BIBLIOGRAPHY

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ABSTRACT

This study was conducted to determine the coordination mechanisms by the cauliflower supply chain actors along; resource sharing which encompasses operational, tactical and strategic resource sharing; decision making style; level of control; and risk and reward sharing. Moreover, the study aimed to identify problems encountered by the actors along the supply chain.

The study reveals that in the operational resource sharing, suppliers provides necessary farm inputs and farmers do all the operations in the farm. As for tactical resource sharing doing inventories were entrusted to the farmers. For the strategic resource sharing, farmers aimed to be competitive in the market by producing quality cauliflower. Organic farming was mentioned by them that could contribute in producing quality cauliflower produce.

The decisions in the production area were entrusted to the farmers while the supplier/trader takes responsibility in marketing. Supplier/traders trust the farmer that is why they do not necessarily visit the farm to monitor.

Natural calamities like typhoons are one of the major causes of bankruptcy by both the farmers and suppliers. In this study, the actors share equally in the risks. As to benefit sharing, the farmers and their respective supplier/traders have various mechanisms in dividing their share.

Both farmers and their respective supplier/traders met problems in coordination. At times, when the customers do not pay the traders on time, the farmers were affected because the traders in turn delay in paying the product.

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INTRODUCTION

Rationale

Kabayan is tagged as one of the vegetable producing municipalities in the province of Benguet. Eighty five (85%) of the residents depend mainly on agriculture as their means of livelihood. As such, agriculture is the focal area of economic stability in this place. The municipality's favorable climatic condition with a mean annual temperature of 19.4 ^{0}C and its soil fertility paved way in growing various highland vegetables. Thus, vegetable production or cash crop production is the center of activity of farmers in the locality (Ancestral Domain Management Plan, 1999). Kabayan has more than sufficient supply of vegetables that it can consume, hence, marketed to Baguio City, La Trinidad and Bambang, Nueva Viscaya (Draft Report, 2002). Cauliflower is one of the major crops produced by most farmers here. The Municipal Agriculture Office (MAO) in Kabayan reported that cauliflower has a total annual produced of 8,869.50 MT or 14.13 MT/ha. The total area planted accounts to 615.50 has (Benguet Commodity Profile, 2006).

Supply chain actors such as suppliers, farmers, and traders, play an important role within the chain. This is because they serve as the agent in providing service to the ultimate consumers. According to Julian (2006), traders owe a big part in the market activity by seeing to the personal satisfaction of human wants. Without these traders, goods may not reach the ultimate consumers, thus, adversely affecting their standard of living. The rapid change in trend affects consumers' behavior nowadays. They are harder to please. They are more demanding and sensitive. As for vegetables, they want them to

be sold fresh judging their quality and reliability. It is therefore a challenge to the actors to act on this matter.

Coordination mechanism is employed along the chain. Xu and Beamon (2006), wrote that coordination within a supply chain is a strategic response to the problems that arise from inter-organizational dependencies within the chain.

The most common vegetable chain in Kabayan is popularly known as supply system, where the trader provides necessary farm inputs to farmers to be used in the cropping. At harvest, the farmers sell the output to their farm input supplier or trader-financier as they are called.

The study was conducted to find out how these actors (farmer and their respective farm input supplier/trader) coordinate with each other along resource sharing, decision style, level of control and risk/reward sharing and at the same time know the problems they encounter in this particular chain.

Statement of the Problem

Studies have been conducted related to different agricultural produce in the province of Benguet. However, further study on the coordination mechanisms of supply chain actors of this particular commodity had not been done and elaborated. Studying the coordination mechanisms along cauliflower supply chain will answer the following questions:

1. Who are the actors involved along cauliflower supply chain in Kabayan and their characteristics?

2. How do the actors coordinate with each other along resource sharing, decision style, level of control and risk/reward sharing?
3. What are the problems encountered related to the coordination mechanisms?
4. How do they solve these problems?

Objectives of the Study

The objectives of the study were as follows:

1. To identify the actors involved in the cauliflower supply chain in Kabayan.
2. To find out the coordination mechanism of the actors along resource sharing, decision style, level of control and risk/reward sharing.
3. To know the problems encountered by the actors along coordination mechanism.
4. To find out how they solve these problems.

Importance of the Study

Studying the coordination mechanisms of the farmers and their respective farm input supplier/trader in the supply chain is important to improve coordination. Eventually, good coordination could help producers to produce quality cauliflowers that would fit into the needs and wants of the customers. This study provides information to concerned agencies for policy actions and interventions.

Scope and Limitation of the Study

Although, "supply system" is also practiced in other parts of Benguet, the study focused in the municipality of Kabayan, Benguet. It was limited to the coordination mechanisms of actors along the cauliflower supply chain.

REVIEW OF LITERATURE

Yubos (2006) wrote that vegetable farming requires a big amount of cash for the purchase of farm inputs such as planting materials, fertilizer, pesticides and fungicide. Unavailability of cash and poor access to financial institutions/support is one of their constraints in production; thus, this is where agricultural farm input suppliers are of great help to the farmers.

