

Performance of Agricultural Farmers' Groups and Cooperatives in Eastern Bhutan

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ABSTRACT

The number of farmers' groups (FGs) and cooperatives (Coops) increase annually in Bhutan. However, studies on their performance are limited. Thus, this study (1) examined the performance of agricultural FGs and Coops and (2) determined the association between the performance of FGs and Coops and their selected characteristics in six districts of Eastern Bhutan. The results were generated from the data collected through group interviews of 60 groups (53 FGs and 7 Coops) in early 2020. The cooperative performance index was used to divide groups into three performance levels: (1) early transition to growth, (2) mid-transition to growth, and (3) model groups. The results showed that most groups (62%) were in mid-transition to growth, followed by the early transition to growth and model groups with 20% and 18%, respectively. FGs and Coops performed weakly in areas of management, marketing, and retention of members. The frequency of meetings and the number of literate members were positively correlated with the groups' performance. Overall, this study suggests the requirement of supports in areas of initial institutionalisation of groups, management, marketing, and product diversification to strengthen existing FGs and Coops.

Keywords: Agriculture; Cooperatives; Eastern Bhutan; Farmers' group; Performance

1. Introduction

There is no standard definition for farmers' groups (FGs) and Cooperatives (Coops). However, in Bhutan, the FG can be defined as "a group of not less than three members deriving economic benefits from one or more economic enterprises related to Renewable Natural Resource Sector" (*The Cooperative (Amendment) Act, 2009*, 2009). The Cooperative (Amendment) Act of Bhutan 2009 also defined Coop as "an association of persons united voluntarily to meet their economic needs through a jointly-owned and effectively governed enterprise". FGs and Coops operate based on seven principles: open and voluntary membership (1), democratic control (2), members' economic participation (3), autonomy and independence (4), education, training, and information (5), cooperation among cooperatives (6), and concern for the community (7) (ICA, 2018). Agricultural FGs and Coops are one among many other types of groups, including but not limited to consumer, credit, housings, worker, health, and social care groups (Birchall, 2004). In this study,

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agricultural FGs and Coops refer to those groups engaged in agriculture, livestock, and forestry-related activities.

FGs and Coops offer farmers with advantages that are difficult to achieve by working individually. According to Van Dijk, Sergaki, and Baourakis (2019), FGs and Coops support smallholder farmers by improving their countervailing power, transaction costs, market access, market transparency, risk management, economic of scale, professionalism, chain development, and communal interest. Although FGs and Coops are primarily formed to benefit their members, they also benefit the broader community. For example, FGs and Coops provide employment (Wanyama, Develtere, & Pollet, 2008) and improve social capital in the community (Tenzin & Natsuda, 2016). FGs and Coops are also known for reducing poverty at the country level (Tenzin, Otsuka, & Natsuda, 2015). Recognizing the myriad benefits of collective actions, the Royal Government of Bhutan (RGoB) has been promoting FGs and Coops in Bhutan.

Bhutan occupies an area of 38,394 square kilometres; and a population of 681,720, of which 66% live in rural areas (NSB, 2019). Although cultivated land is only about 3%, agriculture is one of Bhutan's five economic jewels (NSB, 2019). The agriculture sector employed 53.9% of Bhutanese and contributed 17.37% to Bhutan's gross domestic product (NSB, 2019). Bhutanese farmers mostly practice self-subsistence integrated farming, comprising crops, livestock, and forestry (GNHC, 2017; Sonam & Martwanna, 2012). In the 9th Five-Year Plan (2002-2007) and 10th Five-Year Plan (2008-2013), the RGoB promoted FGs and Coops to commercialize self-subsistence agriculture by strengthening production and marketing (GNHC, 2008; Sonam & Martwanna, 2011). This study uses the word 'groups' interchangeably with FGs and Coops for convenience.

In 2009, the Ministry of Agriculture and Forests (MoAF) created the Department of Agricultural Marketing and Cooperatives (DAMC). The DAMC functions as a full-fledged departmental agency under the MoAF to strengthen marketing structures, institutional linkages, and FGs and Coops (DAMC, 2019a). As of June 2019, the DAMC registered 509 FGs and 71 Coops in Bhutan (DAMC, 2019b). The number of registered FGs and Coops in Bhutan has drastically increased over the years. Besides, many informal groups remain un-registered with the DAMC, which will increase the number of registered FGs and Coops in the country shortly.

