

There are over 9,000 registered-cooperative societies in 1990 in Kenya. There was only 46 percent agricultural cooperative of entire cooperative societies (approximately 4,200 cooperatives) (the National Development Plan 2002-2009 and the Economic Survey, 2002 in Muriuki, 2003). About 330 registered cooperatives were dairy (CBS, 2002 in Muriuki, 2003), with 50 percent active members. Most of the other cooperatives remained dormant.

One of the leading cooperatives who starts milk processing activity in 1984 is Meru Central Cooperative. Kitinda Cooperative in 1986 and Limuru Cooperative follow it. Both Meru and Limuru cooperatives were still used only 70 percent capacity of total 50,000 liters for milk processing (Muriuki, 2003). Since then, the number of milk processors rose from three to 45 and reach 34 processors in 2007 (Muriuki, 2011; East African Dairy Development, 2008).

Dairy cooperatives are one of the best placed to help farmers sell their milk and procure dairying inputs at a low price because of its advantage of scale economies (Muriuki, 2003). Nowadays, Kenya cooperative and farmers' group were able to handle 40 percent of marketed milk production and 20 percent of total milk (Muriuki, 2003). Based on Muriuki (2011) the number of member in Kenyan dairy cooperative is 254 members (Muriuki, 2011) and the annual turnover reach USD 15,1 million in 2006 (Wanyama, 2009). Approximately 20 cooperatives in Kenya have set up their milk cooling and processing plants as means to add value to farmers' production and maximise their income (Wanyama, 2009).

4.2.2 Young farmers' participation

The characteristics of young Kenyan farmers

The annual population growth for Kenya was 2.6 percent in 2016. The country currently has a population of more than 48 million people of which about 61.1 percent are part of the labor force (World Bank, 2017). Kenya has been known as one of leading emerging economy countries in East Africa with the agricultural sector remains the most prominent and essential sector which contributes to approximately 32.6 percent of the total National GDP in 2017. Livestock sector contributed specifically to the total of national by 4.4 percent at the same year. Dairy production has been continuously increased by reaching 650.3 million liters in 2016 (Kenya National Bureau of Statistics, 2017). According to Muriuki (2011), dairy sector in Kenya has an essential role in contributing to the livelihoods and the nutritional well-being of many rural communities. Therefore, as a valuable sector, young farmers' characteristic who participate in dairy cooperative become interesting to study.

Youth age group and legal age for youth to be able to participate in cooperatives

The African Youth Charter from the African Union (2006) (in Osti et al., 2015) uses a combination of a statistical and social definition to define youth. Based on the statistical definition, youth applied to label a man or a woman from the age of 15 to 35 years. Concerning the social definition, youth is a social construct that people apply to themselves, or that is applied by society and by cultural norms. Meanwhile, in Laws of Kenya, youth is defined as a person with age between 15 to 30 years (Ministry of Home Affairs, Heritage, and Sports, 2002).

According to Kenyan Age of Majority act, a person shall be of full age and cease to be under any disability because of age on attaining the age of 18 years (Act No.1 of 1974). The same qualification is also applied in Kenyan cooperatives, in which a member is allowed only when he or she has attained the age of 18 years (Laws of Kenya, 2009). It is also stated by XL (08-11-

2017, personal communication), cooperative societies including dairy cooperative societies are registered under cooperative societies act chapter 490 laws of Kenya. To be a member of the cooperative society one must be 18 years, sound mind among other requirements (Laws of Kenya, 2009).

An interview with JL (24-10-2017, Wageningen) also added that young farmers in Kenyan cooperatives are indicated under 35 years old. Meanwhile, XL (09-11-2017, personal communication) specified that young farmers in cooperative ages between 18 to 35 years since the age of majority of youth are 18 years old. These statements give the information that the age group of young farmers who participate in dairy cooperatives is most likely to be between 18 to 35 years old.

Sulo et al. (2012) focus on identifying youth level of participation, identifying preferable opportunities for youth, potential facilitators and the way for youth to increase income and employment in the dairy sector. According to Njeru & Gichimu (2014), the average age of farmer who participated in agriculture sector in Kenya is 60 years. Meanwhile, based on Sulo et al. (2012), the average of dairy farmers sampled that used in their study was 49 years old. This mean age compares favorably with national figures indicating that most dairy farmers are 56 years of age. A survey that conducted by ACK Eldoret stated that average age of dairy farmers was 50.65 years old, despite the fact that the survey included the dairy youth farmers (Sulo et al., 2012). Some of those farmers were older than 80 years (Sulo et al., 2012).

As the data about youth and old population ratio cannot be afforded through secondary data collection, the interview with XL (08-11-2017, personal communication) give the insight about the percentage of young farmers compare to total farmers in Kenyan dairy cooperatives. According to his observation, 20 percent of total farmers in Kenyan dairy cooperatives are young farmers, while the remaining percentages belong to older farmers.

Educational attainment

The Kenyan population for age group 15 to 34 years old approximately consisted of 1,570,465 people who have no educational attainment, 47,080 people with pre-primary school attainment and 7,026,002 people with primary school attainment in 2016, respectively. In the same year, the number of Kenyans who completed secondary school were 4,196,168 people. This number was much higher than the population with tertiary school attainment (completing university) with only 164,641 people (Kenya National Bureau of Statistics, 2016). This statistics can give insight into the educational attainment of Kenyan population based on age group which further can be used to understand the average of youth attainment in Kenya.

According to Leavy and Hossain (2014), those young Kenyans do well at school are expected to attend university and seek top-tier professional jobs as doctors, bankers, teachers and government servants. There is little interest from youth and also a little focus on agriculture during the early years of education. Youth would prefer to study anything but agriculture (Lucchesi & Proctor, 2012). These findings are mentioned in order to give information that youth with higher educational attainment tend to avoid working as farmers and become the members of cooperatives. However, this study focus on youth who become dairy farmers and also members of cooperatives. According to Sulo et al. (2012), approximately 50 percent of sampled youth (dairy farmers) had the highest level of education being at primary level (i.e., elementary school, junior high school). About 40 percent of youth had secondary educational attainment. Lastly, ten percent of young dairy farmers had opportunity to receive tertiary education level (Sulo et al., 2012)

To explore conclusions from Sulo et al. (2012), an interview was held with XL (08-11-2017, personal communication). The majority of young farmers in dairy cooperatives is still dominated by high school graduates. However, university graduates are also starting to get involved in this sector recently (XL, 08-11-2017, personal communication).

In Kenya, education for youth does not match the practice and demands from the field which caused them to be not prepared for the practical work (White in Osti et al., 2012). This condition can lead to unemployment and underemployment because youth needs to generate some income, even if it is below their qualification level. People can obtain a more commercial mindset towards agribusinesses through education, so that agriculture is not left for the less educated but has the potential for the higher educated youth, to make money and commercialize the sector. This way value could be added more easily, due to the commercial mindset, and steps in the value chain could be merged to generate more income and profits. Training and capacity building could be the solution for youth to be able to take specific parts in the value chain.

The Importance of young farmer's participation in Kenyan cooperatives

According to World Bank (2017), Kenya's rural population in 2016 was 73.945 percent of the total population, and the urban population is 26.055 percent of total population. Although the rural population is much higher than urban population, population growth in urban areas is projected to increase every year steadily and is expecting to reach 44 percent of total population by 2050 (UNDESA, 2014). On the other hand, the rural population will continue to decrease. By 2016, urban population growth was 4.237 percent, and rural population growth

only took 1.977 percent. Kenya has been experiencing urbanization in recent years, even though the percentage was smaller compared to other countries, such as Indonesia or India. Better employment and higher education are two drivers for urbanization in Kenya. However, the information about age group for the urban and rural population cannot be found which is essential to identify youth population.

Kenya population pyramids were identified which can be seen in Figure 5. In this figure, it can be described that age group between 0 to 14 years old dominate approximately 19,124,049 million populations in 2016 which was 40.87 percent of the total Kenyan population. Youth which is age group between 15 to 24 years old only consist of 8,810,140 people (18.83 percent). Meanwhile, ages 25 to 64 years is 17,519,766 people (37.38 percent) and six years and over had only 1,366,803 people of total population (2.92 percent) (CIA World Factbook, 2017).