Traders forge production-sharing agreement with farmers. The traders provide necessary farm inputs and cash money for use in the cropping season. At harvest, the total produce will be sold to the trader-financer. This is called "supply system" (Figure 1). Agreements on sharing of sales out of the farm produce vary (Draft Report, 2002).

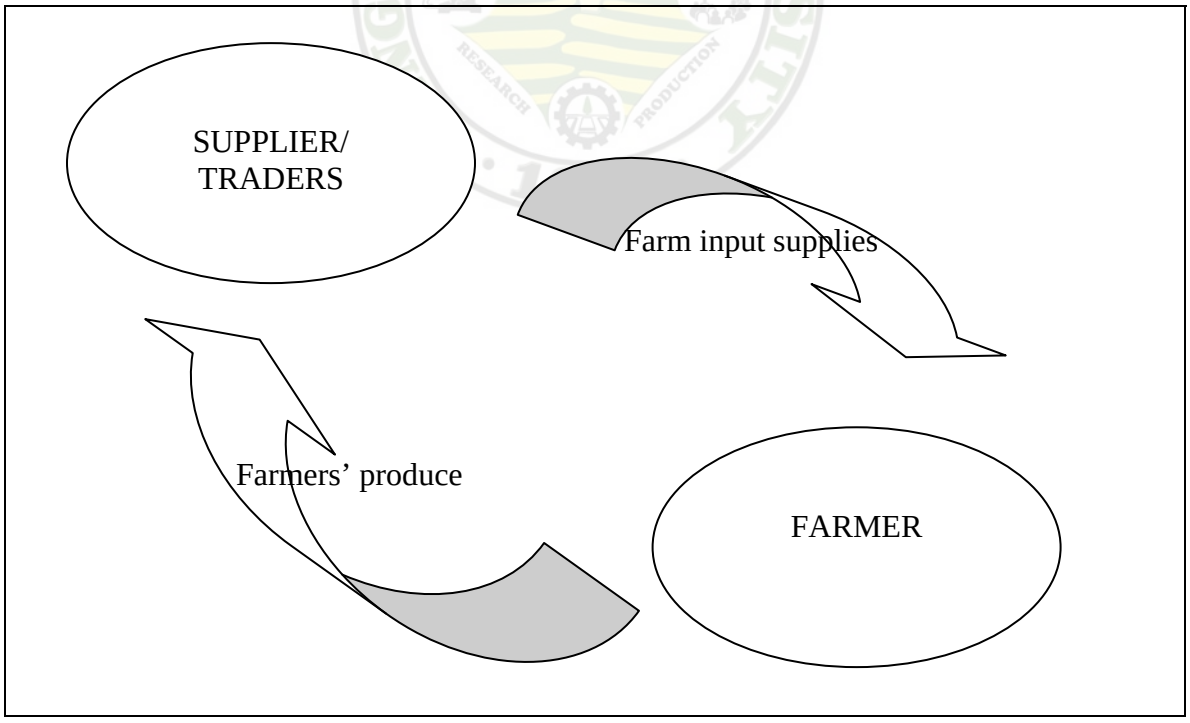

Figure 1. Supply system for vegetable in Kabayan, Benguet

Supply Chain

Every product has its own unique supply chain, according to Lele as cited by Batt (2004); supply chain itself is often long and protracted, involving a large number of market intermediaries.

In other instances, Waters (2003) describes supply chain as the series of activities in organizations that materials move through on their journey from initial suppliers to final customers. Supply chain exists to overcome the gaps created when suppliers are some distance away from customers. This is a sequence of events intended to satisfy a customer.

The new millennium features increasing numbers of world-class competitors, domestically and internationally, that are forcing organizations to improve their internal processes in order to stay competitive. Sophisticated customers, industrial and consumer, no longer talk about price increases, they demand price reductions. An abundance of competitors and choices has conditioned customers to want higher quality, faster delivery of products and services, tailored to their individual needs at a lower total cost. If a company cannot meet these requirements, the customer will find a source that is more accommodating (Monczka et al., 2005).

Waters (2003) added that the simplest view of supply chain has a single product moving through a series of organizations, each of which somehow add value to the product. Taking one organizations' point of view, activities in front of it-moving materials inwards-are called upstream; those after the organization-moving materials outwards-are called downstream. The upstream activities are divided into tiers of suppliers. A supplier that sends a material directly to the operation is a first tier supplier;

one that send materials to a first tier supplier is a second tier supplier; one that sends materials to a second tier is a third tier supplier, and so on. Customers are also divided into tiers. One that gets a product directly from the operation is a first tier customer; one that gets product from a first tier customer is a second tier customer; one that gets a product from a second tier is a third tier customer, and so on to the final customer (Figure 2).