While it is acceptable to increase the number of FGs and Coops in the country, it is also equally essential to have better-performing groups to deliver the expected benefits. Thus, assessing the performance of FGs and Coops is of paramount importance. Previous studies used different models to measure the performance of FGs and Coops. Some related studies used financial models, such as cost, profit, sales growth, returns on assets, returns on equity, and returns on sales (Hartikayanti & Permadhy, 2015; Khan, Yaacob, Abdullah, & Abu Bakar Ah, 2016; Mishra, Wilson, & Williams, 2009). However, non-profit oriented FGs and Coops do not prioritize their goals to financial growth (Mayo, 2011). Thus, some studies used non-financial models such as members' commitment, trust, or satisfaction to measure the performance (Österberg & Nilsson, 2009; Torres-

Lara, 2000). Some studies also combined financial and non-financial models (Eriksson & Li, 2012; Govori, 2013). In recent years, more holistic models were deployed to measure FGs and Coops' performance using multiple indicators (Masango, 2015; Nkuranga & Wilcox, 2013). Considering the inclusion of diverse FGs and Coops in this study, we also partially adopted a holistic model from Nkuranga and Wilcox (2013).

Improving FGs and Coops' performance requires a comprehensive understanding of knowledge affecting the performance of these groups. The resource-based view theory, the basis of this study, implies that the organisations have resources necessary for influencing its performance. This theory suggests that the organisations having valuable, rare, inimitable, and non-substitutable resources (internal factors) will perform better (Barney, 1991). Previous studies show internal factors that significantly affect the performance of FGs and Coops. Internal factors include chairperson's age (Kanfer & Ackerman, 2004), number of years as chairperson (Purves, Niblock, & Sloan, 2015), operating years (Barham & Chitemi, 2009), board sizes (Bond, 2009), frequency of meeting (Ruengdet & Wongsurawat, 2010), number of literate members (Hasan & Almubarak, 2016), and total members (Thaba, Anim, & Tshikororo, 2016).

However, not much is known about these groups' performance and the factors affecting their performance, especially in Eastern Bhutan. Filling up this study gap will shed new lights on the performance of groups in the Bhutanese context, which would help stakeholders design programs to strengthen FGs and Coops in Eastern Bhutan. Thus, this study assessed the performance of agricultural FGs and Coops (1) and determined the association between the performance of FGs and Coops and their selected characteristics (2) in the six districts of Eastern Bhutan.

2. Methodology

2.1. Study area

Bhutan can be divided into four regions: East, West, Central, and South. This research was conducted in six districts of Eastern Bhutan: Lhuentse, Mongar, Samdrup Jongkhar, Pema Gatshel, Trashigang, and Trashy Yangtse (Figure 1). Eastern Bhutan was chosen due to the general absence of research to underscore the FGs and Coops' performance in the region. There are few related articles, but they are limited to West and Central Bhutan focusing on dairy groups (Sonam & Martwanna, 2012; Wangchuk et al., 2019). This study gap encouraged the authors to conduct this research in Eastern Bhutan.