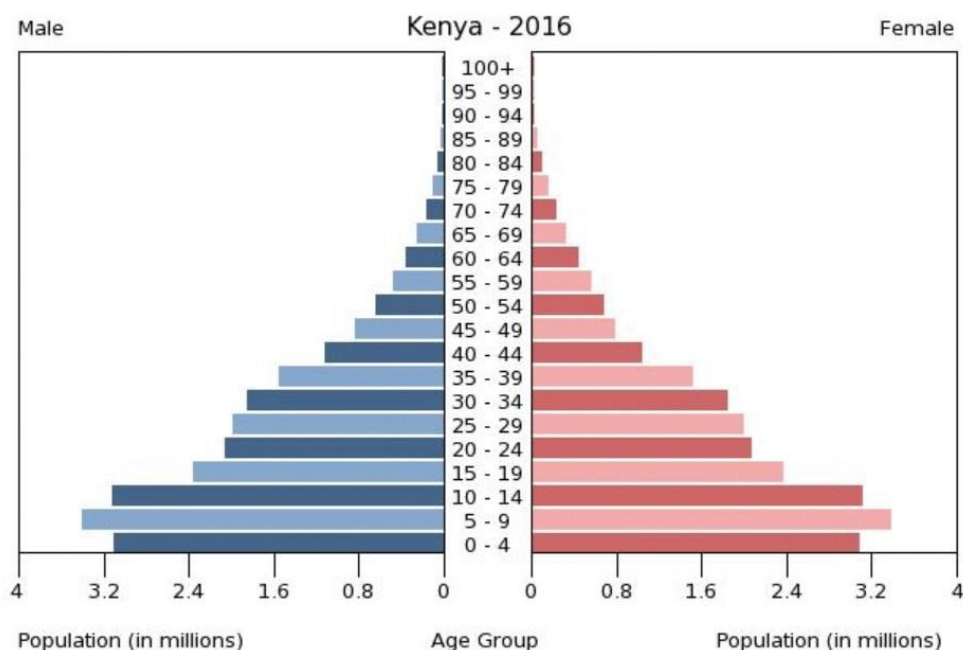


Figure 7. Kenya Population Pyramids (CIA World Factbook, 2017)

According to Mwangi (2011), Kenya population in 2010 dominated by age group 0 to 14 years old (i.e., child group) with 16,234,393 people of the total population which is 38,473,893 people. In 2020, the child age group is expected to still dominate the total population by 20,185,071 people (of total population 50,319,253 people). Population projections for age group 0 to 14 by 2030 will be 23,468,642 people (of total 63,859,547 people) which means Kenyan population for age group 0 to 14 years old will increase approximately three millions people every ten years.

Kenya population with age group 15 to 24 years old (youth) in 2010 was 8,048,903 people. The projection is expected to be 9,984,070 people by 2020 and 12,532,605 people by 2030 (Mwangi, 2011). Total remaining age groups (i.e., adult and older group) are 20,150,113 people by 2020 and 24,858,300 people of Kenya total population by 2030 (Mwangi, 2011). The population of youth, adult and older group are projected to increase 3 to 4 million within ten years (by 2020 to 2030).

From 2010, 2020 and 2030 population projection, age distribution for 0 to 14 years will continue to dominate total Kenyan population while the aging population tends to be much lower than the child group. Youth population is relatively half than child population. This means that aging population in Kenya is lower than young population. Moreover, life expectancy for Kenyan is 67.3 years within 2015 to 2020 and is expected to increase to 69.8 within 2025 to 2030 (UNDESA, 2014).

Youth could thus have a significant influence on the development of cooperatives. For example, the youth make up a majority of the population in many countries in Africa. Youth become increasingly recognized as a resource for cooperative movements and a key to sustaining and growing cooperatives. As part of a new generation of co-operators, youth are motivated to develop more profitable and independent business. Therefore, it could provide both economic and social benefits to members and their communities (Hartley, 2014).

The level of participation in a group

According to Lucchesi and Proctor (2012), youth with interest in agriculture more likely to join farmer organizations and cooperatives. Youth who are more educated usually get an occupation in management or middle management which could attract more youths to join the organization. It was considered the most successful group if they could have 20 – 30 percent youth of total cooperative members. Some dairy farmers might join the cooperative meeting to sharing knowledge and experience with other members that enhance their production capacity. By joining as the dairy cooperative's members, farmers are also able to participate in decision making that affects the cooperative and influence their membership. Training and workshop that provided by cooperative could increase participation in the cooperative.

According to XL (08-11-2017, personal communication), most of the time, young farmers are bystanders in the dairy cooperatives because they do not own the animals. Young farmers also cannot share their opinion and ideas freely to the cooperative during a meeting due to

the high patriarchal tendencies from older generation (XL, 08-11-2017, personal communication)

Findings related to youth participation in Kenyan dairy cooperative are insufficient. Therefore, the level of participation according to Agarwal (2010) cannot be explored further. The relation of current findings on youth participation in the dairy cooperative is on nominal, which they become a cooperative member and attend the meetings, to activity-specific participation, which they have initiatives to participate in a specific task in the dairy value chain.

The influence of sociocultural factors on participation

Findings from Noorani (2015) find only few youth express little interest in farming. Parents have important role to influence youth motivation to participate in farming in which youth have seen their parents work as farmers since they are young. Parental influences may encourage youth to follow their parents to become farmers. On the other hand, it is also can discourage youth to involve because youth saw farming as a part of life which everyone does in their home town and it is not necessarily an income generating activity. In addition, some youth become farmers as a way to earn quick cash which it will be use to invest in other businesses. Meanwhile, a few older participants decide to involve in farming sector due to unable to find jobs in urban areas (Noorani, 2015).

Furthermore, lack of resources among youth to participate in cooperative is one of the main challenges that faced by dairy cooperatives. Youth is unwilling to continue working on the farm same like their parents. On the other hand, youth tend to see non-farming job sector more interesting.

“Most youths associate dairy farming with heavy and dirty work which is not as attractive as white collar job. However, many of those youths who prefer white collar job, are coming back to rural areas and become farmers after they are getting older... in the past five to ten years, the trend in agriculture started to change. Cities no longer promise guarantee for a job. Therefore, many youths decide to go back to rural areas and start farming, mainly due to higher demand for food during 2007 – 2008 and the increasing of private sectors (JL, 24-10-2017, Wageningen).”

However, most youths are lack of practical experience and skills which makes them need to be trained because the formal education does not teach them the practical skills in dairy farming and cooperatives. Therefore, cooperatives try to support several program and

training for improving youth's practical experience, such as silage group for youths in which they train to make and produce silage, then provide it to other farmers (JL, 24-10-2017, Wageningen).

Moreover, young farmers tend to have better entrepreneurial skill compare to older farmers which it is sometimes conflicting with what the cooperative wanted because the cooperative is not ready enough for changes (i.e., more entrepreneur practice).

Further information that obtained from (JL, 24-10-2017, Wageningen; XL, 08-11-2017, personal communication) explain most of the cooperatives are still dominated by conservative older members who have a higher influence in the cooperative compared to young members. Both interviewees (JL, 24-10-2017, Wageningen; XL, 08-11-2017, personal communication) argued that these old members do not allow some space for young members in cooperatives' programs or activities, and they tend to have a negative attitude toward youth in which they fear of losing their position in the cooperative due to high patriarchal tendencies. Many of young farmers have to wait until quite older to be part of the council and give influence during the cooperative meeting, which can be seen from JL and XL statements:

"The majority of members still do not trust young farmers' capabilities" (XL, 08-11-2017, personal communication).

"Most of the cooperative council come from members with age above 35 years and most of older members are believed to have more experience and skills compare to young members to become the council" (JL, 24-10-2017, Wageningen).

Furthermore, XL (08-11-2017, personal communication) mention that Kenya has started to develop legislation to involve youth in cooperatives in order to improve the communication between young and old farmers and democracy in cooperatives it is stated below:

"The legislation is expected to create slots for young farmers so that they do not have to campaign against well-established older farmers who have cash and network. It also helps to increase communication between young and older farmers. As the cooperative known to be democratic entities. Thus, democracy becomes a path to cooperative leadership. The legislation later becomes affirmative action that important for young farmers" (XL, 08-11-2017, personal communication).

In addition, XL (08-11-2017, personal communication) state there are still young farmers who are under legal age (under 18 years old) who participate in dairy cooperatives. However, they are not registered members of the cooperative.