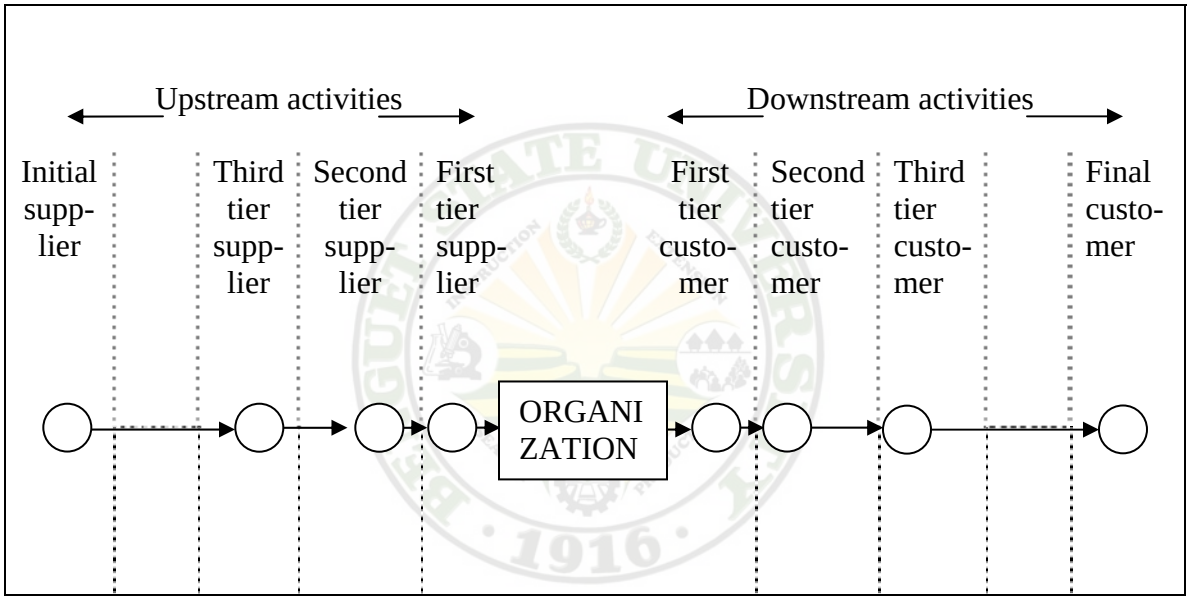

Figure 2. Activities in a supply chain (Waters, 2003)

Coordination Mechanism Attributes

Coordination mechanism is a set of methods used to manage interdependence between organizations. This may be differentiated on the bases of four attributes: resource sharing structure, decision style, level of control, and risk/reward sharing (Xu and Beamon, 2006).

Resource sharing structure. Malone as cited by Xu and Beamon (2006) limits consideration to information sharing. However, since there are other resources to be shared and communicated within the context of coordination, this dimension is extended to include all of the resources shared. This dimension is defined as resource sharing structure, and follows the classification given in Varamaki and Vesalainen (2003):

- No resource sharing.
- Operational resource sharing, such as communication between operational levels, sharing operational information such as point-of-sale (POS) data, or pooling operational resources in group problem solving.
- Tactical resource sharing, such as communication between managers in the same function from different firms to achieve consistency or jointly developing inventory and production plans.
- Strategic resource sharing, such as forming strategic alliances, forming strategic level meeting, jointly creating strategic plans, sharing strategic information, or jointly investing resources to make strategic advances, especially in the area of research and development (R&D).

Decision style. For the decision function, there are two main styles: centralized and decentralized. For centralized decision style, one firm has primary control. For decentralized style, each firm makes its decision autonomously.

Level of control. Control has two levels: high and low. A high level of control corresponds to strict monitoring and control. In this case, the coordinating firms develop detailed and strict rules, routines, and monitoring systems to control other firms'

behavior, for the purpose of detecting opportunistic risk. A low level of control corresponds to little or to no monitoring and control.

Risk/Reward sharing. Risk/reward sharing describes the characteristics of the selected incentive system. There are two main types of sharing methods: fair or unfair. A fair condition occurs when one firm undertakes more risk than do other firms in the relationship, but receives more benefits from the coordination. An unfair condition arises when one firm undertakes less risk but enjoys greater benefits, or when one firm undertakes greater risk with fewer benefits.

METHODOLOGY

Locale and Time of the Study

This study was conducted in Kabayan, Benguet and among farm input suppliers and traders at Baguio City Hangar Market and La Trinidad Trading Post. Kabayan is bounded by municipalities of the Benguet Province on the North by Buguias, on the South by Bokod, on the West by Atok and partly by Kibungan specifically along the Halsema National Road (Figure 3). Vegetables; leafy, fruit and root are the major products of farmers in the municipality. The study was conducted from January to February 2007.

Respondents of the Study

The respondents of the study were 60 farmers in Kabayan who were cauliflower growers and 10 of their respective farm input suppliers who are at the same time traders of their produce.

Data Collection

An interview guide was used by the researcher for data gathering. Personal observation was also done in this study.