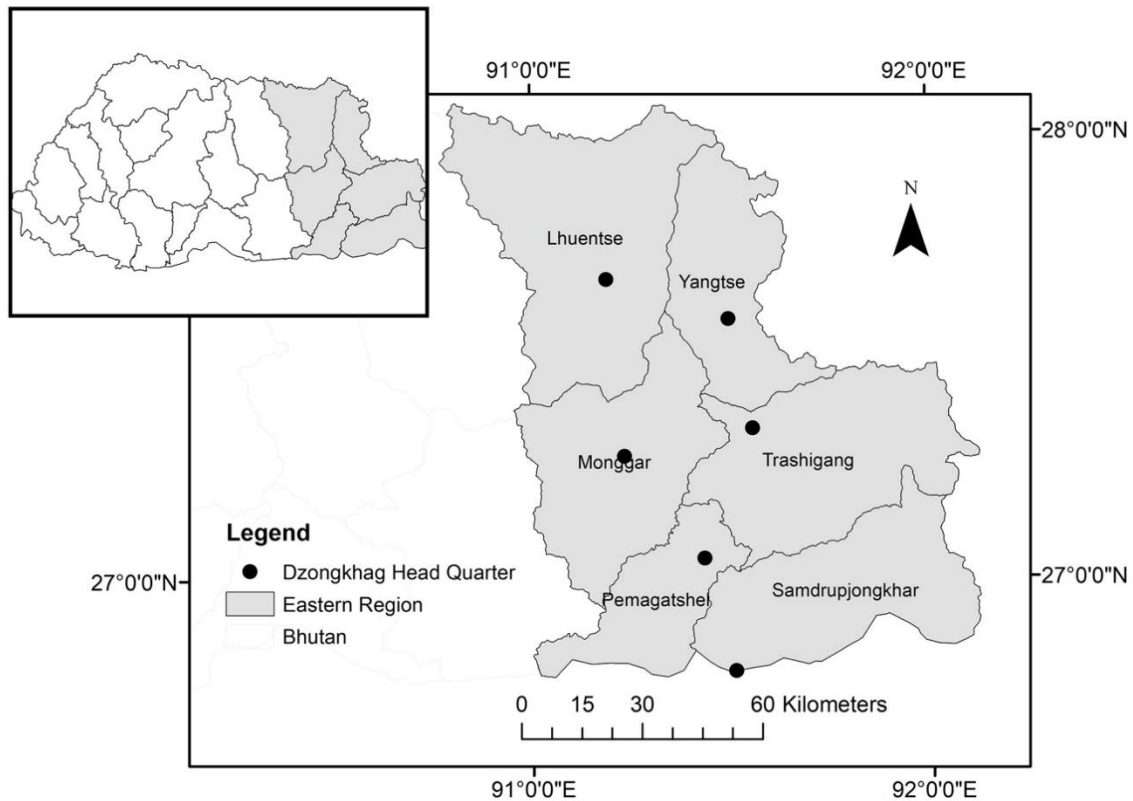


Figure 1. The study area (six districts of Eastern Bhutan).

2.2. Sample size and sampling

The target population for this study was 211 groups from Eastern Bhutan (DAMC, 2019b). The study initially planned to collect data from 74 groups (60 FGs via proportionate random sampling and 14 Coops via census). However, we surveyed 62 groups only (55 FGs and 7 Coops) as the RGoB imposed Covid-19 travel restriction at the later stage of the data collection. Further, we excluded two non-functional groups as they could not respond to most of the questions. The groups in eastern Bhutan are mostly similar in market size, organisational existence, and functioning. Therefore, this study considered data from 60 FGs and Coops from the eastern part of Bhutan (Table 1).

Table 1. Sampling of FGs and Coops.

Dzongkhag	FGs	Coops	Total
	TP(PS)[AS]	TP(PS)[AS]	TP(PS)[AS]
Lhuentse	11 (3) [3]	0 (0) [0]	11 (3) [3]
Mongar	70 (21) [20]	4 (4) [4]	74 (25) [22]
Trashigang	48 (15) [16]	3 (3) [2]	51 (18) [18]
Trashi Yangtse	23 (7) [7]	1 (1) [1]	24 (8) [8]
PemaGatshel	20 (6) [6]	0 (0) [0]	20 (6) [6]

Samdrup Jongkhar	25 (8) [5]	6 (6) [2]	31 (14) [5]
Total	197 (60) [55 *]	14 (14) [7]	211 (74) [62]

*Two FGs excluded

TP(PS)[AS] = Total population (Planned sample size) [Actual sample size]

2.3. Data collection

The primary data collection approach was group interviews (conducted in early 2020); thus, an individual FG and Coop served as a study unit. The researchers, accompanied by representatives from the Regional Agricultural Marketing and Cooperative (RAMCO), Mongar, facilitated the group interviews. Chairpersons, other position holders in groups such as accountants and treasurers, and group members participated in the group interviews. The participants responded to the questionnaire upon finalising the answers in the group.

The questionnaire was prepared in consultation with the officials from the RAMCO, Mongar, as the institution looks after the FGs and Coops in Eastern Bhutan. The questionnaire was semi-structured, and it consisted of three parts. The first part collected data on the profile of the groups and the process of group formation. The second part underscored the data on independent factors that influenced the performance of groups. The third part gathered data to measure the performance of groups. The questionnaire was pre-tested with three FGs before the actual data collection and amended where necessary for clarity. We also referred to published articles, office documents, DAMC online database, and documents from districts and gewogs. Moreover, informal interviews and field visits gave insights useful for corroborating the results from different data sources.

