

The Impact of Agricultural Cooperatives on the Well-being of Small-Scale Farmers in Bongabon, Nueva Ecija, Philippines

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Abstract

In Bongabon, Nueva Ecija, agricultural cooperatives are facing different kinds of problems such as competition in the market, lack of leadership, continuous increase of the price of fertilizers, and lack of marketing skills which leads to failure and often affects its members. This study aims to know information on how Agricultural Cooperatives impact the well-being of small-scale farmers in terms of rural better livelihood, technical efficiency, quality of life, and work satisfaction. This study utilized a descriptive research design with a quantitative approach. The respondents of this research are 59 members of the agricultural cooperatives from Bongabon, Nueva Ecija. Statistical tools such as Percentage, Frequency Distribution, and Weighted Mean was used in analyzing the data gathered. As to the results, most of the respondents think that joining an agricultural cooperative can help them in improving their farm production and rural economy. Also, majority of the respondents say that agricultural cooperatives motivate their members to work productively. The researchers recommended that farmers must join an agricultural cooperative in order for them to learn how to access the inputs required to grow crops and keep livestock and help them process, transport, and market their products. This will enable them to positive economic impact.

Key words: Agricultural Cooperatives; Small Scale- Farmers; Agriculture

Introduction

In recent years, cooperatives are increasingly being viewed as a means to promote improved agricultural technologies and alleviate food insecurity and poverty. Cooperative membership tends to increase crop yields, household income, and household assets; and reduce transaction costs in accessing inputs and output markets (Abebaw & Haile, 2013; Ma & Abdulai, 2016; Mojo et al., 2017; Ortmann & King, 2007; Verhofstadt & Maertens, 2015). This is because most cases, cooperatives are associated with collective action and social capital, hence are thought to be better placed in reducing poverty than other types of institutional innovations (Verhofstadt and Maertens, 2015).

Agricultural cooperative membership is a major force of knowledge and technological transfer, due to not only the spillover effects of the collective use of a technology, but also since collective action facilitates innovation and learning by members of the group (Chagwiza et al., 2016).

Cooperatives was intended to raise the farmers' incomes by giving them more market power, cooperatives have later extended their activities to comprise other services (Liu, 2017). For instance, members receive training and advice on efficiency raising production practices.

The cooperatives have also involved themselves in financial services (Yu and Nilsson, 2018, 2019). Stimulated by government, farmer cooperatives process member agricultural products into value-added products to be sold at higher prices. Thus, there has been a development in terms of not only the number and size of cooperatives but also in new functions.

Another trend is that the cooperatives introduce social issues. Since 2013, the government has stimulated farmer cooperatives to participate in social services within their villages (Sun, 2017). An example is the financial assistance that some cooperatives provide for their poor farmer members and even nonmembers. Some cooperatives also care about vulnerable villagers, such as the elderly and sick, orphans, and persons with disabilities, many of whom are either acquainted with or related to cooperative members.

Therefore, cooperatives have been seen as representing sustainability in this sector in particular and present a certain impact on the society they are part of. Cooperatives seek to provide necessary services to their members and communities, so that they can become more self-sufficient and prepared for times of economic crisis (Steinerowski, 2012).

In Bongabon, Nueva Ecija, agricultural cooperatives are facing different kinds of problems such as competition in market, lack of leadership, continuous increase of price of fertilizers, and lack of marketing skills which leads to failure and often affects its members. There are some issues and problems that a cooperative needs to address it including the harvesting process, marketing strategy, and quality of their production.

And according to Pujara (2016), cooperatives or farmer's groups are facing different kinds of problems and issues, and those are (1) lack of marketing skills (2) lack of cooperation (3) weak economic status (4) access to local market (5) poor management (6) leadership and understanding (7) lack of communication and participation among the members (8) poor management of Storage facilities (9) old traditional business activities, etc.

This study aims to know information on how Agricultural Cooperatives impact the well-being of small-scale farmers in terms of rural better livelihood, technical efficiency, quality of life, and work satisfaction.

Agricultural Cooperative

Agricultural cooperative is widely considered as a vital foundation that can help smallholder farmers to overcome the constraints that hinder them from taking advantages of their business as it empowers economically weak farmers by enhancing their collective bargaining power and thereby reduces the risks that they face in the market (Woldu et al. 2013).

Small agricultural producers are able to benefit in terms of opportunities and services that include access to markets, information, technologies, credit training and warehouses. Members are also able to participate in decision making processes at all levels and able to negotiate better terms for engagement in contract farming and lower prices for agricultural inputs such as fertilizer, seeds and equipment. As a result, smallholder producers secure their livelihoods whilst they play a greater role in meeting demand for food in local, national and international markets thereby contributing to poverty alleviation, food security and eradication of hunger (FAO, 2012).