Data Gathered

The data gathered were the following: a) profile of the farmers and their respective farm input supplier/trader; b) coordination mechanisms of these actors along

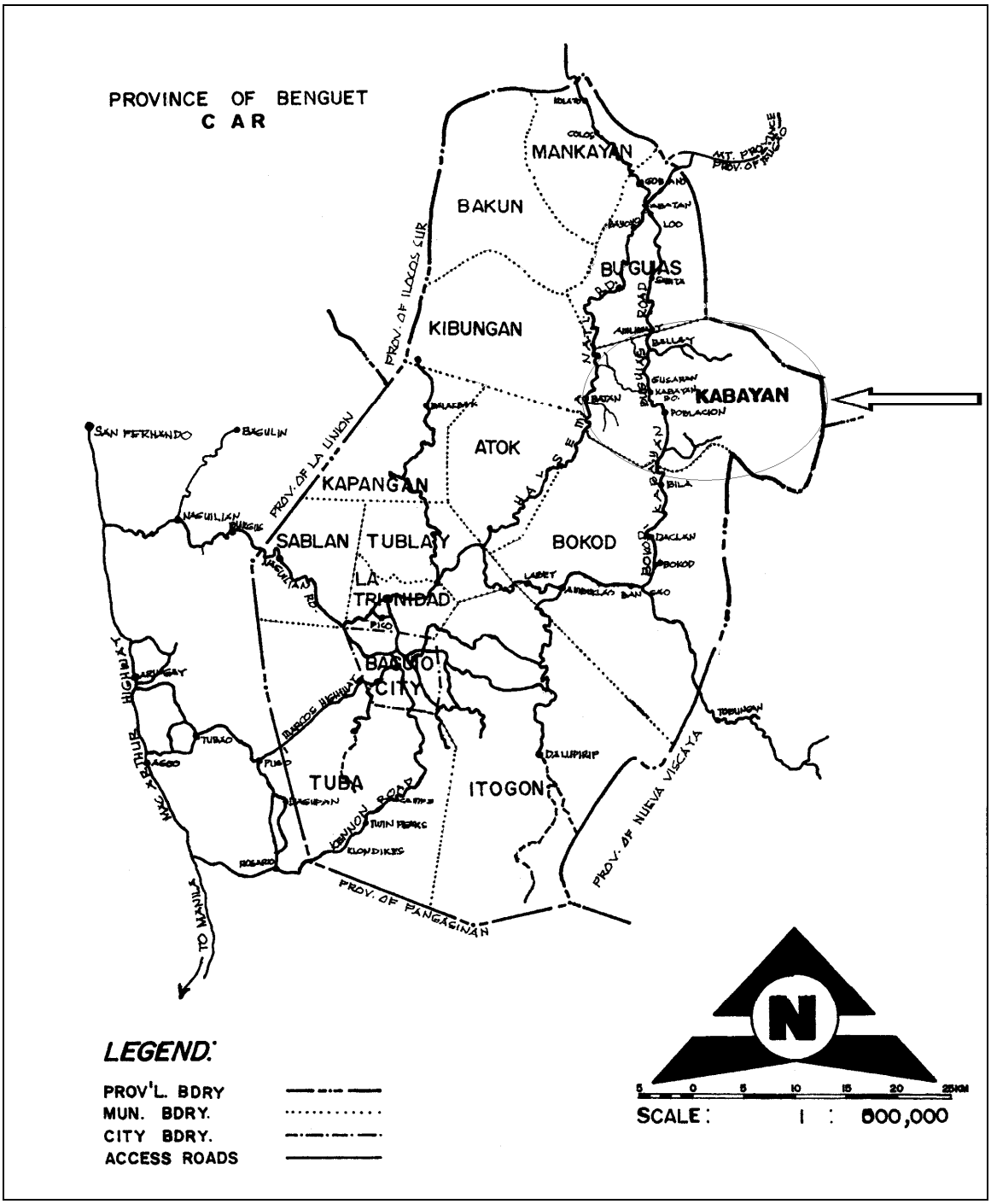

Figure 3. Map of the study area

resource sharing in terms of operational, tactical and strategy, decision style in the area of production and marketing, level of control in terms of monitoring the operations of the farm and risk/reward sharing; c) problems encountered related to coordination mechanisms and; d) solutions of the problems encountered as perceived by the respondents.

Data Analysis

The data collected were consolidated and analyzed using frequency, percentage and mean. Data analysis and interpretation was guided by theories and principles of supply chain from literature.

RESULTS AND DISCUSSION

Profile of the Respondents

This study has two types of respondents, the farmers and their respective farm input supplier /trader. Table 1 presents the respondents' profile according to their sex, educational attainment, and civil status.

Sex. Most (90%) of the respondents are male. Among the farm input supplier/trader, 60% are male and 40% are female.

Educational attainment. Twenty (33.3%) farmers had no formal education, 18.3% graduated from elementary and the same percentage reached high school level, 16.7 % graduated from high school, 8.3% reached college level and 5% graduated from college. For the supplier/trader, 30% reached college level, 20% high school level, 20% graduated from college, 10% took a vocational course and the same percentage had no formal education. The finding implies that most of the farmer respondents had no formal education in contrast to the traders who had higher education.

Civil status. Among the farmer respondents, 61.7% were married and 38.3% were single. Likewise for the supplier/traders, 80% were married and 2 (20%) were single.