2.4. Data analysis

Microsoft Excel 2010 was used for data entry and cleaning. The Statistical Package for the Social Sciences (SPSS) version 25 was used to analyse the data. Groups' performance was measured using the cooperative performance index (CPI) model, which was developed, tested, and adopted by the United States Agency for International Development. The CPI is based upon five areas: governing, planning, accounting, producing, and marketing (Nkuranga & Wilcox, 2013). FGs and Coops rated 54 indicators (List 1) of CPI as 1 (if they agree) or 0 (if they disagree). The CPI scores guided the grouping of FGs and Coops into three categories: (1) the early transition to growth (CPI scores less than 50%), (2) the mid-transition to growth (CPI score between 50% and 70%), and (3) the model groups (CPI scores above 70%). Spearman's correlations were also conducted to determine the correlation between the selected profiles of groups and groups' performance. The results are presented in the form of Tables and Figures.

List 1. Indicators adopted under five dimensions of CPI (Nkuranga & Wilcox, 2013).

First Dimension. Legal Status & Cooperative Planning and Strategy

1. *Does the FG/Coop have a copy of by-laws?*

2. *Are board members trained in record and bookkeeping?*
3. *Does FG/Coop prepare financial reports?*
4. *Do all FG/Coop board members participate in board meetings?*
5. *Does AG/Coop follow the by-laws?*
6. *Does the FG/Coop have all copy of regularly scheduled meetings?*
7. *Does the FG/Coop have a short-term action plan?*
8. *Do board members keep the minutes of the meetings?*
9. *Does the FG/Coop follow up the minutes of the meetings?*
10. *Does the FG/Coop have a long-term business plan?*
11. *Does the FG/Coop follow the business plan?*
12. *Are action plans voted during the General Assembly?*

Second Dimension. Management Structure and Accounting System

1. *Have members ever changed inputs applied to improve production?*
2. *Are grievances and conflict resolution procedures in place?*
3. *Do members use grievances mechanism?*
4. *Does the FG/Coop have all the necessary books of accounts?*
5. *In the past two years, did AC/FG determine if it is profitable?*
6. *Are financial reports published and shared with members?*
7. *Has the FG/Coop communicated its surplus to members?*
8. *Does FG/Coop have documented financial procedures?*
9. *Does general assembly decide on the use of the surplus?*
10. *Do employees have clear job descriptions and contracts?*
11. *Are members of the supervisory committee trained in FG/Coop supervision?*
12. *Does FG/Coop have a paid accountant?*
13. *Does the FG/Coop have any other paid staff?*
14. *Does staff have performance agreements with the FG/Coop?*
15. *Does FG/Coop conduct regular internal audits?*
16. *Is financial reporting is timely audited?*
17. *Does FG/Coop have an operational manager?*
18. *Does a computerised accounting system exist?*
19. *Does FG/Coop conduct regular external audits?*
20. *Performance evaluations guide the incentives.*

Third Dimension. Production and Quality of Inputs

1. *Does FG/Coop train and provide technical support on improved production methods?*
2. *Did the FG/Coop production increase due to market demand?*
3. *Does your FG/Coop production satisfy the market needs?*
4. *Is there regularly quality assurance checking of inputs used by executives?*
5. *Does the FG/Coop do market-led production?*
6. *Does FG/Coop add value to members' production?*
7. *Does your FG/Coop update its market study to meet the client's expectations?*

8. *Does the FG/Coop collect and markets products on behalf of its members?*
9. *Does FG/Coop have the capacity to bulk and distribute farming inputs to members?*

Fourth Dimension. Market Linkages and Business Relations

1. *Does the FG/Coop provide market information to its members?*
2. *Does your FG/Coop have a market plan?*
3. *Does your FG/Coop have a contract with clients?*
4. *Does the FG/Coop have a marketing committee?*
5. *Has your FG/Coop developed marketing materials, business cards, name plaque for exhibitions, office, signposts, etc.?*

