

## **BIBLIOGRAPHY**

MEJIA, RONA LYN S. APRIL 2011. Coordination Mechanisms and Attributes between Actors in the Spot Market Chains for Chayote. Benguet State University, La Trinidad, Benguet.

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## **ABSTRACT**

This study was conducted to identify the different chains of chayote in the spot market and to determine the coordination mechanisms and attributes adopted by the different chain actors, particularly at La Trinidad, Benguet; Urdaneta City, Pangasinan; and Metro Manila.

There were a total of 173 respondents from the different groups of actors in the spot market chain. Majority of them are married and have attained high school and college level. Majority of the respondents were not affiliated to any related to vegetable trading business and most are engaged one to five years in business.

There were several different spot market chains for chayote. All of the chains started from the producers in Benguet and ended to the different consumers in La Trinidad, Benguet; Urdaneta City, Pangasinan and Metro, Manila.

In the coordination mechanisms and attributes, the operational resource sharing result showed that most of the respondents do not share investments in their business operation. In strategic resource sharing, majority sometimes share their strategies to improve their operation, similar with information sharing. The sharing of risk and reward in business transactions, all of the actors sometimes have equal sharing of risks and rewards. The decision style, most of the respondents decide more themselves about their business operation. The level of control of the

respondents in business operation is low. In comprehensive selection procedure all the respondents agree to the different criteria used in choosing the seller or buyer of chayote. However, in socialization, communication to the buyers is mainly for business.

For better operation, it is recommended to improve in decision making to obtain the expected quality; level of control and socialization between the actors in the spot market chain should be strengthened.



## INTRODUCTION

### Rationale

Province of Benguet has thirteen (13) municipalities that producing chayote. Agriculture has been traditional service of employment for most of the people here. As such, agricultural is the focal area of economic stability in this place. Thus, chayote production or cash crop production is the center of activity of farmers in the locality (Ancestral Domain Management Plan, 1999).

Chayote (*Sechium edule Swarts*) is one of the commercially grown fruit chayote by most farmers in Benguet. But this crop was not been considered in the priority crops. It is because it is not hard to plant thus, up the present limited resources has conducted on chayote in the University in the country. According to Payangdo (2008) growing chayote is a profitable venture since chayote production does not require intensive application of pesticides as compared to the other chayote crops. The bulk of investment inputs during the first year of operation were the cost of clearing, post hauling, wire, wiring, seeds and a minimal application of inorganic fertilizer augmented with chicken manure. The Municipal Agriculture office (MAO) in Benguet reported that chayote has the total annual production of 55,833.18 Mt or 45.82 mt/ha. The Total area planted accounts to 831.46 has (Benguet Commodity Profile, 2009).

Supply chain management is a complex field of study. Beers *et al.*, (1998) stated that supply chain involve transactional, behavioral and institutional in context. As a network of interconnected activities of individuals operating independently but dependent



on the supply of goods and services from other individual. The fresh chayote industry as a supply chains involves number of different groups of people, institutions, and processes. The people (organizations) are the chain actors performing different functions in the flow of goods; operate the business independently and manage intra- and inter-organizational relationships; and the exchange processes involve formal and informal coordination of activities and information.

Coordination mechanism is employed along the chain. Xu and Beamon (2006), coordination within a supply chain is strategic response to the problems that arise from inter-organizational dependencies within the chain. Coordination mechanisms may be quite specific, such as different kind of code management systems to control changes to software, or quite general, such as hierarchies or markets to manage assignment of activities to actors (or other resource assignment problems (Crowston, 2008). Malone and Crowston (1994) identify several common dependencies and analyze coordination mechanisms to manage them including goal decomposition, resource allocation and synchronization. In general, there are many different mechanisms that could address the same problem. The taxonomy of dependencies serves as a way to organize coordination mechanisms. Viewing dependency as a relationship between activities originated in the field of artificial intelligence. From this perspective, coordination is defined as the “process of managing dependencies” (Malone and Crowston, 1994). This alternative perspective led to a new set of coordination mechanisms defined by dependencies between activities.

The study was conducted to find out how the different actors in the spot market chains coordinate with each other.



### Statement of the Problem

Studying the coordination mechanisms along chayote supply chain was answered the following questions:

1. What are the different chains of chayote in the spot market?
2. What are the coordination mechanisms and attributes adopted in the different spot market chains?

### Objectives of the Study

The objectives of the study were as follows:

1. To identify the different chains of chayote in the spot market.
2. To determine the coordination mechanism and attributes adopted in the different spot market chains such as:
3. To test whether there was significant difference between and among actors' in the coordination mechanisms and attributes adopted.

### Importance of the Study

In the Philippines, agricultural commodity supply chains researches become a research priority agenda for industry development. Owe the changing market environment in fresh chayote sector; analyzing the coordination mechanisms in the spot market chain is a prime consideration. Supply chain management research and development is a growing concern for industry development particularly in the fresh chayote. Interests on the endeavor gained grounds to deal with as the market competition increases and to improve efficiencies. The result of the study would in one way or another could be a source of information to explain the behavior of actors in the spot



market. That is, the knowledge about the association of coordination mechanisms and attributes, and performance in spot market transactions for chayote.