Table 1. Profile of the respondents

	RESPONDENTS			
	FARMER		T RADER	
PROFILE	Frequency	Percentage	Frequency	Percentage
Gender				
Female	6	10	4	40
Male	54	90	6	60
TOTAL	60	100	10	100
Educational Attainment				
No formal education	20	33.3	1	10
Elementary graduate	11	18.3	1	10
High school level	11	18.3	2	20
High school graduate	10	16.7	2	20
College level	5	8.3	3	30
College graduate	3	5.0	-	-
Vocational	-	-	1	10
TOTAL	60	100	10	100
Civil Status				
Single	23	38.3	2	20
Married	37	61.7	8	80
TOTAL	60	100	10	100

Operational Resource Sharing

Table 2 shows the coordination mechanisms of the actors along operational resource sharing. This portion includes how they share regarding financing of farm inputs, payment of labor, transportation expense, ownership of the land, and in keeping records of sales.

Provision of farm inputs. Most (85%) of the farmer respondents said that their supplier/trader provides necessary farm inputs needed in the operation, and only 15% of them take equal part. The finding implies that most farmers lack money to finance their farm.

Payment of labor. There were 71.7% farmers who said that they were responsible in the payment of labor while 18.3% mentioned that their supplier/traders did it. Six (10%) said that they shared equally in paying the wages of the laborer. Other farmers said that if the area planted is small, they did all the work and thus, no need to hire a labor.

Transportation expenses. There were 56.7% farmers who said they were responsible for paying the transport of their product, 23.3% indicated that both the farmer and the trader took equal part, and 20% said that their supplier/trader took the responsibility. Some farmers said that when their supplier/trader pick-up their produce during harvest from the farm the fare is computed and deducted from the sales before dividing their share.

Land ownership. Most (80%) of the land planted were owned by the farmer. The rest (20%) said that their supplier/trader provided the land. The finding implies that most farmers have a land but due to lack of financial assistance, they depend on a supplier for financing.

Keeping sales records. Most (88.3%) of the respondents said that both farmer and their supplier/trader have their own copy of sales which serve as their future reference in case of complaints and for the consistency of records. Only 11.7% said that they entrust it to their supplier/trader because they do not know how to do it.

Table 2. Coordination mechanisms along operational resource sharing

COORDINATION MECHANISM	FREQUENCY	PERCENTAGE
Provision of Farm Inputs		
Supplier/trader only	51	85
Farmer only	-	-
Both	9	15
TOTAL	60	100
Payment of Labor		
Supplier/trader only	11	18.3
Farmer only	43	71.7
Both	6	10.0
TOTAL	60	100
Transportation Expense		
Supplier/trader only	12	20.0
Farmer only	34	56.7
Both	14	23.3
TOTAL	60	100

Table 2. Continued…

COORDINATION MECHANISM	FREQUENCY	PERCENTAGE
Land Ownership		
Supplier/trader only	12	20
Farmer only	48	80
Both	-	-
TOTAL	60	100
Keeping Sales Records		
Supplier/trader only	7	11.7
Farmer only	-	-
Each have their copy	53	88.3
TOTAL	60	100

Tactical Resource Sharing

Table 3 presents the coordination mechanisms of actors along tactical resource sharing. This talks about the inventory and the plan for the volume of produce.

Doing inventory. Majority (61.7%) of the farmer said inventory was entrusted to them. This is because they are the one responsible in the farm operation. Some (15%) let their supplier/trader do it, while 11.7% reported doing inventory with the supplier/trader.

Production planning. Most (76.6%) of the farmers said they are not keen on the volume of their output. They just depend on what will come out during harvest. This implies that they are not consciously planning their production.

Table 3. Coordination mechanisms along tactical resource sharing

COORDINATION MECHANISM	FREQUENCY	PERCENTAGE
Doing Inventory		
Supplier/trader only	9	15.0
Farmer only	37	61.7
Jointly prepared	7	11.7
Do not practice	7	11.7
TOTAL	60	100
Production Planning		
Yes	14	23.3
No	46	76.6
TOTAL	60	100

Strategic Resource Sharing

The following table presents the coordination mechanisms of actors along strategic resource sharing. This talks about competitiveness in the market.

Aiming for competitiveness in the market. Most (93.3%) of the farmers said that they want also to be competitive like the other countries. This is by producing quality cauliflower, which is acceptable by the customers. They added that practicing organic farming would contribute in producing a competitive cauliflower produce.

Discussing production plans with their trader. Table 4 shows that 56.7% of the farmers discuss production plans with their supplier/trader hoping that they would

suggest some techniques on how to do it and they believe that their trader is more knowledgeable and more informed regarding this matter because they are exposed in the market. On the other hand, some (43.3%) farmers don't talk about this with their supplier/traders. However, according to the farmers, suppliers don't favor organic farming because they believe that it is difficult and expensive.

The finding implies that actors are aware of the changing trend in the world of competition. However, lack of financial support hinders them to go with the change that is why they stick to their usual practice.