“... they participate in helping their parents who are the member of the cooperative and own cows. Young farmers receive permission from their parents for rearing and milking the cows. Then they also deliver the milk to the cooperative on behalf of their parents (XL, 08-11-2017, personal communication).”

The influence of economic factor on participation

The labor force consists of both employed and unemployed members of the population with ages above 14 years old. In 2016, the total Kenyan labor force was 19,261,713 people of total Kenyan population (i.e. 48,461,567 people) which increased from previous year (i.e. 18,588,560 people). The Kenyan labor force has steadily increased every year. The participation rate of the youth labor force for ages 15 to 24 was 39,124 percent of total population (modeled ILO estimate) in 2016. At the same year, youth unemployment was 22.168 percent of the total labor force (modeled ILO estimate). In Kenya's strategic plan, Vision 2030 place agriculture as a crucial factor that drive the country economic growth. However, youth is still perceived this sector to be unattractive which make this sector's potential to reduce youth unemployment is not fully used (Njeru & Gichimu, 2014)

Around 75% of Kenyans live in rural areas, where working in agriculture is an essential profession (World Bank, 2017), although it accounts for only the 45% of the total salary earnings (FAO, IFAD & CTA, 2014). According to World Bank (2017), total employment in the agricultural sector was 7,704,550 in 2005 which was 61.1 percent of total employment in Kenya. Furthermore, dairy production receives more attention than most other agricultural enterprises due to current potential to create rural employment and to boost farmers' income.

Similar to the current trend that happens to other countries, youth in Kenya still have the perception that agricultural sector has low status (perceived as employment for the poor and the old) and cannot give them fast money like office jobs (Afande et al., 2015). The agricultural sector is no longer considered an activity that provides a reasonable standard of living by across the generation. Salaried employment is viewed as a better prospect for the future (Lucchesi & Proctor, 2012). Youth is more willing to have a job that allows them to gain respect from societies (Osti et al., 2015) and higher living standard (Leavy & Smith, 2010).

Based on a study from Osti et al. (2015), experts from Kenya indicate that often it is indeed impossible to make a living from agriculture because this sector gives minimal rewards, and performs poorly. Therefore, youth often do not have particular perspectives from agriculture as an income-generating activity which has relation to education. For example, the youth whom train to add value in their production system could make more money in agriculture, compare to whom are not trained (Osti et al., 2015). Furthermore, youth who participate as farmers are still faced by lack of access to finance. Therefore, family support is still consider as a common finance source for young farmers, although the amount of those financial support is usually very limited (Njenga, Mugo, & Opiyo, 2013).

Moreover, JL (24-10-2017, Wageningen dairy) state that many people join dairy sector because it has the more stable income since farmers have to supply the milk regularly to the cooperative. It means that as long as farmers supply their milk to cooperatives, they will also receive the payment regularly from the cooperative. On the other hand, some farmers who aim to get higher profit and income move to self-help group.

“...like many young farmers into entrepreneur practice to gain profit and increase their income, they tend to leave cooperatives and join small farmers group, such as self-help group, instead... The reason is the cooperative cannot fulfil young farmers’ demand. Therefore, many small farmers groups are overhead than cooperatives because they are consists of young farmers (JL, 24-10-2017, Wageningen).”

Those statements also supported by XL (08-11-2017, personal communication) in which young farmers prefer to receive cash instead of waiting for 30 days to receive their milk payment from the cooperative. Thus, many of them are discourage of being a member of cooperatives societies due to late payment. Meanwhile, the older farmers tend to be more patient in which they can wait for thirty days to receive the payment from the cooperative (XL, 08-11-2017, personal communication).

There is also a case which youth are hesitant to join because they do not want to be dependent on others for their farming. XL (08-11-2017, personal communication) also added that farmers who join cooperative have to pay a determined fee and purchase shares as prescribed by the supreme organ which is the members’ annual meeting. Although the positive side of the cooperative is that youth can access easier credit from the banks compared to the individual farmer (Osti et al., 2015).

According to JL (24-10-2017, Wageningen) during 1960s land re-distributed to smallholders in Kenya by the government. However, in the 1990s, the population has a grown a lot which affects the land ownership in Kenya. Lucchesi & Proctor (2012) through their findings found that young farmers have to wait until they are older to inherit their land to the next generation. It is difficult for young farmers to have access to land except through inheritance since their parents have been in the sector for a long time. In Kenya, inheriting is significantly considered as the almost exclusive means of land transfer. Therefore, access to productive land is still a barrier for youth (Njenga, et al., 2013)

As most of the smallholders in Kenya have many children, they have to divide the inheritance of the land between all their children equally. That inherited land become smaller when it transferred to the children. When the children transfer it to the next generation, the land becomes insufficient for farming. However, cows need much land to thrive. On the other hand, young farmers are also difficult in finding land for rental. Therefore, lack of land become one of the significant problems in Kenya for the past years to (JL, 24-10-2017, Wageningen).

5. DISCUSSION AND LIMITATIONS

This chapter will discuss previous findings of youth participation in Indonesian and Kenyan dairy cooperatives. The first section (5.1) will compare young farmers' characteristics, young farmers' important role, the influence of sociocultural and economic factor, and the level of participation in Indonesian and Kenyan dairy cooperatives. Key findings that have been explained in Chapter 4 are deliberated with conceptual frameworks (section 5.2). Also, the limitation of the study is described in the last part of the chapter.

5.1 Comparison between youth participation in Indonesian and Kenyan dairy cooperatives

In the previous chapter, findings in each country (i.e., Indonesia and Kenya) has been described based on five indicators, namely age group and legal age, educational attainment, the importance of young farmers' participation, the influence of sociocultural and economic factor, and level of participation in a group. Findings on five indicators will be compared between Indonesia and Kenya to obtain the information about the similarities and the differences of the current condition of young farmers' participation in dairy farming, in the cooperatives and the decision-making bodies of the cooperatives. By comparing five indicators on both countries, it also gives insights on the young farmers' condition and their participation which may also occur in developing countries. A brief comparison of those chains is presented in Table 6.

Table 12. Comparison between youth participation in Indonesian and Kenyan dairy cooperatives

No	Indicator	Indonesia	Kenya
1	Age group and legal age	<ul style="list-style-type: none"> • Indonesian citizen who are entering 16 and 30 years (Laws of Youth) • Youth in dairy cooperatives have age between 17 to 40 years and/or married status • Age of majority is 17 years old • The comparison is 30 percent of young farmers and 70 percent of old farmers 	<ul style="list-style-type: none"> • Age between 15 to 30 years (Ministry of Home Affairs, Heritage and Sports, 2002) • Youth in dairy cooperatives have age between 18 to 35 years • Age of majority is 18 years old • The comparison is 20 percent of young farmers and 80 percent of old farmers
2	Educational attainment	<ul style="list-style-type: none"> • The majority of youth complete their education at primary level (i.e. elementary and junior high school) • Youth who attend secondary and tertiary education are mainly move to urban areas • No standard on minimum education level for cooperative members • Cooperative members have primary educational attainment (i.e. elementary, junior high) 	<ul style="list-style-type: none"> • Most of the youth in Kenya have completed primary education (elementary school, junior high school) • Most of the youth in dairy sector have primary education as their higher level of education, followed by secondary educational attainment • The majority of young farmers in dairy cooperatives is dominated by high school graduates
3	The importance of young farmer's participation in cooperatives	<ul style="list-style-type: none"> • The decreasing of child and youth population • The increasing of life expectancy and the increasing of older population • Higher older population in rural areas • Lower regeneration in agricultural sector and cooperative sector • Young farmers' participation in cooperatives a new energy and fresh idea, knowledge on ICT, innovative and enhancing the image of farming and cooperatives • Sharing skills, knowledge and experience from young farmers to other farmers 	<ul style="list-style-type: none"> • The decreasing of rural population • The domination of child and youth population and it is projecting to increase by 2030 • The increasing of life expectancy • Lower regeneration in agriculture and cooperative sector • Youth become increasingly recognized as a resource for cooperative movements and a key to sustaining and growing cooperatives • Youth are motivated to develop more profitable and independent business that provide both economic and social benefits to members and their communities
4	Level of participation	<ul style="list-style-type: none"> • Most of the times, family member have to attend members' annual meeting on behalf of dairy farmers (because farmers have to take care of their farms) • Several members (i.e. dairy farmers and their family members) share their opinion and ideas if it is related to dairy farming but most of the times they tend to be more passive during the members' annual meeting • Members are less participated in council and management due to lower educational attainment, lack of experience and knowledge • Less visited the cooperative and less participated in its activities (that requires creativity and innovation) • Level of participation tend to be more nominal, passive and consultative participation 	<ul style="list-style-type: none"> • Most of the time, young farmers are bystanders in the dairy cooperatives because they do not own the animals which makes it difficult for them to actively participate • Young farmers cannot share their opinion and ideas freely to the cooperative during a meeting due to high intervention from older farmers • Young farmers are less participated in council and management since it is still dominated by older farmers • Level of participation tend to be more nominal and passive