### Scope and Delimitation

The scope of this study focused on the coordination mechanisms of actors in the production and marketing flow of chayote in the informal market. This study was conducted on the selected trading areas such as La Trinidad Trading Post, Metro Manila area and Urdaneta City, Pangasinan.



## REVIEW OF LITERATURE

### Supply Chain Managements

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 exist to overcome the gaps created when supplies are some distance away from customers. This is a sequence of events intended to satisfy the customer.

Supply chain is a network of physical and decision making activities connected by material and information flows that cross organizational boundaries (Van der Vorst 2000). According to Lambert and Cooper (2000), there are four main characteristics of a supply chain: First, it goes through several stages of increasing intra- and inter-organizational, vertical coordination. Second, it includes many independent firms, suggesting that managerial relationship is essential. Third, a supply chain includes a bi-directional flow of products and information and the managerial and operational activities. Fourth, chain members aim to fulfill the goals to provide high customer value with an optimal use of resources. Supply chain means the process of planning, implementing and controlling the efficient, cost effective flow and storage of raw materials, in-process inventory, finished goods and related information from the point-of-origin to point of final consumption for the purpose of conforming to customer requirements (Council of Logistics Management, 1986).



Supply chain is a dual flow of products and information. It is the drive to meet the central needs of the consumer and it stresses the importance of the relationships between participants in the marketing system. However, the tendency is often focus solely on the immediate economic aspects when firms are building supply chains (Champion and Fearn, 2001).

### Coordination Mechanisms

The supply chain operations mean the exchange of goods, value, services and information. That within the exchange processes, there are activities which are informally undertaken, and that the coordination mechanisms are assumed to exist between the supply chain actors. Hence, this study will examine the coordination mechanisms adopted in the fresh chayotes sector supply chain using the following mechanisms: monitoring (Williamson, 1975; Klein *et al.*, 1978), communication (Schroder and Mavondo, 1995); resource sharing structure, risk and incentive sharing, decision style, level of control, comprehensive selection procedures and socialization (Malone, 1987).

Coordination within a supply chain is a strategic response to the challenges that arise from dependencies. A coordination mechanism is a set of methods used to manage interdependence between organizations. By definition, there are actors, entities and processes that interact to execute supply chain objectives. Thompson (1967) identifies different coordination mechanisms that are used to respond to different levels of interdependencies between organizations, and categorizes these interdependencies as pooled, sequential, or reciprocal. Corresponding to each kind of interdependence, Thompson (1967) identifies three coordination mechanisms: standardization, plan, and mutual adjustment. Van de Ven, Delbecq and Koeing (1976) extend the Thompson





framework by adding a fourth type of interdependency: team arrangement, in which partners work jointly and simultaneously. In their research, authors identify three kinds of coordination mechanisms: (1) impersonal (plans and rules), (2) personal (vertical supervision), and (3) group (formal and informal meetings) and observe that as the level of interdependence increases (from pooled to team arrangement), so too does the need for group coordination.

### Coordination Mechanism Attributes

In integrated systems or managed coordination, firms work with mutual interest in mind, build long-term relationships, work towards shared benefits, share information openly, and thrive for stability and show independence. The ability to respond quickly to the needs of the market is a key factor in ensuring the survival of the firm over time. Related to the difficulty of spot markets conveying accurate information is the speed of information flows and the rate of adoption with different coordination mechanisms. Negotiated coordination results in more rapid transmission of information between economic stages and consequently enhanced ability of the system to adjust to changing consumer demands, economic conditions, or technological improvements (Schrader and Boehlje, 1996).

McCann and Galbrath (1981) analyzed coordination strategies on the bases of three dimensions: 1. formality (from informal personal meetings to more formal arrangement; 2. level of control; and 3. decision localization (centralized or decentralized). According to the authors, an increase in dependency will cause an increase in formality, level of control, and centrality. Malone (1987) pointed out that there are two attributes associated with different coordination structures: 1. information



structure (how members share, perceive, and communicate information) and 2. decision function (how members decide what actions to take). Within the decision function, there are two classes: centralized and decentralized. The centralized decision, one firm has primary control and decentralized style, each firm makes its decisions autonomously. Another important dimension to consider in supply chain coordination, where risks and benefits define the need for coordination, is how to allocate the benefits arising from coordination and which parties absorb the risks. Each organization seeks to implement coordination mechanisms that increase benefits and reduce risk. A framework utilizing four attributes will be used to differentiate the various coordination mechanisms: resource sharing structure; decision style; level of control and; risk/reward sharing (Xu and Beamon, 2006).

Resource sharing structure. Malone (1987) limited consideration to information sharing. Since there are other resources to be shared and communicated within the context of coordination, the information sharing is extended to include all other resources shared. This dimension is defined as resource sharing structure, and follows the classification given by Varamaki and Vesalainen (2003) as:

- no resource sharing;
- operational resource sharing, such as communications between, operation levels, sharing operational information such as point-of-sale (POS) data, or pooling operational resources in group problem solving;
- information resource sharing, such as communication between managers in the same function from different firms, to achieve consistency or jointly developing inventory and production plans; and



- 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.