Fifth Dimension. Recruitment and Member Retention Strategy

1. *Are there clearly defined membership criteria?*
2. *Have all members paid the membership fees (Share capital)?*
3. *Are member needs integrated into the planning process?*
4. *Is there a regular survey of members' needs?*
5. *Does FG/Coop have a record of member activities?*
6. *Do FG/Coop member-trainers train other members?*
7. *Does FG/Coop provide a dividend to its members?*
8. *Does FG/Coop have a training fund?*

2.5. Ethical considerations

The Research Committee of the College of Natural Resources approved the research proposal. The RAMCO office also sent an official letter to the DAMC, districts, and gewogs informing about the research and soliciting their corporations during data collection. The enumerators explained the objectives of the study and assured the confidentiality of the information to the participants. The participants could withdraw from the study if they were not interested. Verbal consent was obtained from all the participants before the commencement of the data collection.

3. Results and Discussion

3.1. Profile of FGs and Coops

About 72% of FGs and Coops in Eastern Bhutan are in the production sector. Potential exists in the promotion and integration of service and processing sectors. Fifty per cent of the groups reported a decline in the number of members than their initially registered members. The result showed that most groups had difficulty in retaining their members. Most groups (60%) chose men as their chairperson. O'Brien and Wegren (2015) also reported such under-representation of women leaders in collective actions. The low representation of women in a leadership position is likely, as men leaders tend to outperform women in improving their organisation (Barham & Chitemi, 2009). Thus, people appear to trust men compared to women as leaders. Most groups (80%) had elected literate individuals as their chairperson. Educated leaders are directly linked with the success of groups (Gutema, 2014; Nyoro & Ngugi, 2007), suggesting that members of the FGs and Coops considered qualifications in choosing their leaders.

About 80% of the groups have reported that the ideas proposed by the gewog (sub-district), district, or RAMCO have led to the formation of groups. Sonam and Martwanna (2012) also reported that the formation of groups in Bhutan is a mostly top-down approach. The top-down approach decreases the sense of ownership (Sonam & Martwanna, 2012; Vilas Boas & Goldey, 2001). Contrarily, groups succeed when ideas originate from their members (Pathak & Kumar, 2008). Thus, Van der Walt (2005) suggests that the initial idea to form the group must come from the group's members. Table 2 presents the selected profiles of the FGs and Coops in Eastern Bhutan.

Table 2. Profile of FGs and Coops in Eastern Bhutan.

Variables	Categories	Frequency	Percentage
Business idea	Members	12	20.0
	Gewog, Dzongkhag, or RAMCO	48	80.0
Business sector	Agriculture	38	63.3
	Livestock	22	36.7
Nature of activities	Production	43	71.7
	Processing	16	26.7
	Service	1	01.7
Member size changes	Decreased	30	50.0
	No Change	14	23.3
	Increased	16	26.7
Gender of chair	Male	36	60.0
	Female	24	40.0
Qualification of chair	None	12	20.0
	Non-Formal Education	18	30.0
	Class PP to VI	14	23.3
	Class VII to X	10	16.7
	Class XI to XII	6	10.0

Note: Non-Formal Education includes monastic education, and PP refers to pre-primary schooling.

3.2. Performance of FGs and Coops

About 20% of the groups were in the early transition to growth stage. These were nascent FGs and Coops that needed extra support for survival and growth. This category of the group had very few or no activities. Besides, the FGs and Coops had poorly developed by-laws, weak management, attrition of member, and negligible benefits to the members. Such groups are likely to dissolve in the absence of timely and effective interventions. Thus, stakeholders should strive to make these groups functional through proper institutionalisation. The focus should be on team building, visualising the goals, and revising the group by-laws.

Most FGs (62%) were in the mid-transition to growth stage. The performance of these groups was moderate - at the growing stage. Since these groups were already operational, they had a few regular activities. These groups benefited their members in cash and kind. Sometimes, they also exhibited their spill-over benefits to communities. As they were operational, their significant

challenges were the management of groups and market access. Thus, interventions were required for strengthening groups and improving market access. Wangchuk et al. (2019) and Sonam and Martwanna (2012) had suggested similar recommendations. These groups were small scale dealers, depending on external support for their survival.

The model groups comprised only 18% of the total FGs and Coops. The best FG in 2019, the Norbugang Zambala Dairy Group (Rabten, 2019), was in this category. Model FGs and Coops had well-established business and regular activities. Such a stable business not only benefited its members but also generated spill-over benefits in the community. For instance, these groups employed their members and other individuals from the communities, either as full-time or part-time. However, most FGs and Coops in Bhutan are mostly primary producers; therefore, they should explore the processing and value addition; and promote their products in export markets.