Agricultural cooperative can serve one or more functions including but not limited to providing loans to farmers, supplying information pertinent to agricultural production, selling inputs necessary to agricultural production, bargaining on behalf of its members, providing transportation services, and marketing the farm products. The agricultural cooperatives are regarded as critical to the farmers in the enhancement of their production. Agricultural cooperatives usually pool together inputs to maximize production and further promote capacity

building of the farmers. It was noted that working together makes farmers improve their profits by getting into bigger markets, lowering costs and acquiring a higher negotiating power. Agricultural cooperatives assist farmers to fix a collective action problem. With co-operatives, farmers may bring in traders and institutional buyers, and improve their bargaining power. The study recommended that agricultural cooperatives are required to provide more training on agricultural production and motivate members to actively join those training. The cooperatives need to strengthen and broaden markets to get better prices for their members (Sandhu, N. J., Warner, R. S., & Theuvsen, C. P., 2022).

Thus, cooperatives cover a large part of the agricultural sectors, and could therefore play a role in the improvement of farm sustainability. Through their close relationships with farmers, agricultural cooperatives may be key actors in supply chains to help farmers change their agricultural practices and to favour the adoption of more sustainable practices. Cooperative values such as democratic decision-making, equality and solidarity give cooperatives a unique identity, which differentiates them from other types of enterprise and implies that they have a distinct organizational characteristic (ICA, 2020). Solidarity within the cooperative enables farmers to cope with market risks and favours investment by sharing fixed costs. As cooperatives' members are the owners, investors and users of the cooperative, agricultural cooperatives have thus a large spectrum of action. They can design incentives to encourage farmers to change their practices through the services provided, a stronger market position and the pooling of investments resulting in cost sharing among members. Cooperatives may also promote the adoption of these practices by decreasing farmers' perceived risks and by making investment more feasible. However, some deficiencies exist in cooperatives' governance, especially in monitoring and management that can impede the changes. The unique governance structure of cooperatives may then have mixed effects since the majority of members might not favour the changes needed. Membership heterogeneity may even diminish farmers' incentives.

Cooperatives are seen as a particular form of social economy and entrepreneurship, respectively. Even if the concept still vague and it needs boundaries to define its function, social entrepreneurship can be understood as a way entrepreneurs adjust their businesses to create social value. This means that the “social entrepreneur is a mission-driven individual who uses a set of entrepreneurial behaviors to deliver a social value to the less privileged, all through an entrepreneurially oriented entity that is financially independent, self-sufficient, or sustainable.” (Abu-Saifan, 2012)

Small-Scale Farmers

Small-scale farming defines as farms “with a low asset base and operating in less than 2 hectares of cropland. (World Bank Rural Development Strategy, 2003); operating under structural constraints such as access to sub-optimal amounts of resources, technology, and markets; limited resource endowment compared to those of other farmers in the sector (Dixon et al., 2004) According to Kirsten et. al, 1998 South African agriculture is comprised of mainly two categories of farmers—the subsistence farmers in the former homeland areas and the large-scale commercial farmers. This is in contrast with the situation in many other countries in the world where one would find a whole range of farm sizes, ranging from the very small or subsistence farmer to the very large farmer/agri-business. “Small-scale” is often equated with a backward, non-productive, non-commercial, subsistence agriculture that we find in parts of the former homeland areas. According to reports, smallholder farmers account for the operations of 85% of the world's farms. Small-scale farming is encouraged by many organizations worldwide seen as

a sustainable alternative, it has considerably less effect on the environment and puts less pressure on resources as compared to industrial agriculture. A report on a study that examined 287 agricultural projects across 57 developing countries concluded that small-scale farming helped increase crop yield by 79% when sustainable agriculture is adopted, leading to more diversified crops as well as greater household food and income security for smallholder farmers. Despite the positive reports, support for smallholder farmers is still lacking. Governments still fail to give proper assistance to struggling farmers who need structures and institutions to continue their work properly. In many developing countries, water and electricity are not readily available to some smallholder farmers, making irrigation and the use of basic modern tools difficult. Moreover, having adequate storage facilities or infrastructure is also a constant struggle.