Table 4. Coordination mechanism along strategic resource sharing

COORDINATION MECHANISM	FREQUENCY	PERCENTAGE
Aiming for Competitiveness		
Yes	56	93.3
No	4	6.7
TOTAL	60	100
Discussing Production Plans with trader		
Yes	34	56.7
No	26	43.3
TOTAL	60	100

Decision Making Style

Table 5 presents the decision making style of the actors in the area of production and marketing. This portion talks about who decides for the variety to be planted, time of planting, time of harvest and the choice of selling the commodity.

Choice of variety to be planted. Table 5 shows that majority (56.7%) of the decision regarding the choice of variety of cauliflower were entrusted to the farmers. According to respondents, the decision was given to them because they know what variety is best suited to the type of soil they have. There were 26.7% who said both farmers and supplier/traders decide and some (16.7%) said their supplier/traders make the decision because he owns the land being planted.

Time of planting. Most (90%) of the decision were given to the farmers because according to them, they know the best season for planting. However, farmers could plant at any time they want provided that irrigation is available. Some (8.3%) said both farmer and supplier/trader make the decision and 1.7% said their supplier/trader decides.

Time of harvesting the commodity. Regarding the harvest of the product most (70%) of the respondents said their supplier/trader entrust it to them, 20% said both farmers and their supplier/traders decides and 10% said their supplier/trader takes over. Sometimes farmers consult first their trader before harvesting for the timing of high price. But in most cases, farmers harvest their produce at any time as long that it is ready to be sold.

Choice of selling the commodity. Most (96.7 %) of the decision in the choice of selling the product were taken by the supplier/trader because they have preferred buyers

or ‘suki’ and they are the one responsible in case there are orders. Only 3.3% farmers said they are the one choosing a buyer.

The finding implies that most decision in the production area was given to the farmers while marketing the commodity was taken by their supplier/trader.

Table 5. Coordination mechanisms in decision making

COORDINATION MECHANISM	FREQUENCY	PERCENTAGE
Choice of Variety		
Supplier/trader only	10	16.7
Farmer only	34	56.7
Both makes the decision	16	26.7
TOTAL	60	100
Time of Planting		
Supplier/trader only	1	1.7
Farmer only	54	90
Both makes the decision	5	8.3
TOTAL	60	100
Time of Marketing		
Supplier/trader only	6	10
Farmer only	42	70
Both makes the decision	12	20
TOTAL	60	100

Table 5. Continued…

COORDINATION MECHANISM	FREQUENCY	PERCENTAGE
Choice of Selling		
Supplier/trader only	58	96.7
Farmer only	2	3.3
Both makes the decision	-	-
TOTAL	60	100

Level of Control

Table 5 presents the coordination mechanisms in the level of control which corresponds to the monitoring of the farm operations.

Farm visitation. There were 55% of the farmers who said that their supplier/traders do not visit their farm because the suppliers trust them while 45% said that their suppliers visit. Of those who visit, 25% of them visit twice, 13.3% once, 3.3% thrice and the rest visit many times in one cropping. The suppliers who visit the farms usually check the condition of the crop, plant needs (e.g. insecticides etc.) and the time of harvest.

The finding implies that there is a low level of control because majority said their supplier/trader do not monitor their farm, hence the value of trust is high.

Table 6. Coordination mechanism in the level of control

COORDINATION MECHANISM	FREQUENCY	PERCENTAGE
Visitation of Farm		
Yes	27	45
No	33	55
TOTAL	60	100
Frequency of Visiting		
Once	8	13.3
Twice	15	25.0
Thrice	2	3.3
Others	2	3.3
No answer	33	55.0
TOTAL	60	100

Risk and Reward Sharing

Table 7 presents the coordination mechanisms of the actors in terms of risk and reward sharing in the chain. This portion discusses how do the farmers and the traders divide risk in terms of bankruptcy due to natural calamities and spoilage of the product. The reward is the benefit they get which is the net from the sales of the product.

Risk sharing in bankruptcy. There were 66.7% farmers who said that they share equally with their suppliers in the risk and some (33.3%) said all the risks were given to

them. As to the bankruptcy due to typhoon, the costs of input supplied are on the farmer and deducted from the sales of next cropping.

Sharing of net benefit. The different mechanisms of the actors for sharing benefits are the following:

a) Deduct all farm inputs supplied in the operation then divide the net equally as reported by 28.3% of the respondents.

b) Do not deduct farm input expenses; they simply divide the sales at equal proportion. The respondents here noted that if their supplier owns the land, 10% would be deducted first before dividing them equally as mentioned by 25% of the respondents.

c) Deduct farm input expenses then from the net 65% goes to the farmer and 35% to their supplier/trader as reported by 20% of the respondents.

d) Deduct farm input expenses then 85% goes to the farmer and 15% to their supplier/trader as reported by 13.3% of the respondents.

e) Deduct farm input expenses then 90% goes to the farmer and 10% to their supplier/trader as mentioned by 8.3% of the respondents.

f) Deduct farm input expenses then 60% goes to the farmer and 40% to their supplier/trader as reported by 5% of the respondents.