No	Indicator	Indonesia	Kenya
5	Sociocultural factor	<ul style="list-style-type: none"> •The decreasing of youth employment in agricultural sector •Hierarchical system •Successful dairy farmers tend to suggest youth to work in dairy farm •Less-successful dairy farmers suggest youth to find another job outside the dairy sector •Newcomer (i.e. young dairy farmers) join dairy farm and dairy cooperative after seeing dairy farmers' success •Lack of a job is the last reason for youth to join dairy farm and dairy sector •Youth's entry into farming either while young or as a next lifetime option (job after they retired) •Young farmers tend to be more impulsive and enthusiastic •Old farmers are more thoughtful and careful •Need effective communication between young and old farmers •Old farmers dominate the cooperative's council and management •Cooperative members trust old people more than youth due to long-time experience, knowledge and maturity 	<ul style="list-style-type: none"> • Lack of youth to participate in cooperative • Unwilling to continue working in farm same like their parents and prefer white collar job, later youth are coming back to rural areas and become farmers after retired • Cities no longer promise guarantee for a job • youths associate dairy farming with heavy and dirty work • Youth are lack of knowledge and skills • need to be train because the formal education does not teach them the practical skills in dairy farming and cooperatives • Young farmers tend to have better entrepreneurial skill compare to older farmers • Youth under 18 years old help to rearing and milking the cows, then deliver the milk to the cooperative on behalf of their parents • Hierarchical system • older members are believed to have more experience and skills compare to young members • The legislation (i.e. laws and policies) is expected to create slots for young farmers so that they do not have to campaign against well-established older farmers who have cash and network. It also helps to increase communication between young and older farmers
6	Economic factor	<ul style="list-style-type: none"> • Dairy sector contributes 1.6 percent of total GDP for agriculture • High share of employment in agricultural sector • Young farmers have more business and economic oriented which make them more open and adaptive towards technology used that aims to improve the production and quality of dairy 	<ul style="list-style-type: none"> • The increasing of labor force • High share of employment in agricultural sector • No longer considered an activity that provides a reasonable standard of living • Dairy has more stable income (the farmers have to supply the milk regularly to the cooperative) • Young farmers discourage to join cooperatives due to late payment (wait for thirty days after they supply the milk) • They have to pay a determined fee and purchase shares, but they can access easier credit from the banks compared to the individual farmer • Lack of land access (i.e. inheritance and rental)

Age group and legal age for young farmers to be able to participate in cooperatives

The minimum age for a person to be called youth in both countries apparently is below the age of majority bylaws. According to Laws of Youth in Indonesia, youth is defined as a citizen who ages 16 to 30 years. Meanwhile, the age of majority for Indonesia citizen is 17 years old. The definition of youth in Indonesia is similar to Kenya which youth is a person with age between 15 to 30 years. However, youth who reach 18 years old is considered to be full age (reach the age of majority). This information means that the range of age group is quite similar to the definition of youth which the age limit is 30 years in both countries. The minimum age and the legal age are slightly different by only one year. Kenya defines the age of youth one year earlier than Indonesia (i.e., 15 years old), and the legal age one year later than Indonesia (i.e., 18 years old). It can be said that youth characteristics concerning age group and legal age are quite comparable in both countries.

Most of the dairy cooperative in Indonesia and Kenya require their prospective member (i.e., farmers) to be at least reach the age of majority. Thus, they could follow the overall cooperative regulation, such as be responsible and independent regarding financial liability, the right to vote and the eligibility to the post of responsibility. In Indonesia, young farmers need to have age minimum 17 years old which is recognized by laws. The age group for young farmers in Indonesia is between 17 to 40 years old. Kenyan dairy cooperatives are also restricted their members to have minimum age attainment 18 years which is align with Laws of Cooperatives in the country.

Although many young farmers who have not reach the legal age (minors) are join cooperatives, they cannot participate as active registered members. Minors who participate in a cooperative with the need to be limited to prevent them from controlling the cooperative and they also need to be under supervision and permission of their legal guardians (ILO, 2015). Therefore, in most cases, these young farmers are participating in cooperatives (i.e., dairy farming, deliver the milk to cooperatives) on behalf of their parents since parents are the one who is legally registered as a member of the cooperative. The participation of minors in the dairy cooperative is different from the participation in school and student cooperatives. School and student cooperative have a different condition from dairy cooperatives which is aim to target minors to gain knowledge and skills by practicing the cooperative system, actively. It is also relatively simpler management system than dairy cooperatives (ILO, 2012).

The percentage of young farmers and old farmers in dairy cooperatives vary depending on the cooperative and the country. From the observation of experts in Indonesia, young farmers

approximately distribute to 30 percent of total cooperative's members. The remaining 70 percent are coming from old farmers. It is not different from Kenyan dairy cooperatives. The comparison of young farmers and old farmers are 20 percent and 80 percent of total members. The exact data about the percentage of young and old farmers in dairy cooperatives cannot be obtained since it needs data collection to each dairy cooperatives which was not done in this study. Therefore, those percentage can give the insight about the proportion of young and old farmers in both countries' dairy cooperatives which old farmers are still dominated by old farmers, instead of young farmers.

Educational level

Both countries show similarity in an educational level that completed by youth. In general, youth attain primary school level (i.e., elementary school, junior high school) in both countries, while youth with higher educational attainment (i.e., secondary and tertiary education) are most likely to migrate to urban areas in order to seek higher education and also office job.

In Indonesian dairy cooperatives, there is no standard on minimum educational attainment requirement to become a member of a cooperative. However, most farmers in the dairy cooperative are primary school graduates. Meanwhile, young farmers in Kenyan dairy cooperatives are mostly dominated by high school graduates (i.e., secondary school). In general, young farmers who participate in dairy cooperatives are still dominated by primary and secondary school graduates. The findings might be caused by lack of interest from the higher educated people to participate in the dairy value chain due to the negative image of dairy farming (Sloot, 2016).

As Xiang and Sumelius (2010) stated in their studies that young farmers' educational attainment influence the frequency of participation, young farmers with lower educational level might have less understanding of cooperative management policies and also less communication with the cooperative management. Therefore, cooperatives need to put extra effort to provide necessary training and workshop as means to improve young farmers' capacity, skills, and knowledge.

The importance of young farmers' participation in cooperatives

Most of the studies focus on drivers and constraints faced by youth to participate in the agricultural sector, specifically in the dairy sector and dairy cooperatives. Meanwhile, the reason for the importance of young farmers' participation mainly is only briefly explained.

Therefore, the importance of young farmers' participation will be explored further in this section.

In the past thirty years, child and youth population in Indonesia are decreasing. Meanwhile, life expectancy and the older population are increasing, which indicates that the proportion of age group in Indonesia population become more equal. The higher percentage of the older population in rural areas influence the domination of older people in dairy cooperatives. Since many youths migrate to urban areas as means to achieve higher education and to obtain office job. Thus, the regeneration in dairy cooperative become lower.

In comparison to Kenya, the trend of the population show that child and youth population are dominating the total Kenyan population and it is expected to still increase by 2030. The life expectancy is also increasing. However similar to Indonesia, due to urbanization in which many youths migrate to urban areas, the rural population is decreasing. Although Kenya has a higher youth population, the regeneration in agriculture and cooperative sector is still low. These sectors become the least choice for youth to work. Since urban areas cannot give a guarantee for the jobs anymore, the unemployment of youth continues to increase. Therefore, it is essential to participating youth to be a dairy farmer and actively involved in dairy cooperative as means to reduce the unemployment and also to increase the regeneration in the cooperative.