Risk and reward sharing. Risk and reward sharing describes the characteristics of the selected incentive system. There are two main types of sharing methods: fair and unfair. A fair condition occurs when one firm undertakes more risk than do other firms in the relationships, but receives more benefits from coordination. An unfair condition arises when one firm undertakes less risk but enjoys greater benefits, or when one firm undertakes greater risks with fewer benefits (Xu and Beamon, 2006).

Decision style. For the decision function, there are two main styles: centralized and decentralized. The centralized decision style, one firm has primary control and decentralized style, each firm makes its decisions autonomously (Xu and Beamon, 2006).

Level of control. Control is the process of monitoring activities to ensure they are being accomplished as planned and to correct any significant deviations (Robbins, 1988). Control has two levels: high and low. A high level of control corresponds to strict activity monitoring and control. In this case, the coordinating firms develop detailed and strict rules, routines, and monitoring systems to control other firm's behavior, for the purpose of detecting opportunistic risk. A low level of control corresponds little to no monitoring and control (Xu and Beamon, 2006).

Williamson (1975) and Klein *et al.* (1978) proposed monitoring as an effective mechanism to suppress quasi-rent seeking, in seeking mainly the information asymmetry



problem. Its primary purpose is to detect irregularities and to undertake sanctions against unwanted behavior.

Comprehensive selection procedures. Constitute a coordinating mechanism that increases the likelihood that a suitable trading partner will be identified beforehand, thereby making it easier to cooperate in the future.

Socialization. as a subscribing factor of opportunism is a powerful way to promote goal congruence. Both natural socialization and more deliberate socialization tactics (e.g. active promotion of a corporate philosophy) influence the business atmosphere and set bounds of acceptance.

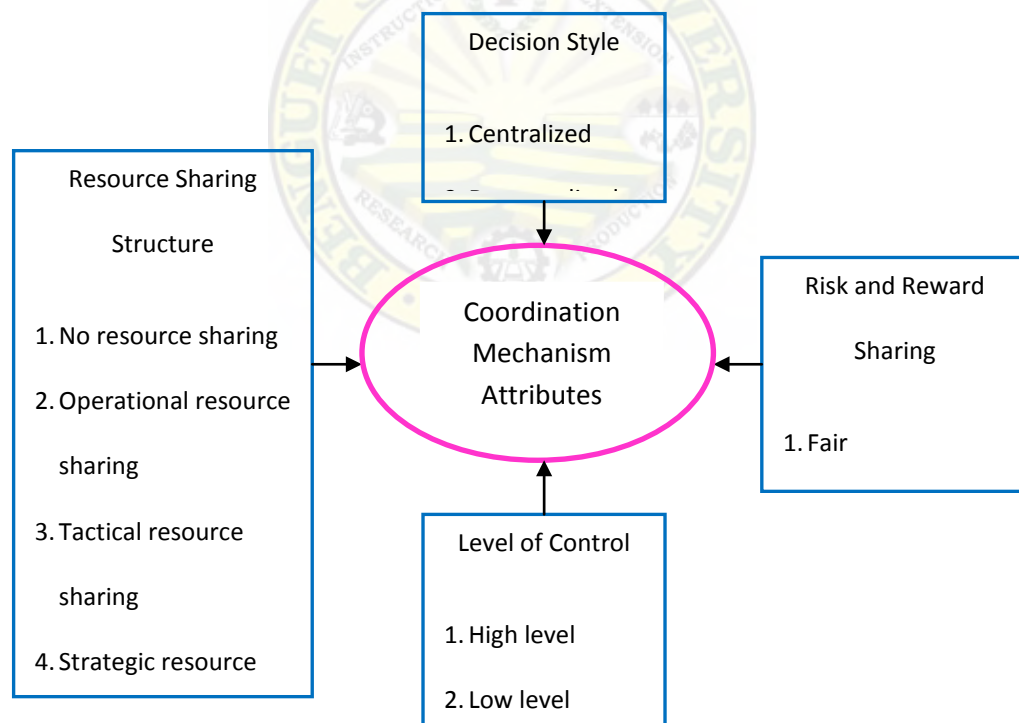


Figure 1. Coordination mechanisms and attributes

Schroder and Mavondo (1995) suggested that current communication mechanisms within the food system are inadequate to meet the changing needs of buyers of agricultural commodities.

### Definition of Terms

Assembler –wholesaler – they are the one who assemble the product to make a large quantity.

Farmers / producers - are who produces the commodity.

Retailer – individuals who market chayote directly to the ultimate consumers.

Spot market - place where the product are being delivered and sold.

Trucker – in charge of carrying the product to put in the supermarket.

Wholesaler – refers to the middleman who directly sells chayote to retailers in wholesale price.

### Conceptual Framework

In the frame of this study (figure 2), the supply chain management definition as a network of interconnected activities of individuals operating independently but dependent on the supply of goods and services.