The Impacts of Agricultural Cooperatives

All developing regions of the world have achieved the Millennium Development Goal of reducing poverty by half between 1990 and 2015 (UN 2015). As most of Africa's poor depend largely on agriculture for their livelihoods (IFAD 2011), improving the productivity, profitability, and sustainability of the agricultural sector is argued to be the main pathway out of poverty in the continent (Christiaensen et al. 2011; Asfaw et al. 2012; Dawson et al. 2016). In spite of this fact, agricultural sector growth in Africa has been lagging (Diao et al. 2012). Particularly the agricultural productivity in Sub Saharan Africa (SSA) remains stagnant (Tittone and Giller 2013). Over the past four decades, agricultural productivity growth in SSA averaged only 2.4% while the productivity of the rest of the developing world improved by 4% (Dzanku et al. 2015).

Ethiopia is among the countries in this region where agriculture plays a vital role in the economy. In the country, agriculture accounts for 40.2% of GDP, 80% of employment, and 70% of export earnings (UNDP 2015). About 85% of its population live in rural areas and depend on agriculture for necessities and as a source of employment (Negatu et al. 2016). Therefore, the performance of this sector determines the fate of the economy of the country. Nonetheless, smallholder farmers who are illiterate, living on the threshold between subsistence and poverty, dominate the sector. Their production system depends on outdated technologies coupled with lack of access to credit, market information, improved technologies, functioning markets (for inputs, outputs, finance, consumer goods, and services, etc.), and other infrastructure (Gebremedhin et al. 2009; Alene and Hassan 2006; Pender and Gebremedhin 2007). Farmers can overcome those problems by acting cooperatively to obtain collective strength that they do not have individually, and in doing so, they find the pathway out of poverty and powerlessness (Birchall and Simmons 2009; Bibby and Shaw 2005). Hence, they need to get organized and cooperatives are an ideal, member-owned, business organization as it offers the institutional framework through which members control both production and marketing activities (Davis 2008).

According to OCDC (2007), cooperatives are the only form of business organization that addresses fully all the economic, democratic, and social dimensions of poverty reduction simultaneously. Especially, an agricultural cooperative is widely considered as a vital foundation that can help smallholder farmers to overcome the constraints that hinder them from taking advantages of their business as it empowers economically weak farmers by enhancing their collective bargaining power and thereby reduces the risks that they face in the market (Woldu et al. 2013). Most importantly, the role of agricultural cooperatives is very significant in SSA where farms are fragmented over vast and remote rural areas (Wanyama et al. 2009).

Several empirical studies show that agricultural cooperatives improve farm productivity through their influence on the adoption of productivity-enhancing technologies (Spielman et al. 2010; Francesconi and Heerink 2011).

Methodology

Research Design

This study utilized a descriptive research design with quantitative approach and with help of ready-made questionnaire in gathering all information to determine the impact of agricultural cooperative on the well-being of small-scale farmers. According to Ary (2016) descriptive research portrays the researcher's plan in order to proceed to gain an understanding for some relevant aspects of the phenomena of interest from an individual, organizational, and industry-oriented perspective. It includes an accurate profile of persons, events, or situations.

The researchers used descriptive research to record the opinion of participant in analyzation of impact of agricultural cooperative in small-scale farmers. On the other hand, Koh & Owen (2000) stated descriptive research based on the premise that problems can be solved and practices improved through observation, analysis, and description. The most common descriptive research method is the survey, which includes questionnaires, personal interviews, phone surveys, and normative surveys. It is used to identify and obtain information on the characteristics of a particular issue.

Research Locale

The subject of this research are members of an agricultural cooperative in Bongabon, Nueva Ecija so the place where researchers conducted the study is in Bongabon, Nueva Ecija.

Respondents of the Study

The respondents of this research are the members of agricultural cooperatives from Bongabon, Nueva Ecija. They are the ones who have enough experience to answer the problems posed in the study. The researchers proceeded to the different Agricultural Cooperatives in the said municipality and requested for the names of their members. Unfortunately, with all the efforts of the researchers, the respondents who only participated in the said research are only 59. This 59 respondents are the only active and participative agri-cooperative members since some of the members were also family members of these 59 respondents.

Sample and Sampling Procedure

The researchers used purposive sampling to collect the data needed. According to Patton (2015), purposive sampling is subject selected because of some characteristic. The respondents of this study are the members of an agricultural cooperatives in Bongabon, Nueva Ecija. The sample of the population of this study is 59 respondents. The researchers used purposive sampling method because it was suitable to answer the objective of this study.

Data Analysis Technique

The data collected from the respondents was encoded, tallied, and analyzed. Statistical tools such as Percentage, Frequency Distribution, and Weighted Mean was used in analyzing the data gathered. The scale below was employed to interpret the result.