The participation of young farmers in dairy cooperative could bring benefits to the organization. In general, youth are assumed to bring new energy, fresh ideas, and knowledge of ICT and innovations. The participation of youth as young farmers in Indonesian dairy cooperatives could also enhance the positive image of farming and cooperatives. Young farmers are also able to share their skills, knowledge, and experience to other farmers (e.g., their peers) since they tend to be more open to change and technologies that improve milk production and milk quality. In Kenya, youth becomes increasingly recognized as a resource for cooperative movements and a key to sustaining and growing cooperatives. They also have the motivation to develop more profitable and independent business that provide both economic and social benefits to members and their communities.

Level of participation

Participation of young farmers in Kenyan dairy cooperatives tends to be passive participation which they attend the annual meeting without giving much opinion or ideas that can be used to improve cooperative management and programs for members. Young farmers become bystanders because they do not own the animals which makes it difficult to participate. Young

farmers cannot share their opinion and ideas freely to the cooperative during a meeting due to high intervention from older farmers which is caused by the strong hierarchical system in the cooperative. Moreover, they tend to less participate in council and management since it is still mainly dominated by older farmers. As most of the council and the management are old farmers, these old farmers are afraid that young farmers will take over their positions.

In Indonesia, most of the dairy farmers usually cannot attend the annual meeting because they have to work and cannot leave their farms. Thus, they delegate their family members to attend the meeting on behalf of the dairy farmers. Most of the family members that attend the annual meeting are the women who are farmers' wives, and sometimes their children will also attend. The members (i.e., dairy farmers and dairy farmers' family members) share their opinion and ideas actively, especially if it is related to the improvement of the cooperative's service and dairy farming (DS, 27-11-2017, Lembang). However, most of them are still tend to be more passive to share their opinion and ideas with other members during the annual meeting. They are also less participate in council and management due to lower educational attainment, lack of experience and knowledge. Members visit the cooperative less and also participate less in the cooperatives' activities that require creativity and innovation.

Applying the categorization of Agarwal (2010), the levels of young farmers' participation in the dairy cooperative can be characterized mostly as nominal participation, passive participation, and consultative participation. Nominal participation is related to young farmers' membership in the dairy cooperative, and it is also influenced by the basic requirement to join the cooperative, such as legal age for young farmers, land ownership, and cow ownership. Passive participation means being informed of ex-post decision facto, attending meetings and listening in on decision making, without speaking up. In this level of participation, most youths are passive due to the hierarchical system that still establishes in the cooperative. Last is consultative participation which means being asked an opinion on specific matters without guarantee of influencing the decisions.

The influence of sociocultural factor on participation

In Indonesia, youth employment in the agricultural sector continues to decrease compared to the non-agricultural sector. It could be an indication that many youths are not interested in working in the agricultural sector anymore. The image of the agricultural sector, especially dairy farming, is closely related to heavy and dirty work, and also lower income. This situation also applies to Kenya in which the country starts to lack of youth to participate in their cooperatives. Most of the youth is unwilling to continue working on the farm like their

parents. Thus, they prefer to migrate to urban areas and work in the office. Those who successfully find a job in urban areas most likely to coming back to rural areas after they retired. However, youths whom unsuccessful are eventually coming back to rural areas and become the farmers since cities are no longer promise guarantee for a job.

However, young farmers who participate in the dairy cooperative are mainly lack of basic knowledge and skill in dairy farming and cooperative management because they did not receive it in formal education. Therefore, cooperatives need to train young farmers at the first time they join dairy cooperatives.

In both Indonesia and Kenya, the hierarchical system is still accepted as a normative organizing framework in their cooperatives. In this system, older farmers are still dominating the cooperative's council and management. Older farmers also tend to be more conservative and hierarchical which is not allow young farmers to share their ideas and opinion easily, and to occupy the post of council or management. The perception that older farmers have a long-time experience, a better skills, knowledge, and maturity compared to young farmers is still available. Therefore, the cooperative's members usually trust old people more than youth for the post of council or management.

Communication can be the bridge between those two generation farmers to overcome their different characteristics in which young farmers are more impulsive and enthusiastic, and old farmers tend to be more thoughtful and careful. Young farmers need to be more polite and careful in approaching old farmers to make their ideas and opinion to be well accepted.

The hierarchical system is also seen in the farmers' household that influences the participation of youth in the dairy sector and dairy cooperatives. Successful dairy farmers tend to suggest their children (i.e., youth) to continue working on the dairy farm like their parents. Meanwhile, less-successful dairy farmers suggest youth to look for another job outside the dairy sector as means to avoid the same situation as their parents and to obtain better livelihoods and income. In another case, youth could also join dairy cooperatives after they saw other successful dairy farmers.

The influence of economic factors on participation

Both Indonesia and Kenya show the high share of employment in the agricultural sector. However, youth still believes that dairy is no longer considered an activity that provides a reasonable standard of living in Kenya. Although dairy gives stable income because farmers supply the milk regularly to the cooperative, the late payment which takes 30 days for young

farmers to receive the payment from cooperative makes them discouraged to join cooperatives. They also need to pay a determined fee and purchase share that has been agreed during the annual meeting. As young farmers tend to be more entrepreneurial and economically oriented which make them more open and adaptive towards technology used that aims to improve the production and quality of dairy. Therefore, they join the farmer's group. Farmers group is an alternative organization that recognized by the government to collect milk from a group of farmers and supplies it to the milk processor or the industries, directly. By joining the farmers' group, young farmers do not need to be part of cooperatives' members. Although young farmers can actually gain benefit by having easier access to credit from banks.

Furthermore, young farmers in many countries still have difficulties in accessing land. This issue is also faced by young farmers in Indonesia and Kenya. Young farmers have to wait a long-time to receive land as an inheritance from their parents. In Kenya, dairy farmers need to divide the land into a smaller area due to many children. On the other hand, the price for land is getting higher both to purchase and also to rent. As dairy farming need a large area for the cows and its feed to improve the productivity and quality of the milk, many youths become discouraged to participate in dairy farming and dairy cooperatives due to lack of land access.

5.2 Reflection on conceptual framework

Findings in the previous chapter reflected the conceptual framework that was used to explore the role of youth in dairy cooperatives. It is presented in Figure 8.

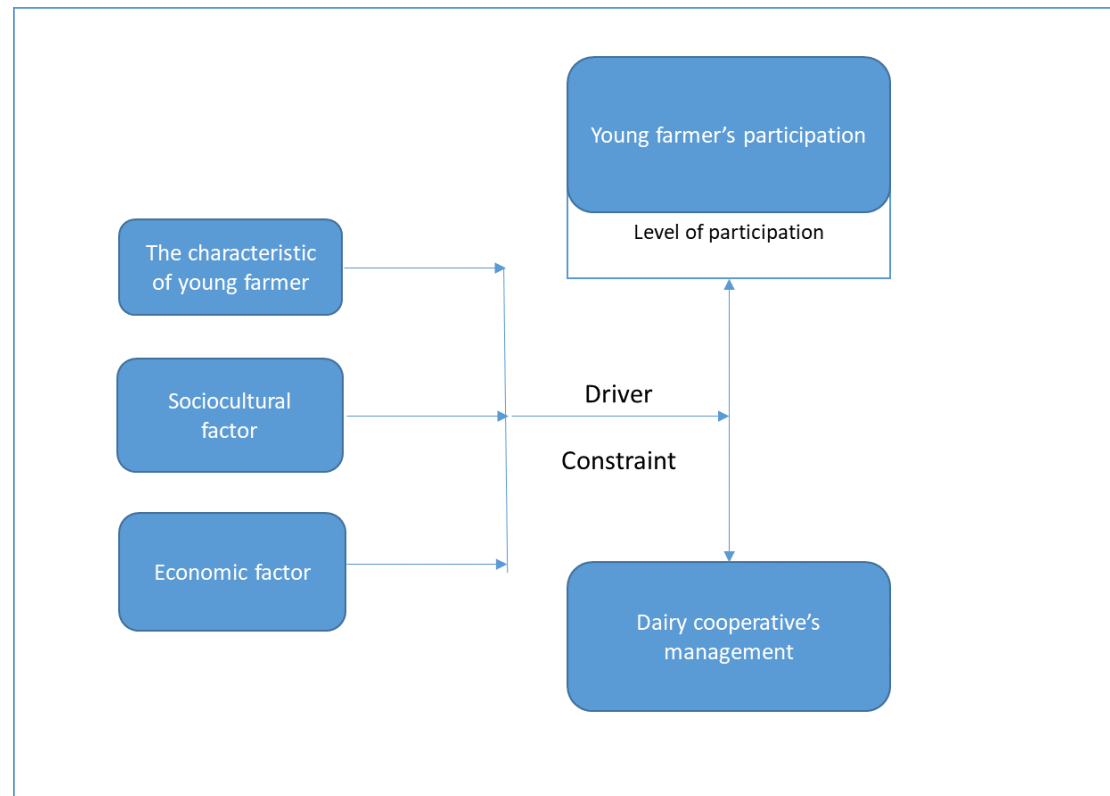


Figure 8. Reflection on conceptual framework

Drivers

Young farmers' participation in dairy cooperatives is driven by sociocultural and economic factors which are elaborated below:

- **Sociocultural factors**

1. *Positive image of dairy farming and dairy cooperatives*

Successful dairy farmers who have gained a lot of benefit and profits from dairy farming and dairy cooperatives can influence youth in those sectors. It is because young farmers gain more motivation and confidence to join dairy farming and dairy cooperatives sector after directly observe and interact with those successful dairy farmer figures. Those figures can be their parents, their peers or other people. It is also supported by successful dairy farmers who are more likely to encourage youth (i.e., their children) to continue working and participating in dairy farming and dairy cooperatives (i.e., become the cooperative's members and bodies).