We noticed that there was a higher percentage where both farmers and their supplier/trader share equally in the risk encountered. On the other hand, division of benefits between the partners varies.

Table 7. Coordination mechanisms in risk and reward sharing

COORDINATION MECHANISM	FREQUENCY	PERCENTAGE
Sharing of Risk		
Supplier/trader only	-	-
Farmer only	20	33.3
Both	40	66.7
TOTAL	60	100
Sharing of Net Benefit		
1. Deduct farm input expenses then 50%-F, 50%- S/T	17	28.3
2. Do not deduct farm input expense then, 50%-F, 50%-S/T	15	25.0
3. Deduct farm input expenses then 65%-F, 35%-S/T	12	20.0
4. Deduct farm input expenses then 85%-F, 15%-S/T	8	13.3
5. Deduct farm input expenses then 90%-F, 10%-S/T	5	8.3
6. Deduct farm input expenses then 60%-F, 40%-S/T	3	5.0
TOTAL	60	100

Buyers of the Commodity

All the supplier/traders respondents said that they sell the cauliflower to individuals and institution (Table 8). This is because all of these supplier-traders were

wholesalers-retailers of the said commodity. Individual buyers as observed by the traders were passers-by where they usually buy goods for household consumption, while institutional buyers were the owner of restaurants, Divisoria trader and Korean schools.

Table 8. Cauliflower buyers of suppliers-traders

BUYERS	FREQUENCY	PERCENTAGE
Individual buyers only	-	-
Institutional buyers only	-	-
Both	10	100
TOTAL	10	100

Trader-Consumer Relationship

Table 9 also presents that most of the clients of the traders were preferred buyers or ‘suki’. According to the traders, if you are engaged in a business, you need to develop a good relationship with your customers because they are the life of your business.

Table 9. Relationship between the traders with their consumers

RELATIONSHIP	FREQUENCY	PERCENTAGE
Relative	-	-
'Suki'	10	10
TOTAL	10	100

Problems Encountered by Farmers with their Supplier/Trader

Farmer respondents said that they enjoy some benefits from their supplier who provides job for them. Furthermore, the relationship is advantageous to farmers who lack money for his farm operations, the crops were financially secured and they do not worry about searching for a trader to sell their product. However, the farmers also encounter some problems with their suppliers.

As reflected in Table 10, majority (58.3%) of the problems encountered by farmers was delayed delivery of farm inputs by the supplier. Other problems mentioned were: supplier cannot provide all the necessary inputs needed for maintenance (16.7%) and delayed payment of product from the trader due to delayed payment from their clients too (8.3%). The rest (16.7%) did not mention any problem. To remedy for the delayed delivery of farm inputs, the farmers borrow from other farmers or just wait.

.

Table 10. Problems encountered by farmers with their supplier/traders

PROBLEMS	FREQUENCY	PERCENTAGE
1. Delayed delivery of farm inputs	35	58.3
2. Suppliers cannot provide all inputs needed for maintenance	10	16.7
3. Delayed payment of product	5	8.3
4. No answer	10	16.7
TOTAL	60	100

Problems Encountered by Traders with their Clients

All the trader respondents cited similar problems. For restaurants, most problems encountered were difficulty in collecting debts. Another is the punctuality in delivering their order otherwise, if the traders are late, their customer will shift to another source that is more accommodating. Other problems mentioned were customers buy on consignment basis, and that their customers are demanding in the sense that they want a quality cauliflower at low price or 'barat' as the traders call it.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

This study was conducted to determine the coordination mechanisms of the cauliflower supply chain actors in Kabayan, Benguet. A total of 60 farmers were selected at random in the said municipality and 10 of their respective suppliers at the same time traders at the Baguio City Hangar Market and at the La Trinidad Trading Post. An interview guide was used to collect the needed information. The information was consolidated, tabulated and analyzed using frequency tables and percentage.

Most of the respondents were male. Majority of both farmer respondents and their respective suppliers/trader were married. There was a higher percentage among the farmers who had no formal education. As for supplier-traders, higher percentage had reached college level.

Regarding resource sharing in terms of operation, farm input supplies were provided by the supplier, payment of labor as well transportation expenses were the responsibility of the farmers. Majority of the land used were owned by the farmers. In keeping records of sales, each actor has duplicate copy that serves as their future reference in case of complaints and for consistency of records. As for tactical resource sharing, doing inventories were entrusted to the farmers. Farmers did not consciously plan their production. For the strategic resource sharing, farmers aimed to be competitive in the market by producing quality cauliflower. Organic farming was mentioned by farmers that could probably contribute to competitiveness. However, they said that they

cannot practice organic farming due to lack of financing and the difficulty in doing this. Suppliers did not favor nor agreed with them too.

When it comes to decision-making, farmers usually decide the choice of variety to be planted and the time of planting. Their farm input supplier-trader takes responsibility in marketing the commodity.

Along the level of control with regards to the monitoring of farm, majority said that their supplier do not visit their farm. They entrusted the crop to the farmers.