This study will consider the different coordination mechanism attributes of such as resource sharing structure, risk and reward sharing, level of control, decision style performed by the different chain actors such as the farmers, assembler-wholesalers, trucker-wholesalers, wholesalers, wholesalers-retailers, retailers and its expected outcome



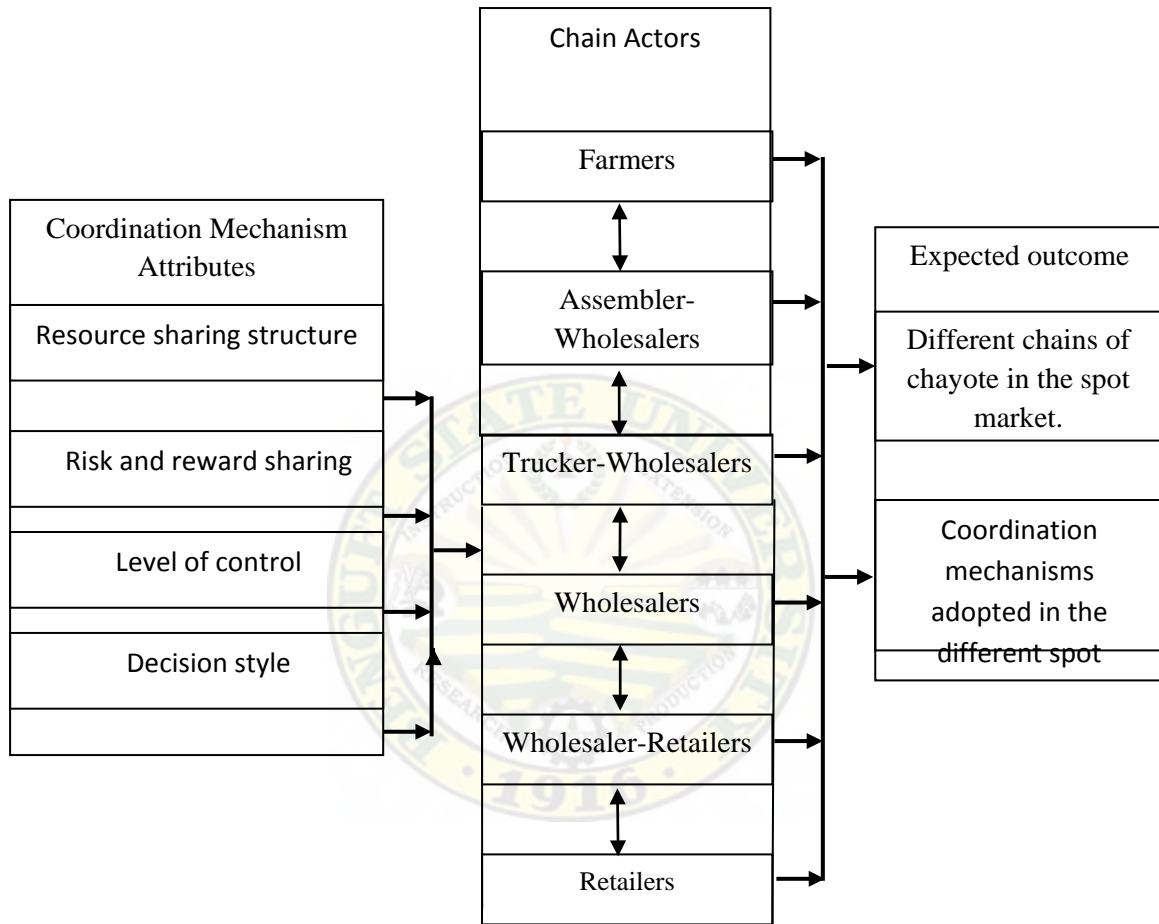


Figure 2. Conceptual framework



## METHODOLOGY

### Locale and Time of the Study

The study was conducted in La Trinidad, Benguet which served as the primary markets (assembly/collection). Urdaneta Pangasinan as secondary markets (distribution); tertiary markets in Metro Manila such as Balintawak, Novaliches, Kamuning, Mega Q, Nepa Q, Blumentritt, Basilio. The research was conducted on November 2010 to January 2011.

### Respondents of the Study

The respondents represent the major actors in the fresh chayotes supply chain. From the 30 farmers' response to whom the chayotes were sold, the assembly group was identified but a limited number were interviewed due to difficulty in locating them. Additional assemblers were interviewed to make a total sample of 35. Similarly, the same approach was used to identify respondents in the distribution group and a total of 60 were interviewed. The last group interview comprised 48 retailers in the wet markets. Overall, the research has a total sample of 173 respondents.

Table 1. Distribution of sample size according to respondent groups

RESPONDENTS	TOTAL SAMPLE SIZE
Producers/ Farmers	30
Assemblers	
• Assembler- wholesalers	19
• Financier- assembler- wholesalers	16
Distributors	
• Trucker- wholesalers	11
• Wholesalers/ Wholesaler- retailers	49
Retailers	48
<b>TOTAL</b>	<b>173</b>



### Data Gathering Procedures

The study used a structured interview schedule. The interview schedule was pre-tested to determine the validity of the questionnaire and to enhance thereafter.