3.3. Comparing Performance among Five Dimensions of CPI

The dimension “Production and Quality of Inputs” scored the highest. This dimension had nine indicators to assess the production and input performance of FGs and Coops. This dimension scoring the highest is plausible because 71% of the groups were primary producers focusing on input quality and increasing production volume. The Agriculture Research and Development Centre (ARDCs) and stakeholders also provide groups with technical supports.

The dimension "Legal Status and Cooperative Planning and Strategy" comprised 12 indicators. These indicators assessed the groups’ performance on legal and planning aspects. This dimension included statements like “does the FG or Coop have a copy of by-laws?” This dimension had the second-highest average score of 42. Registration of FGs and Coops in Bhutan must go through three stages. Gewog initially approves the farmers’ application to form the group and then submit it to the district in the first stage. The district's focal person reviews the application and sends it to the DAMC in the second stage. The DAMC registers the groups in the third stage. Thus, the entire registration process demands planning and fulfilling legal requirements. Also, focal persons at all stages help in planning and checking legal issues (The Cooperative (Amendment) Act of Bhutan 2009, 2009). Therefore, it was reasonable for FGs and Coops to score the second-highest on this dimension. Figure 2 compares the average scores among the five dimensions of the CPI.

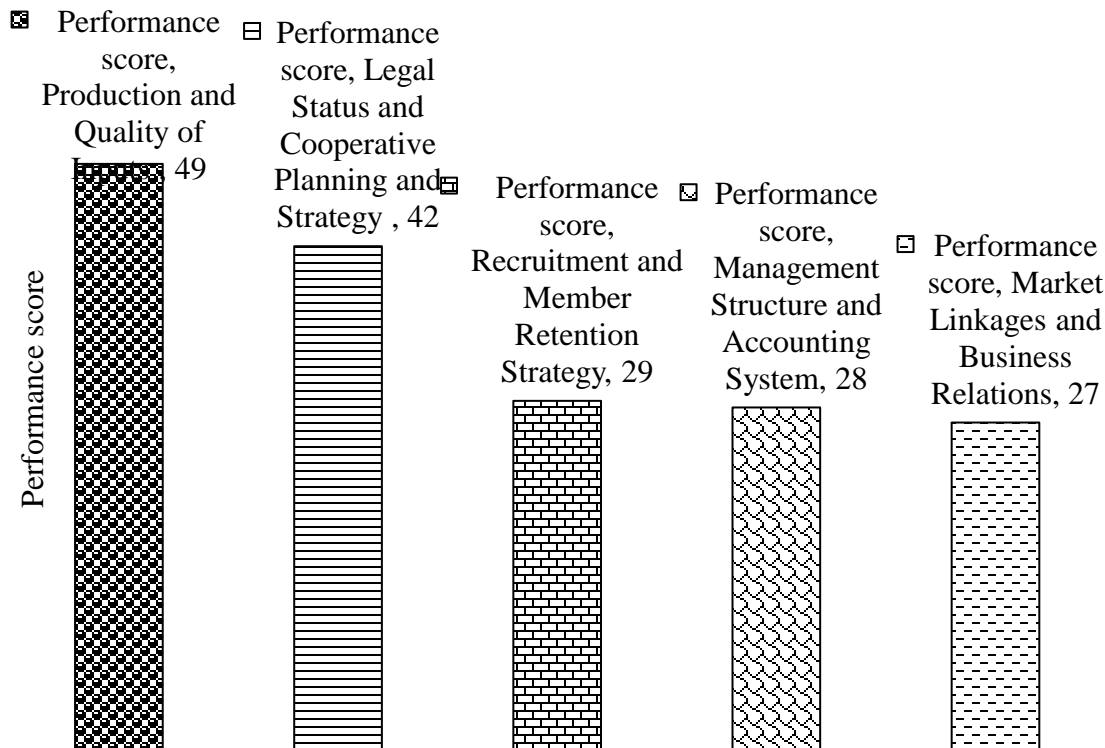


Figure 2. Comparison of performance of five dimensions of CPI.