Table #1. Scales for Interpretation

Scale	Mean Range	Interpretation	Description
4	3.1-4.0	Strongly Agree	Highly In Favor
3	2.3-3.0	Agree	In Favor
2	1.5-2.2	Strongly Disagree	Highly Not In Favor
1	1.0-1.4	Disagree	Not In Favor

The table shows the factors by the researchers in the interpretation and description of data under the helps of agricultural cooperatives to respondents in terms of rural better livelihood, technical efficiency, quality of life, and work satisfaction. To determine the favorable using a 4-point Likert scale. The purpose of the researchers is to know the impact of agricultural cooperative on the well-being of small-scale farmers.

Aside from the said scale, the researchers used the following statistical tools to classify, tabulate, and analyze the data in connection with the objectives of the research study:

1. In describing the socio-demographic profile of the respondents, the researchers used frequency and percentage.
2. To assess on how does the agricultural cooperative helps in terms of rural better livelihood, technical efficiency, quality of life, and work satisfaction; the researchers employed a weighted mean and ranking.
3. In describing and analyzing the problems and benefits of small-scale farmers encountered by respondents before and after joining in agricultural cooperative, the data was treated with frequency and percentage.

Results and Discussion

1. Assessing the Impact of Agricultural Cooperatives on the Well-being of Small-Scale Farmers

1.1 Assessing the Impact of Agricultural Cooperatives on the Well-being of Small-Scale Farmers in terms of Rural Better Livelihood.

Table 2. The Impact of Agricultural Cooperatives on the Well-being of Small-Scale Farmers in terms of Rural Better Livelihood.

Rural Better Livelihood	MW	VI	Rank	VD
Th agricultural cooperatives are veritable tool for improving farm production and rural economy.	3.36	Strongly Agree	1.5	Highly in favor
Through cooperatives, the improvement in member’s socio-economic well-being occurs.	3.20	Strongly Agree	2	Highly in favor
Joining in an agricultural cooperative is a good way to social participation.	3.36	Strongly Agree	1.5	Highly in favor
Average Weighted Mean	3.31	Strongly Agree		Highly in Favor

Table 2 shows the overall impact of the agricultural cooperative in the rural livelihood of the respondents it has the average weighted mean of **3.31** which was verbally interpreted as **“Strongly Agree”**.

Agricultural cooperative as a veritable tool on improving farm production of the respondents and joining an agricultural cooperative as a social participation got the same highest weighted mean of **3.36** which interpreted as **“Strongly Agree”**. However, the improvement of social- economic well-being of the respondents got the lowest weighted mean on **3.20**.

According to Chambo (2009) agricultural cooperatives have impacted in the development of rural area in terms of availability and access to amenities that improve the basic conditions of life for rural small farmers. The cooperative contribute to the employment creation, rural markets development, enhancement of rural incomes and the improvement of access to social services. Farmers produce crops and marketed by co-operatives. Chambo (2009) also notes that agricultural cooperatives maintain higher levels of income and make small farmers able to construct houses, send their children to school and provide health insurance to sustain rural livelihoods.

1.2 Assessing the Impact of Agricultural Cooperatives on the Well-being of Small-Scale Farmers in terms of Technical Efficiency.

Table 3. The Impact of Agricultural Cooperatives on the Well-being of Small-Scale Farmers in terms of Technical Efficiency.

Technical Efficiency	MW	VI	Rank	VD
Agricultural cooperatives are effective in providing support services that significantly contributed to have a better understanding and knowledge for members.	3.25	Strongly Agree	2	Highly in favor
Because of the function of agricultural cooperatives, the members are allowing to adopt the modern way of farming.	3.32	Strongly Agree	1	Highly in favor
Agricultural cooperatives enhance members' efficiency by easing access to productive inputs and facilitating extension linkages.	3.19	Strongly Agree	3	Highly in favor
Average Weighted Mean	3.25	Strongly Agree		Highly in Favor

The results indicates the effect of agricultural cooperative in terms of the technical efficiency of the respondents has the **3.25** average weighed mean which was verbally interpreted as **“Strongly Agree”**.

The members of an Cooperative are allowed to adopt the modern way of farming has the highest weighted mean of **3.29** interpreted as **“Strongly Agree”**. However, the member’s efficiency on productive inputs and facilitating extension linkages got the lowest weighted mean of **3.19** which is interpreted as **“Strongly Agree”**.

According to Coelli et al., (2005), the technical efficiency measure is intended to capture whether agricultural cooperatives enable their members in getting better access to productive inputs and services including training on better farming practices that enhance their productive efficiency.

1.3 Assessing the Impact of Agricultural Cooperatives on the Well-being of Small-Scale Farmers in terms of Quality of Life.