### Data Gathered

The data gathered were the profile of the actors and the coordination mechanism and attributes adopted in the spot market chains. The mechanism and attributes are as follows:

- (1) Resource sharing
  - 1.1 Operational resource sharing
  - 1.2 Strategic resource sharing
  - 1.3 Information sharing
- (2) Risk and reward sharing
- (3) Decision making style
  - 2.1 Centralized decision style
  - 2.2 Decentralized decision style
- (4) Level of control
- (5) Comprehensive selection procedure
- (6) Socialization
  - 6.1 Natural socialization
  - 6.2 Deliberate socialization





### Data Analysis

The data gathered was organized, summarized and classified according to the objective of the study. The descriptive analyses used were: frequency counts, percentage, average and mean average. Moreover, as to statistical test, chi-square and kruskal-wallis.



## RESULTS AND DISCUSSION

### Demographic Profile of Respondents

The respondents profile of chayote according to socio demographic status from La Trinidad to Manila. Table 2 presents the respondents characterized based on their age, gender, marital status, religious affiliation and educational background.

Age. The findings in table 2, all of the respondents revealed their respective ages. For wholesaler 33% was in the age bracket of less than 20 of age. Another 41% for farmer age 21-30, 31% for assembler-wholesaler, 36% for trucker-wholesaler, 37% wholesaler-retailer, 23% for retailer, while 44% for farmer-assembler- wholesaler age from 31-40. The finding shows that the youngest and oldest respondents have the age of 20 to 60 respectively while the mean age was 36 years old. This implies that most of the stakeholders engaged in chayote business are younger to Middle Ages.

Gender and marital status. It could be gleaned from the table 2 that there are more female than male. In production, there are more than female, where as in the retailing activities of the reversed situation. The results indicate the difference in the nature of activities performed by the actors that hard works as compared less strenuous activities.

As to marital status, majority of the respondents are married while the rest are either single, separated, widowed. This shows that married respondents are more interested in the chayote business to augment income and the single respondents may assume for employment.

Religious affiliation. Majority of respondents were catholic followed by Protestants and the least are affiliated with other religious denomination.



Educational background. Majority of the respondents: Farmers (47%), A-W (47%), W-R (40%) and Retailers (60%) finished secondary education, while the A-W (47%), F-A-W (50%), T-W (55%) and W (50%) attained college degrees. It could be observed further that there are respondents in all groups have elementary education. Therefore the results implied that education is an important factor in the chayote production and trading business.

Table 2. Respondents profile

CHARACTERISTICS	PRODUCTION		ASSEMBLY				DISTRIBUTION				RETAILING			
	Farmer		A-W		F-A-W		T-W		W		W-R		Retailer	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<b>AGE</b>														
20 and below	0	0	2	11	0	0	0	0	3	21	3	9	0	0
21-30	14	47	6	32	3	19	4	36	5	36	13	37	11	23
31-40	10	33	5	26	7	44	5	45	1	7	12	34	10	21
41-50	5	17	3	16	4	25	1	9	3	21	2	6	18	38
51-60	1	3	3	16	2	13	1	9	2	14	3	9	7	15
60 and below	0	0	0	0	0	0	0	0	0	0	1	3	2	4
<b>TOTAL</b>	<b>30</b>	<b>100</b>	<b>19</b>	<b>100</b>	<b>16</b>	<b>100</b>	<b>11</b>	<b>100</b>	<b>14</b>	<b>100</b>	<b>35</b>	<b>100</b>	<b>48</b>	<b>100</b>
<b>GENDER</b>														
Male	27	90	13	68	5	31	7	64	4	29	12	34	9	19
Female	3	10	6	32	11	69	4	36	10	71	23	66	39	81
<b>TOTAL</b>	<b>30</b>	<b>100</b>	<b>19</b>	<b>100</b>	<b>16</b>	<b>100</b>	<b>11</b>	<b>100</b>	<b>14</b>	<b>100</b>	<b>35</b>	<b>100</b>	<b>48</b>	<b>100</b>
<b>MARITAL STATUS</b>														
Single	9	30	2	11	1	6	5	45	7	50	16	46	9	19
Married	21	70	17	89	14	88	6	55	6	43	18	51	38	79
Separated	0	0	0	0	1	6	0	0	0	0	0	0	1	2
Widow/er	0	0	0	0	0	0	0	0	1	7	1	3	0	0
<b>TOTAL</b>	<b>30</b>	<b>100</b>	<b>19</b>	<b>100</b>	<b>16</b>	<b>100</b>	<b>11</b>	<b>100</b>	<b>14</b>	<b>100</b>	<b>35</b>	<b>100</b>	<b>48</b>	<b>100</b>
<b>RELIGION</b>														
Catholic	22	73	14	74	10	63	11	100	13	93	26	74	41	85
Protestant	8	27	3	16	5	31	0	0	2	14	7	20	5	10
Others	0	0	2	11	1	6	0	0	0	0	1	3	2	4
<b>TOTAL</b>	<b>30</b>	<b>100</b>	<b>19</b>	<b>100</b>	<b>16</b>	<b>100</b>	<b>11</b>	<b>100</b>	<b>14</b>	<b>100</b>	<b>35</b>	<b>100</b>	<b>48</b>	<b>100</b>



### Number of Years Engaged in Chayote Business

Table 3 shows the number of years the different actors venturing in chayote business based from their role and function. Most of the respondents: A-W (42%), F-A-W (38%), T-W (36%), W (43%), W-R (31%) are engaged 1-5 years, while the Farmer (37%) and Retailer (28%). It could be observed further that in business respondents are new in this business industry.