Youth is getting recognized as a resource for cooperative movements and also as a key to sustaining and growing cooperatives, recently. Therefore, youth have been encouraged to participate in dairy farming and cooperatives as part of a new generation of co-operators who can develop more profitable and independent business.

Furthermore, the lack of jobs in urban areas, as well as the retirement from an office job are also sociocultural factors that drive youth to come back to rural areas and become a dairy farmer.

- **Economic factors**

1. *Higher income*

Young farmers tend to join a cooperative that can give them a high milk price. In order to obtain a high milk price, those young farmers willing to improve their milk production and quality through the adaptation of new technologies and technical innovations that introduced and trained by the cooperative. As young farmers are also considered to have a better entrepreneurial and economic-oriented, they realize that a high-quality milk product and high milk production will influence the higher milk price and further to their higher income.

2. *Cash payment*

Young farmers are also prefer direct cash payment after they supply the milk to the cooperative, instead of long-time payment. By receiving direct payment, they can use the money to afford their daily needs (e.g., farming input, household needs).

Constraints

Several constraints faced by young farmers in order to participate in dairy cooperatives according to:

- **Young farmers' characteristics**

1. *Age issue*

As the youth are aged, in general, below the age of majority, many youths can only be registered members of dairy cooperatives after they reach the age of majority in the country. Before that, the youth (who is a minor) needs to be under the supervision of their parents or careers in order to participate in dairy cooperatives. They are mainly only helping the dairy farming, supplying the milk to the cooperative and attend the annual meeting on behalf of their parents.

2. *Lack of youth*

In Indonesia, child and youth population ratio have been decreasing compared to the older population in the past thirty years. The proportion of age group in the population become more equal, and the life expectancy is also increasing every year. The population projection also shows the similar things which the aging population will continue to grow, while productive age group (i.e., youth) will continue to decrease by 2030.

On the hand, Kenya is remain dominated by child and youth population. It is also expected to increase by 2030 continuously. However, both countries suffer from the high rate of urbanization. Many youths migrate as means to seek a better job in urban areas rather than stay in rural areas. In the end, the proportion of the rural population and agriculture sector are still dominated by older people, even though agriculture sector can absorb the high number of youth as the labor force. These lack of youth issue can be a real problem for dairy cooperatives since they need youth to sustain and to grow the organization in order to catch up with future challenges in the dairy cooperative sector (e.g., new ICT and innovation).

3. *Lower educational attainment, and lack of basic knowledge and skill in dairy farming and cooperatives*

It is assumed that educational attainment influences young farmers' participation in the dairy cooperative. However, most youths in rural areas have a lower educational level which dominated by primary school graduates. Meanwhile, higher education graduates are most likely to migrate to urban areas to obtain higher education and office job. Youth who remain in rural areas and participate in the dairy cooperative is mainly lack of basic knowledge and skill in dairy farming and cooperative management. Particular perspective on agriculture as an income-generating activity which has no relation to education is also influence the lower educational attainment, as well as their knowledge and skill related to farming and cooperatives. Therefore, less-educated young farmers need to be trained by the cooperative to improve their knowledge and skills.

- **Sociocultural factors**

1. *Negative image of dairy farming and dairy cooperatives*

Young farmers tend to view dairy farming as heavy and dirty work, and no longer provide a reasonable standard of living (i.e., lower income). The perception that agriculture sector gives minimal rewards, perform poorly and cannot be an income-generating activity strengthen the negative image which makes youth more eager to avoid the sector. Therefore, they mostly prefer to work in an office and in urban areas to avoid that condition as it is described in the findings that the proportion of youth who worked in non-agricultural sector has demonstrated an increasing trend, on the contrary to the decreasing of employment growth rate for the agriculture sector. Moreover, the influence of parents is also matters, especially if their parents are one of the unsuccessful dairy farmers.

Many young farmers in Kenya decide to join in self-help group (SHG) rather than dairy cooperatives due to lack of recognition and management from cooperatives to young farmers. SHG has been acknowledged by the Kenyan government as an alternative hub between farmers and milk processor or industries. Although these young farmers may have more difficult access to credit from banks by joining SHG, they can be more independent to improve their dairy production and to gain more profit from their farming. If more young farmers move to SHG, it will be a problem for dairy cooperatives because they need youth to continue the organization.

2. *Strong hierarchical system*

The hierarchical system is one of the significant problems in related to sociocultural factor. It is because many young farmers are difficult to participate in dairy cooperative due to old farmers' conservative and hierarchical attitude. Cooperatives' members also tend to trust old farmers more than young farmers to be the council or the management. Old farmers are also feeling threatened by young farmers because they afraid young farmers will take over their positions in cooperatives.

3. *Lack of communication*

The communication between young farmers and older farmers needs to be more efficient. Young farmers tend to be more impulsive and enthusiastic, while old farmers are more thoughtful and careful. Therefore, sometimes old farmers

cannot accept young farmers' opinions and ideas due to their impulsiveness and young farmers need to be very careful and polite in order to make old farmers accept it.

- **Economic factors**

1. *Lack of access to land*

Lack of access to land is still one of the constraints, especially due to high rental price and high purchase price for the land which makes young farmers can only rely on the inheritance from their parents to afford the land. Many young farmers need to wait a long time to receive their inheritance (i.e., land) from their parents in which these young farmers will already old at the time their parent inherit the land to them. The land area that inherited to young farmers can also be smaller because the parents need to divide the land to all of their children.

2. *Long payment time*

Furthermore, young farmers are discouraged to join cooperative due to long payment time. For example, young farmers have to wait 30 days after they supply the milk to cooperatives in Kenya in order to receive payment. Young farmers prefer quick cash which means the cooperative pay the milk directly after they receive the milk from young farmers. Therefore, young farmers do not have to wait until the due time to receive their payment, and they can directly use the money for their needs.

In reflection to the conceptual framework, all of the factors (i.e., young farmers' characteristics, sociocultural and economic factors) have aspects that can be drivers and constraints for young farmers to participate in dairy cooperatives.

Sociocultural factors that drive young farmers to participate in dairy farming and dairy cooperatives are the positive image of both sectors which can be occurred from the influence of successful dairy farmer figures (e.g., parents, peers, others). After learning that those figures can be success and gain many benefits from being dairy farmers, it helps to build young farmers motivation and confidence to join in those sectors as members. Furthermore, young farmers can increase their level of participation in dairy cooperatives if they are also encouraged by those figures to be part of decision-making bodies. On the other hand, lack of office jobs in urban areas pushes youth to go back to rural areas which makes them start working as dairy farmers and the cooperative's members. Meanwhile, some youth who found

the job in big cities may also come back to their hometown after the retirement which means at that time; they are already quite old to join the dairy farming and dairy cooperatives.

Economic factors that influence young farmers to participate in dairy cooperatives are higher income and cash payment. Young farmers are more willing to improve their milk production and quality as means to gain higher milk price and higher income through the implementation of new technologies and technical innovation. They have more benefit in the application of milk production and quality improvement due to higher ability to adopt to those new technologies and technics compare to older farmers. This factor leads them to be more participate in the decision-making bodies (i.e., during the annual meeting, workshop, and training). Furthermore, young farmers also prefer to receive direct cash payment because they do not want to wait too long for the payment. Therefore, many young farmers tend to join a dairy cooperative can provide this type of payment to them.