For risk, majority had a fair division because both the farmers and their supplier have equal share. However, in the styles of sharing the benefit or net income the agreement between the actors vary.

Most problems encountered by the farmer with their supplier were delayed delivery of farm inputs by their supplier/trader. Another problem met was the delayed payment of the product.

Though farmers encounter problems with their supplier, they mentioned that they also gained benefits from them such as; their supplier/traders provide job to them, advantage to farmers who lack money farm operations, crops were financially secured, and the farmer do not worry about selling their products.

Difficulty in collecting debts from their clients was the usual problem of the traders. Other problems encountered were punctuality in delivering orders to a particular restaurant and the costumers' demand where they want a quality product at a low price. Customers also want to buy on consignment basis.

Conclusions

Based on the results of the study, the following conclusions were drawn:

1. In resource sharing the supplier provided financial input while the farmer did the farm operation. Both actors worked together on a particular task.
2. Majority of the decisions in the area of production was taken by the farmer and marketing the product by their respective trader.
3. Majority of the farm operations were not monitored by their supplier. This is because they trusted the farmers.
4. The farmers and suppliers have fair risk sharing while sharing in benefits varies.

Recommendations

Based on the conclusions, the following recommendations are made:

1. In decision making, both farmers and their respective suppliers/traders should jointly plan in both areas of production and marketing to improve product and service quality.
2. More researches should be done to look into how farmers, traders and other members of the supply chain would all benefit from the relationship.

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APPENDICES

Appendix A. Communication Letter

Benguet State University
COLLEGE OF AGRICULTURE
La Trinidad, Benguet

January 2007

Sir/Madam:

The undersigned is a fourth year Bachelor of Science in Agribusiness (BSAB) student majoring in Enterprise Management. I am presently conducting a research entitled "Coordination Mechanisms along Cauliflower Supply Chain in Kabayan, Benguet" in partial fulfillment for the requirement of the course.

In this regard, may I ask a portion of your precious time to answer all the questions to complete the research undertaking. Rest assured that all information you will give will be treated with outmost confidentiality.

Thank you very much for your support.

Respectfully yours,

Mary Claire A. Paloan
Researcher

Appendix B. Interview Guide for Farmers

I. General Information:

1. Name (optional) _____Gender :____(F) ____ (M)

2. Highest Educational Attainment

____ No formal education ____ Elementary graduate

____High school level ____ High school graduate

____ College level ____ College graduate

____Vocational

3. Civil Status ____single ____married

II. Coordination Mechanisms Attributes

A. Resource Sharing

1. Operational resource sharing

a. Who is responsible in financing your inputs?

____supplier-trader

____farmer

____ both take equal part

b. Who take charge in paying labor in the operation (e.g. weeding, cultivation, etc.)?

____supplier-trader

____farmer

____ both take equal part

c. Who is responsible in the transportation expense in marketing your product?

____supplier-trader

____farmer

____ both take equal part

d. Who owns the land to be planted with?

____supplier-trader

____farmer

e. Who keeps records of sales?

____supplier-trader

____farmer

____each actor has their own records

2. Tactical resource sharing

a. Who does the inventory?

____supplier-trader

____farmer

____jointly prepared by the actors

b. Do you jointly plan for the volume of output to be produced?

( ) yes ( ) no

3. Strategic resource sharing

a. Do you have any plan of being competitive in the market?

( ) yes ( ) no

If yes, what are they?

_____

_____

b. Do you discuss this with your partner?

( ) yes ( ) no

Why?

_____

B. Decision Making

1. Production area

a. Who decides for the variety of cauliflower to be planted?

____supplier-trader

____farmer

____both actors

b. Who decides when to plant?

____supplier-trader

____farmer

____both actors

2. Marketing area

a. In marketing your output, who decides when to harvest your product?

____supplier-trader

____farmer

____both actors

b. Who decides where to sell your product?

____supplier-trader

____farmer

____both actors

C. Level of Control

a. Do your supplier-trader visits your farm?

( ) yes ( ) no

If yes, what particular aspect do they visit?

_____

_____

c. How often?

____once

____twice

____thrice

____others (please specify)_____

D. Risk and Reward Sharing

a. Who takes responsibility when you encounter bankruptcy due to natural calamities (typhoon, earthquake) and spoilage?

____supplier-trader

____farmer

____both actors

b. How is the benefit divided?

_____

_____

III. Problems Encountered

1. What are the problems you encounter related to coordination mechanisms along the cauliflower supply chain?

_____

_____

_____

_____

2. How do you solve these problems?

_____

_____

_____

_____

Appendix C. Interview Guide Questionnaire for their Supplier/Trader

IV. General Information

1. Name (optional)_____ Gender :____(F)____(M)

2. Highest Educational Attainment

____ No formal education ____ Elementary graduate

____High school level ____ High school graduate

____ College level ____ College graduate

____Vocational

3. Civil Status ____single ____married

4. Who are your clients?

____individual buyers

____institutional buyers

____both individual and institutional

5. What is you relation to your clients?

____relative

____'suki'or preferred buyers

6. What are the problems you have encountered with your clients?

_____

_____

_____