### Organizational Affiliations of Respondents

Table 4 presented the affiliation of respondents to organization. The result shows that majority of the respondents' were not affiliated to any organization. However, there were few respondents from the different groups that are appreciated to farmer's organization cooperatives and vendors association in their respective places of operation.

Table 3. Number of years engaged in chayote business

YEARS	PRODUCTION		ASSEMBLY				DISTRIBUTION				RETAILING			
	Farmer		A-W		F-A-W		T-W		W		W-R		Retailer	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Below 1 year	0	0	1	5	0	0	0	0	6	43	5	14	2	5
1-5years	9	30	8	42	6	38	4	36	6	43	11	31	1	2
6-10 years	11	37	5	26	2	12	3	27	1	7	8	23	12	28
11-15 years	6	20	3	15	6	37	4	36	0	0	5	14	8	19
16-20 years	2	7	0	0	0	0	0	0	0	0	1	3	4	9
21-25 years	1	3	1	5	1	6	0	0	0	0	1	3	11	26
26-30 years	1	3	1	5	1	6	0	0	1	7	1	3	9	21
31andabove	0	0	0	0	0	0	0	0	0	0	3	9	1	2
<b>TOTAL</b>	<b>30</b>	<b>100</b>	<b>19</b>	<b>100</b>	<b>16</b>	<b>100</b>	<b>11</b>	<b>100</b>	<b>14</b>	<b>100</b>	<b>35</b>	<b>100</b>	<b>48</b>	<b>100</b>

LEGEND:

F- Farmer  
 AW- Assembler-Wholesaler  
 FAW- Financier-Assembler-Wholesaler  
 TW- Trucker- Wholesaler

W- Wholesaler  
 WR- Wholesaler- Retailer  
 R- Retailer



Table 4. Organizational affiliation

ORGANIZATION	PRODUCTION		ASSEMBLY				DISTRIBUTION				RETAILER			
	Farmer		A-W		F-A-W		T-W		W		W-R		Retailer	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Farmer's														
Organization	3	10	0	0	0	0	0	0	2	14	0	0	0	0
Cooperative	2	7	2	11	4	25	3	27	1	7	6	17	2	4
Others	0	0	3	16	2	13	3	27	0	0	3	9	5	10
None	25	83	14	74	10	63	5	45	11	79	26	74	41	85
TOTAL	30	100	19	100	16	100	11	100	14	100	35	100	48	100

LEGEND:

F- Farmer  
 AW- Assembler-Wholesaler  
 FAW- Financier-Assembler-Wholesaler  
 TW- Trucker- Wholesaler

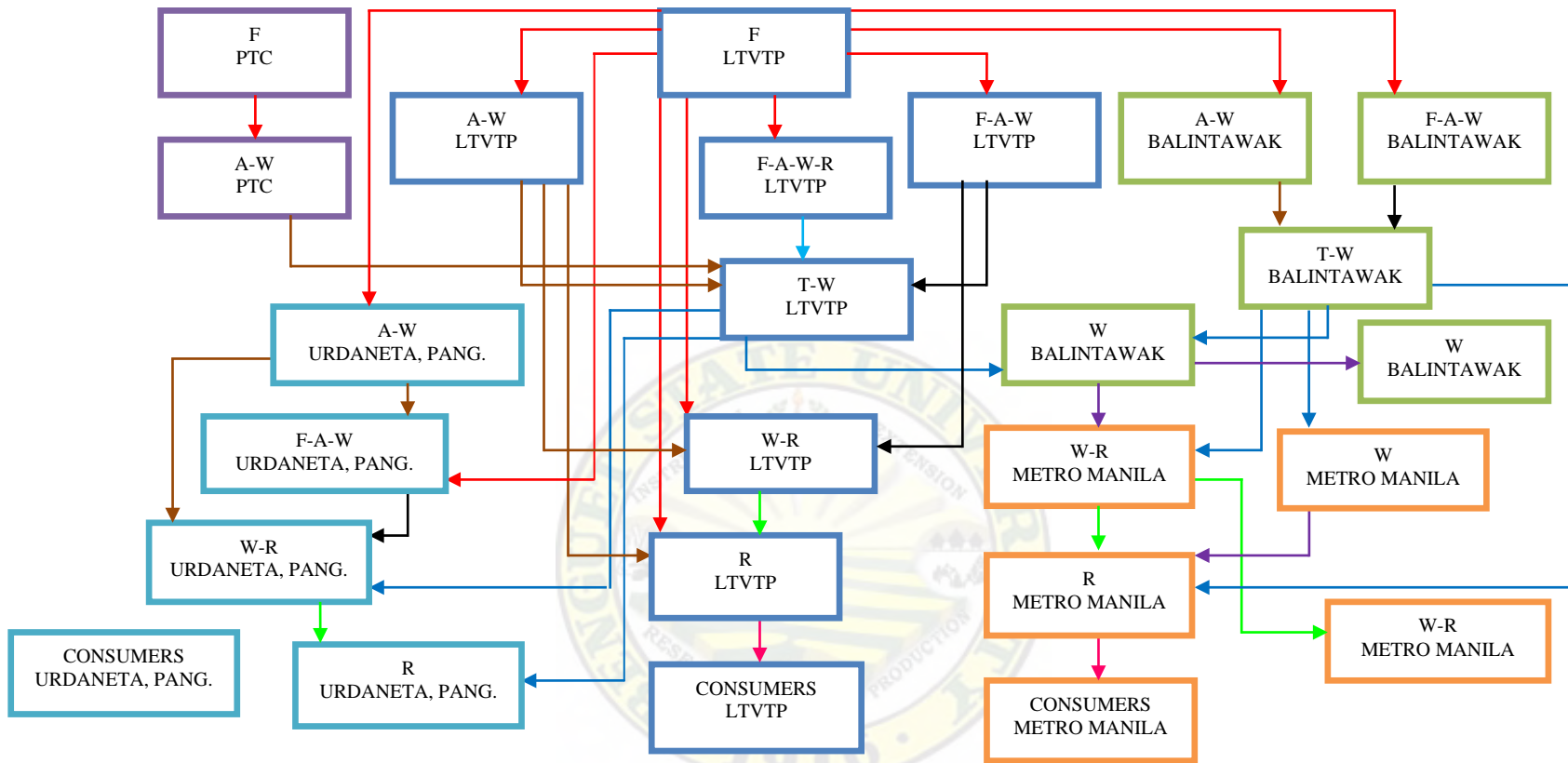
W- Wholesaler  
 WR- Wholesaler- Retailer  
 R- Retailer