Those factors affect participation both in dairy farming and dairy cooperatives which means joining two sectors as dairy farmers and dairy cooperative members. The participation of young farmers helps to sustain both sectors (i.e., regeneration). Meanwhile, those factors also influence the increase of the level of participation in decision-making activities and bodies which help to develop and grow dairy cooperatives management.

On the other hand, several constraints that found on each factor (i.e., young farmers' characteristics, sociocultural and economic factors) can inhibit young farmers to participate in dairy farming and dairy cooperatives. Young farmers are more likely to avoid being dairy farmers and dairy cooperatives members due to constraints.

Regarding young farmers' characteristics, three main constraints are age issue lack of youth population and lower educational attainment and lack of basic knowledge and skill in dairy farming. Youth can be registered members of dairy cooperatives if they reach the age of majority in the country where the cooperative is located. Before they reach the age of majority, they cannot join as dairy cooperative members and participate in the decision-making activities (e.g., during the annual meeting, training or workshop). Most of these young farmers end up helping their farmers in dairy farming. Furthermore, lack of youth that caused by the decreasing of youth population and urbanization become a real problem since the dairy farming, and dairy cooperative needs them to sustain and to grow sectors. Lower educational attainment, lack of basic knowledge and skill (in dairy farming and dairy cooperatives) factors that constraint youth to participate in sectors. Dairy cooperatives need to encourage them by

providing training related to dairy farming and cooperative management at the time they enter the cooperatives.

Sociocultural factors that constraint young farmers to participate in dairy farming and dairy cooperatives are related to the negative image of farming and cooperatives, strong hierarchical system and lack of communication. The negative image of farming and cooperative affect young farmers to avoid being dairy farmers and members of dairy cooperatives. For young farmers who are members of dairy cooperatives, they are also still facing strong hierarchical system from older farmers. These older farmers tend not to trust young farmers to involve in the management of the council (i.e., participate in decision-making activities and bodies) due to their conservative and hierarchical attitude. Lack of communication is also occurred because of the strong hierarchical system. Old farmers cannot easily accept young farmers' opinions and ideas because of the different style of communication. Therefore, young farmers need to be very careful and polite in order to make old farmers accept their opinion and ideas.

Regarding economic factors, lack of access to land and long payment time discourage young farmers from participating as dairy farmers and dairy cooperative's members. High rental price and high purchase price, as well as long waiting time to receive the inheritance from their parents, make young farmers difficult to join dairy farming activities. Moreover, young farmers tend to avoid to be dairy cooperatives members if the cooperative is more likely to pay their milk based on due date. Young farmers prefer quick cash in which cooperative give the payment directly after they receive milk from young farmers.

Those constraints influence the lower participation of young farmers in dairy farming and dairy cooperatives (i.e., as dairy farmers and cooperative members). It also discourages young farmers to actively share their opinion and ideas during decision-making activities and bodies (i.e., management and council).

Therefore, the level of participation of young farmer in dairy farming and dairy cooperatives that influenced by drivers and constraints are in the nominal, passive and consultative level. The activity-specific participation (being asked to (or volunteering to) undertake specific tasks), active participation (expressing opinions (whether or not solicited) or taking initiatives of other sorts) and interactive participation (having voice and influence in the group's decisions; holding positions as office bearers) are rarely achieved by young farmers due to constraints on young farmers' characteristics, sociocultural factors, and economic factors.

In return, dairy cooperatives also need actively to involve youth to participate in dairy cooperatives as members and during the decision-making activities (e.g., as the council, management activities). As young farmers could give more benefit to the cooperative due to their new energy, fresh idea, knowledge on ICT, innovative, positive image for cooperative, youth become increasingly recognized as a resource for cooperative movements and a key to sustaining and growing cooperatives (Sloot, 2016; Hartley, 2014).

Contrary to the population trend in Indonesia which youth population has been decreasing in recent years and the future, youth population remains to dominate the total population in Kenya in the past years, and it is projecting to increase by 2030 continuously. The increasing trend also happens to the labor force in Kenya. The difference of youth population in both countries occur to the difference urgency to actively encourage and involve youth in dairy farming and dairy cooperatives sectors.

The agriculture sector has the prominent position that can absorb the high percentage of total employment in both countries and dairy production recently receive higher attention since it can create rural employment and boost farmers' income. Thus, there is a big opportunity for dairy farming and dairy cooperatives sector to encourage youth to participate as dairy farmers and members of dairy cooperatives. However, Indonesian dairy cooperatives need to work harder to encourage youth to participate in dairy farming and dairy cooperatives since the country show the decreasing trend of the youth population. It means agriculture sector has to compete with other sectors to gain more youth to join the agriculture sector, specifically in dairy farming and dairy cooperative sectors. Meanwhile, Kenya has more benefit from the dominance of youth population on total country population. As agriculture and dairy sectors are an important sector in the country, there is a bigger opportunity to encourage youth to participate in dairy farming and dairy cooperatives actively.

The cooperative management should find solutions to increase young farmers' participation in dairy farming and cooperative (i.e., become members and decision-making bodies or council) by offering more benefit for young farmers. For example, dairy cooperatives provide credit so that young farmers can obtain cows, inputs (feed, artificial inseminations, technologies) and land for their farming, become the communication bridge between young and old farmers, help to lower the hierarchical system by allowing young farmers' opinion and ideas to be heard and also make them become part of council or management, and provide regular training and workshop to increase young farmers knowledge and skills in dairy farming and cooperatives.

5.3 Limitations

Limitations that found in this study is data availability. As the study conducted by using secondary data, it is difficult to find useful, relevant data for young farmers' participation in dairy cooperatives. Many data and previous research that mainly found during the writing process of this study are general information about youth participation in agriculture. The information about young farmers in general cooperatives is insufficient. Thus, it is harder to find more particular studies and data about young farmers in dairy cooperatives.

Statistical data from international and national organizations are still limited, although those organization continuously campaigns about the urgency of youth participation in agriculture, cooperative and dairy sectors. For example, the government and a national organization which oversees several primary dairy cooperatives do not have data about the age distribution and educational level of all the cooperatives members. Those data can only be obtained from each primary cooperatives. The data for age distribution and educational attainment can be used to identify the percentage of youth who participates in cooperatives which further used to understand youth's important role in cooperative and factors that influence that percentage.

Specific information that covers topic about the importance of young farmers' participation and role in dairy cooperatives, sociocultural and economic factors that influence young farmers' decision and motivation to participate in dairy cooperatives, as well as the level of their participation in cooperatives (i.e., to participate as member and to participate in decision-making bodies) which are used as indicators in this study are still hard to be find. Therefore, it is very challenging to collect secondary data on youth participation in dairy cooperatives since the statistical data, and previous studies are limited.

Primary data collection remain essential for this type of study topic. Several experts who have knowledge and expertise in the dairy cooperative are interviewed to obtain necessary information that cannot be found during secondary data collection. Although much relevant information and knowledge have been gathered from experts, those are still considered general since the data cannot be obtained through a direct interview with young farmers and stakeholders who involve in particular dairy cooperatives. Primary data collection that is conducted directly from young farmers and dairy cooperative stakeholders in each country can provide more in-depth knowledge, more reliable and specific information that cannot be found through secondary data collection and interview with experts. Thus, primary data have

a higher benefit for this study's topic compare to secondary data which can be suggested for the further research in the future.

6. CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

RQ 1 *is about the importance of young farmers' participation in the dairy cooperative.* Young farmers are associated with a new energy, fresh idea, innovation, and knowledge on ICT which give many benefits to cooperatives. In Kenya, youth becomes increasingly acknowledged as a resource for sustain and grow cooperatives, as well as for cooperative movements which they involve as dairy farmers and dairy cooperatives members. Meanwhile, in Indonesia, the existence of young farmers can enhance the positive image of farming and cooperatives. However, youth population in Indonesia are decreasing, while, life expectancy and older population tend to increase. On the other hand, Kenya is dominated by youth population which is projected to increase in the future continuously. Although youth population ratio in Kenya is higher than in Indonesia, both countries are experiencing high urbanization due to youth perception to obtain better employment in urban areas and the high unemployment rate. Thus, older farmers are still dominating dairy cooperatives. In the end, lack of youth in dairy farming and dairy cooperatives become real problems since youth strengths can provide benefits for sectors, mainly to enhance regeneration, youth employment, and development of both sectors.