The third, fourth, and fifth dimensions (from left to right in Figure 2) had 8, 20, and 5 indicators, respectively. On average, all three dimensions scored less than 30. Scores were lower than the two leading dimensions' scores – production and quality of inputs (1) and legal status and cooperative planning and strategy (2). Lower scoring of these three indicators shows that groups face more problems related to management, accounting, marketing, and retaining members. Our field observations had evidence that supported the existence of these issues. For instance, many groups were not able to enforce by-laws. We also noted no proper bookkeeping and auditing system. The group also faced challenges in marketing their products. Also, marketing committee, business card, signposts, and websites were not available in most groups. Wangchuk et al. (2019) and Sonam and Martwanna (2012) reported these issues in the West and Central Bhutan. Thus, promoters of FGs and Coops should focus more on improving recruitment and retention of members; management and accounting; and marketing and business relation.

3.4. Success factors of FGs and Coops in Eastern Bhutan

The second objective was to determine the association between FGs and Coops' performance and their selected characteristics. Thus, we performed the correlation between selected characteristics of groups and their performance (Table 3). Non-parametric data necessitated conducting Spearman's correlation coefficients. The frequency of meetings correlated with the performance of groups at 0.01 level of significance. The correlation was positive and moderate ($r = .355$). FGs and Coops are member-oriented undertakings requiring frequent meetings. Frequent meetings

enable better job divisions, monitoring, and coherence in groups. The current result agrees well with previous studies (Ruengdet & Wongsurawat, 2010; Sabatini, Modena, & Tortia, 2014; Xie, Davidson, & DaDalt, 2003). Thus, it implies the need for frequent meetings in groups for their better performance.

The number of literate members in a group significantly correlates with the group performance ($P < 0.01$). The association was moderate and positive ($r = .430$). Certain levels of numeracy and literacy were necessary for managing groups. Several studies published that education has a role in the groups' performance (Amini & Ramezani, 2008; Barham & Chitemi, 2009; Fahlbeck, 2007; Garnevska, Liu, & Shadbolt, 2011; Hasan & Almubarak, 2016). Thus, groups should often meet to discuss, plan, and track activities.

This study also examined the correlations of the performance and five other characteristics of groups (chairperson's age, number of years as chairperson, operating years, board sizes, and total members) showing significant associations in previous studies (Barham & Chitemi, 2009; Bond, 2009; Kanfer & Ackerman, 2004; Purves et al., 2015; Thaba et al., 2016). Unlike our expectation, they did not correlate with the groups' performance in this study. It is plausible because most groups are small-scale producers' groups with no complex management structure. However, other studies support the non-significant correlation between the performance and characteristics of FGs and Coops (Azadi et al., 2010; Rabirou, Olusayo, & Okparaocha, 2013; Rajaei, Yaghoubi, & Donyaei, 2011).

Table 3. Relationship between selected characteristics and performance of FGs and Coops.

Variables	1	2	3	4	5	6	7	8
1. Performance	1							
2. Age of chair	-.021	1						
3. Years as chair	.084	-.063	1					
4. Operating years	.119	.178	.400**	1				
5. Board members	-.225	-.294*	-.127	.129	1			
6. Meeting	.355**	-.166	-.010	.358**	.204	1		
7. Literate members	.430**	-.061	-.039	-.056	-.046	.223	1	
8. Total members	-.022	-.106	-.201	-.073	.272*	.273*	.457**	1

** Correlation is significant at the .01 level (2-tailed)

* Correlation is significant at the .05 level (2-tailed)

4. Conclusion

This study has two crucial findings on FGs and Coops' performance from the eastern part of Bhutan. Most groups (62%) were in the mid-transition to growth phase, performing weakly in management, marketing, and retaining members. The frequency of meetings and the number of literate members in the group correlate with the group's performance. Thus, groups in different

performance categories require specific supports. The nascent groups needed proper institutionalisation, including team building, visualising goals, and revisiting by-laws. We recommend stakeholders intervention in management and marketing areas for the groups in mid-transition to the growth phase. The matured groups needed support in product diversification through processing and value addition. An opportunity exists for the model groups to explore their products in international markets. The study also highlights the importance of regular meetings and literate members for better performance of the groups.

This study's limitation is that results are solely based on the CPI model used for measuring the performance of groups; thus, future researchers could use other models to compare the current results.

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