### Spot Market Chain and Location for Chayote

Figure 3a illustrates the different chain actors involved in the production, procurement and selling of chayote in the spot market. It shows the flow of chayote's from its point of production up to the end user/consumer. In general, it describes the different chains that the chayote goes to, from the point of production from the different channels up to the end consumer.

Most of the production group from La Trinidad, Benguet sold their produce to the assembly group of the different spot markets such as in Urdaneta City, Pangasinan, La Trinidad, Benguet and Metro Manila. Majority of these assembly groups sold their chayote to the trucker-wholesalers while there are some selling also to the distribution and retailing groups.





LEGEND:

- F (Farmer)
 — A-W (Assembler-Wholesaler)
— F-A-W (Financier- Assembler-Wholesaler)
- F-A-W-R (Financier-Assembler-Wholesaler-Retailer)
 — T-W (Trucker-Wholesaler)
- W (Wholesaler)
 — W-R (Wholesaler-Retailer)
— R (Retailer)
- LTVTP (La Trinidad Chayote Trading Post)
  Metro Manila
- PTC (Private Trading Center)
  Balintawak
- Urdaneta, Pangasinan

Figure 3a. Spot market chains and location for chayote

The distribution groups specifically the trucker-wholesalers from La Trinidad delivers the chayote to Urdaneta City, Pangasinan and Balintawak, Quezon City and distributes the products to the buyers such as the wholesalers, wholesaler-retailers and retailers within these trading center. The buyers of these trucker-wholesalers in Balintawak may come from the different spot markets of Metro Manila. The distribution groups ultimately sold their chayote to the retailing group however, the trading of chayote also happen among the different actors within the distribution groups. Lastly, the retailing group from the different spot markets sold their chayote to the consumers of these different trading centers.

In the figure 3b shows the complexities as the number of actors involved in the movement product. In view, there were several spot market chain can be drawn as exhibited in Figure 3b.

Spot market chain 1, 2, and 3 it illustrate in the La Trinidad, Benguet and Baguio City.

1. Chain 1 illustrates the direct selling of chayote from the farmers to the retailer and to the consumers. This situation is applicable in La Trinidad.

2. It shows that from the producers in La Trinidad to the assembly (financier-assembler-wholesaler-retailer) and directly sale to the retailer and last to consumer.

3. Chain 3 shows similarity in number two; the only difference is that instead of farmer-assembler-wholesaler-retailers to retailer distribution, it is wholesaler-retailer to retailer distribution and eventually the consumers.

Numbers 4 to 10 involves other outlet outside Benguet. (Balintawak, Urdaneta, Pangasinan, Novaliches, Libertad, Kamuning, Dapitan, Nepa Q).