In order to answer **RQ 2**, *drivers and constraints that influence young farmers' participation are explored.* Most of drivers and constraints that affect the participation of young farmers in Indonesia and Kenya dairy cooperatives have similar factors. *Drivers for young farmers to participate in dairy cooperatives based on sociocultural factor is the positive image of dairy farming and dairy cooperatives.* Young farmers tend to have a higher motivation to participate in dairy farming and dairy cooperatives when they receive influence from successful dairy farmer figures (e.g., parents, peers, others). Lack of jobs in urban areas is also influenced young farmers decision to join sectors. *Economic factors that become drivers are higher income and cash payment.* Young farmers are willing to improve the milk production and quality of milk to gain higher profit and income through receiving higher milk price. As young farmers have a better entrepreneurial and economic-oriented compare to old farmers, they are more open to adopting new technologies and technical innovations that offered by cooperatives. However, young farmers prefer direct cash payment after supplying milk to the cooperative.

Constraints on young farmers' participation in Indonesia and Kenya dairy cooperatives found. *There are three constraints based on young farmers' characteristics which are the age issue,*

lack of youth, lower educational attainment and lack of basic knowledge and skill. For age issue, minors (youth under age of majority) cannot participate as registered members in dairy cooperatives since they still need under supervision and permission of their parents to participate in such organization. Minors usually appear to do the dairy farming, deliver milk to the cooperative and attend the annual meeting on behalf of their parents. Regarding lack of youth, youth population ratio are continue to decrease in Indonesia, while old population and life expectancy are increasing. Kenya, on the contrary, experiences the increasing of youth population until 2030. Although Kenya tends to have higher youth population ratio than Indonesia, both countries are equally experiencing the high rate of urbanization, and older population is still dominating the rural population and agriculture sector. Dairy cooperative need youth to sustain and to develop the organization which is faced with lack of youth issue. Furthermore, young farmers are mainly primary school graduates who lack basic knowledge and skill in dairy farming and cooperative management. These less-educated young farmers need training and workshop that provided by cooperatives as means to enhance their knowledge and skills.

Constraints that affect sociocultural factors on young farmers to participate in dairy farming and dairy cooperatives are the negative image of farming and cooperatives, strong hierarchical system, and lack of communication. The negative image of farming and cooperatives are related to heavy and dirty work, minimum rewards and lower income. Lack of young farmers' recognition and management from cooperatives influence young farmers to move to self-help group (SHG) in Kenya. If many young farmers move to SHG, dairy cooperative is difficult to continue the organization due to lack of youth. The strong hierarchical system that affects young farmers tend to be passive in the cooperative's activities, and it even could cause them to leave the cooperatives. Old farmers are more conservative and hierarchical. Therefore they afraid young farmers will take over their positions in cooperatives. The council and management are still dominated by old farmers due to the perception that they have better knowledge, skills and long-time experience than young farmers. Lack of communication between young and old farmers which cause the relationship between them become more tenses. *Economic factors that become constraints on young farmers' participation are lack of access to land and long payment time.* In both Indonesia and Kenya, young farmers are mainly lack of access to land due to high rental price and high purchase price. Young farmers wait a long time to receive the land for farming from their parents which in some cases, they only receive a small land area. Long payment time is one of

the factors that discourage young farmers to join cooperatives since they are more prefer quick cash payment for their milk supply.

For **RQ 3**, *level of young farmers' participation in Indonesia and Kenyan dairy cooperatives* are quite similar. Young farmers only participate in the cooperative membership which they achieve minimum requirement for age, land ownership and cow ownership. This level of participation includes as nominal participation. The passive and consultative participation of young farmers in the dairy cooperative is reflected during the decision-making activities (i.e., annual meeting) in which they do not give much opinion or ideas to the cooperative management and council. The strong hierarchical system of old farmers highly influences young farmers' passive participation.

Regarding the conceptual framework and the general question of this study, young farmers' characteristics, sociocultural and economic factors which are drivers and constraints for young farmers' to participate in dairy farming and dairy cooperatives. More constraints that affect the low participation of young farmers in dairy farming and dairy cooperatives are found. The level of young farmers' participation in dairy cooperatives are more likely to be nominal (i.e., being cooperative members), passive level and consultative level (i.e., in decision-making activities and bodies). As young farmers have benefits, especially as a key for cooperative to sustain and to develop a better management, dairy cooperatives need to encourage young farmers by providing for inputs and land, becoming the communication bridge between young and old farmers, helping to lower the hierarchical system by giving more opportunities for young farmers to share their opinion and ideas, and become part of council or management, as well as providing training and workshop to increase young farmers knowledge and skills in dairy farming and cooperatives.

6.2 Recommendation

The last research question (**RQ 4**) is about the recommendation to increase young farmers' participation in dairy cooperatives.

First, several recommendations are addressed to **dairy cooperatives**. Dairy cooperatives need to show young farmers the benefit they could obtain from cooperatives, especially in related to high profit, stable income, and provide credit so that young farmers can obtain cows and land for their farming since they tend to be more economic-oriented. Cooperatives also need to take into account the relationship between young and old farmers by bridging the effective communication between them and eliminate the hierarchical system that exists in cooperatives. It is further hoped to reduce misunderstanding and to increase the collaboration

between young and old farmers which could increase the cooperative performances. By allowing young farmers' opinion and ideas to be heard and also make them become part of council or management, young farmers will feel appreciated by cooperatives. Furthermore, in order to make cooperative more inclusive toward less-educated and less-experience young farmers, the cooperative should be able to provide necessary training and workshop. Regular training and workshop are also necessary as a means to improve young farmers' capacity, knowledge, and skills in dairy farming and cooperatives.

Community support and the use of ICT could encourage youth participation in agriculture. Marleen Brouwer in Osti et al. (2015) state that youth are interested in modernization and new trends such as the use of ICT and telecommunications in their employment. The implementation of ICT and telecommunication in the value chain could bring opportunity for youth to participate in the chain. Furthermore, regarding dairy, this creates an opportunity for better dairy production and marketing technologies uptake and should result in the accelerated adoption of market-oriented dairying (Osti et al., 2015).

The other recommendation is addressed to **researchers, academics, and policymakers**. Although the importance of youth participation in agriculture and cooperative sectors receive much attention nowadays, the publications and studies related to that are still very limited, especially in the dairy cooperative sector. In order to align the campaign to increase young farmers' participation in dairy cooperative, it is important to increase more research and obtain more data in that sector. Several international organizations and policymakers who initiated the importance of youth in agriculture cooperative (e.g., ILO, ICA) found to have very little data about youth characteristics and participation. The more in-depth study can be developed further to analyze each factor that contributes to the youth participation in dairy cooperative into details. Therefore, it is necessary to establish more and further studies to gain a better insight and find a better solution to increase young farmers' participation in dairy cooperatives.

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INTERVIEW QUESTIONS

YOUTH PARTICIPATION IN INDONESIAN AND KENYAN DAIRY COOPERATIVES

1. How is the membership system in Indonesian/Kenyan dairy cooperatives?
2. What is age range for young farmers in Indonesian/Kenyan dairy cooperatives?
 - What is the legal age for youth in Indonesia/Kenya?
 - Is there any young farmers under the legal age that participate in dairy cooperatives? Do they need to receive permission from their parents to be able to participate as a member in dairy cooperatives?
3. How much percentage of young farmers compare to total members in Indonesian/Kenyan dairy cooperatives?
4. What is the average educational attainment for young farmers in dairy cooperatives?
5. How is young farmers' participation in dairy cooperatives?
 - Are they actively involved in the meeting or council?
 - Do they freely share their opinion and ideas to the cooperative during a meeting or other occasions?
 - Is the cooperative take into account youth suggestions toward cooperative's programs or activities? Do they have a particular task from cooperative?
6. What are drivers for young farmers to participate in dairy cooperatives?
7. What are drivers for cooperatives to involve youth in their organization?
8. How is the cooperative attitude towards youth participation?
 - Are they intend to increase youth participation?
 - Are they involve youth in management or council?
 - Do they have special programs or activities to increase youth participation?
 - How is older members' attitude towards youth in the cooperative?
 - How the cooperative bridge the communication between youth and older members?
9. What are challenges to increase youth participation in dairy cooperatives?