Table 4. The Impact of Agricultural Cooperatives on the Well-being of Small-Scale Farmers in terms of Quality of Life.

Quality of Life	MW	VI	Rank	VD
Agricultural cooperatives help the farmers to expand their agricultural production and to have a good harvest.	3.24	Strongly Agree	2	Highly in favor
Agricultural cooperative is the alternative means of improving the well-being of small-scale farmers.	3.39	Strongly Agree	1	Highly in favor
Agricultural Cooperatives are Encouraging and promoting self-help or self-employment to its member as an engine for economic growth and financial security.	3.20	Strongly Agree	3	Highly in favor
Average Weighted Mean	3.28	Strongly Agree		Highly in Favor

The results shows that the impact agricultural cooperative in terms of the quality of life to the respondents has the average weighted mean of **3.28** which was verbally interpreted as “**Strongly Agree**”.

The agricultural cooperative helps in improving the well-being of the small-scale farmers has the highest weighted mean of **3.39** interpreted as "**Strongly Agree**". The Cooperative helps the farmers in terms of production has the second to the lowest weighted mean of **3.24** interpreted as "**Strongly Agree**". Government programs have thus emerged to enhance smallholder farmers’ performance in modern agricultural production. Among others, agricultural cooperatives have been promoted based on their strong potential to improve smallholders farm performance (Ahmed & Mesfin, 2017; Chagwiza, Muradian, & Ruben, 2016; Francesconi & Wouterse, 2015; Hellin, Lundy, & Meijer, 2009; Liang, Hendrikse, Huang, & Xu, 2015; Mojo, Fischer, & Degefa, 2017).

1.4 Assessing the Impact of Agricultural Cooperatives on the Well-being of Small-Scale Farmers in terms of Quality of Life.

Table 5. The Impact of Agricultural Cooperatives on the Well-being of Small-Scale Farmers in terms of Work Satisfaction

Work Satisfaction	MW	VI	Rank	VD
Agricultural cooperatives motivate its members to work productively.	3.32	Strongly Agree	1	Highly in favor

In agricultural cooperative, they are ensuring that all the farmers are having a good relationship.	3.25	Strongly Agree	2	Highly in favor
All the farmers receive the right amount of support and guidance from agricultural cooperative.	3.17	Strongly Agree	3	Highly in favor
Average Weighted Mean	3.28	Strongly Agree		Highly in Favor

The table above shows that the effect of agricultural cooperative in terms of the work satisfaction of the respondents has the average weighted mean of **3.28** which was verbally interpreted as “**Strongly Agree**”.

The highest weighted mean is **3.32** interpreted as “**Strongly Agree**”, saying that agricultural cooperatives motivate its members to work productively. And all the farmers receive the right amount of support and guidance from agricultural cooperative has the lowest weighted mean of **3.17** interpreted as “**Strongly Agree**”.

The boards of cooperatives have to make strategic decisions on the basis of uncertain knowledge about what is in the interests of the membership (Pozzobon, Zylbersztajn, & Bijman, 2012; Kalogeras, Pennings, Benos, & Doumpos, 2013).

Agricultural cooperatives must support the economy of their farmer-members in terms of prices for agricultural produce and farm inputs, as well as the economic value that the farmers attribute to the services of the cooperative. Another component is the remuneration that some cooperatives provide to members for their investments in the cooperative. There are also social components consisting of the security that cooperatives offer to farmers, the social cohesion in membership, the members’ appreciation of member democracy and equal treatment and the value of having an influence in the cooperative.

In line with the above results, it can be concluded that most of the respondents think that joining an agricultural cooperative can help them in improving their farm production and rural economy. Also, majority of the respondents agreed that cooperatives are allowing its members to adopt the modern way of farming. Most of them also agreed when it comes to cooperative as alternative means of improving the well-being of small-scale farmers. Lastly, majority of the respondents says that agricultural cooperatives motivate its members to work productively.

Based on the above findings, the researchers were able to present the following recommendations:

Agricultural Cooperatives must implement more training sessions and programs to help the farmers to develop their skills and knowledge about farming/ modern ways of farming. By this mean, the farmers will be more knowledgeable and will be able to comprehend more ideas and strategies that will strengthen their farming skills as well as their personal growth.

With the positive result of this study, it is strongly recommended that farmers must join an agricultural cooperative in order for them to learn how to access the inputs required to grow crops and keep livestock and help them process, transport, and market their products. This will enable them to positive economic impact.

Lastly, this research study can be a basis for the future researchers who wants to pursue research in line with the topic. This might contribute to the body of knowledge that will create a significant framework for the other researchers.

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