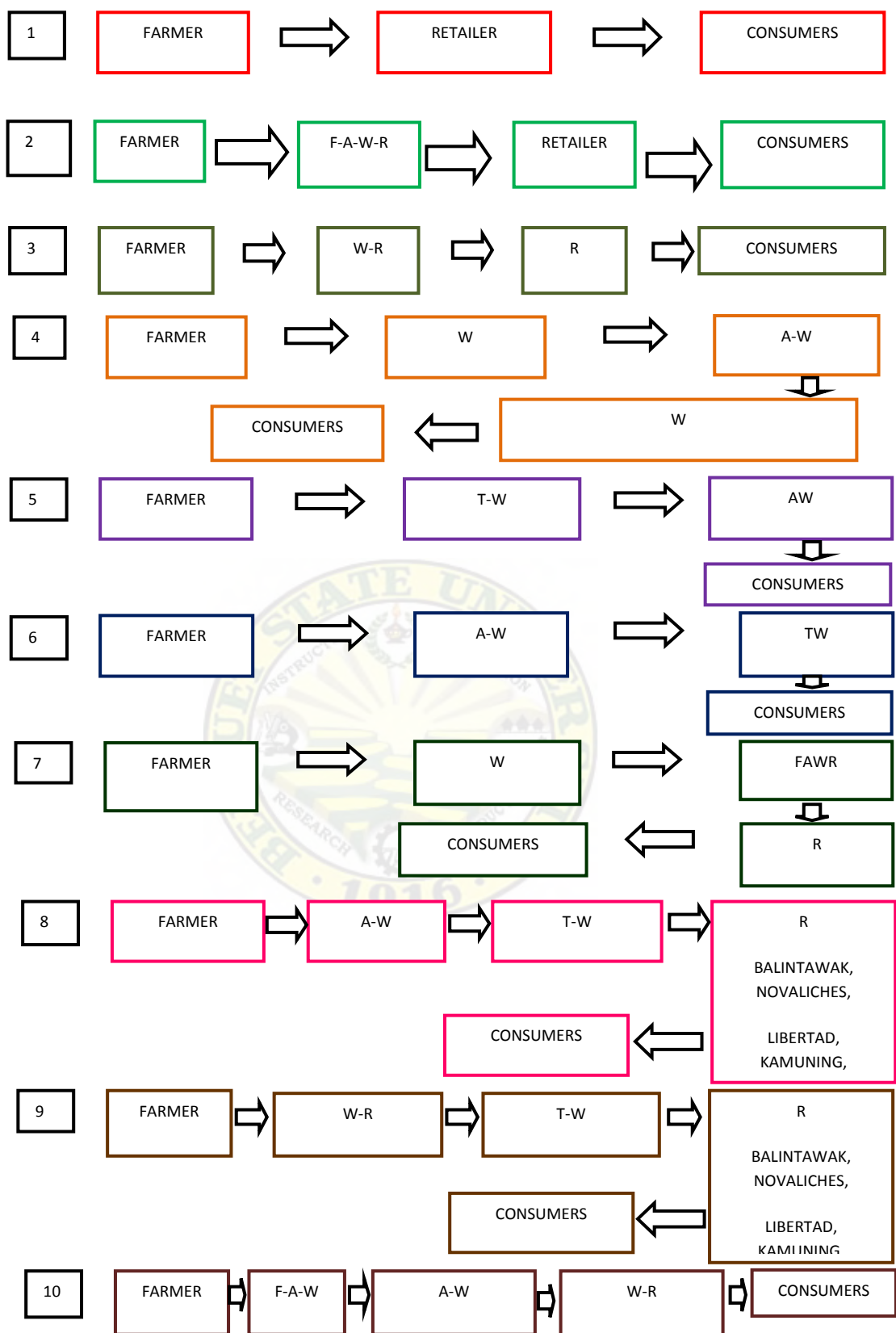


Figure 3b. Different spot market chains for chayote





It could be observed that from 4 to 10 the chayote was passing through different channel before reaching ultimate consumers.

4. The farmers and wholesalers of La Trinidad Vegetable Trading Post deliver their chayote fruit to the Assembler/wholesalers and wholesalers of Balintawak 'till it reaches the consumers.

5. The producer from LTVTP sell the chayote to trucker-wholesaler.From the Assembler/wholesaler of balintawak which sometimes their regular buyer sells the chayote it to ultimate consumers.

6. From the farmers of La Trinidad Vegetable Trading Post, the chayote was delivered to Assembler/wholesaler and before it reaches the consumers it was first handed to Trucker/wholesalers of Balintawak.

7. The chayote produced by the farmers of La Trinidad Vegetable Trading Post was distributed through the different actors wholesalers to financier-assembler-wholesaler-retailers from the financier-assembler-wholesaler.

8. The chain 8 was similar to chain 6, that from farmers to consumers, but their difference is that the presence of retailers on some spot markets.

9. Chain 9 despites how the chayote from farmers of LTVTP goes to households, the main consumers. From farmers to wholesaler-retailer to trucker-wholesaler of Balintawak to the retailers of Balintawak, Nova., Libertad, Kamuning, Dapitan and Nepa Q until it reaches the consumers.

10. The last chain shows the chayote journey from the farmers and financier-assembler-wholesaler of La Trinidad assembler-wholesaler and wholesaler-retailer of Balintawak and to the consumers.



### Coordination Mechanisms

Coordinating mechanisms facilitate valuable cooperation, and give emphasize to the importance of understanding the causes and forms of opportunism by identifying the specific governance strategy to satisfy the negative effects of such behavior. Depending on the underlying situation under which the specific transaction occurs, different coordinating procedure contribute unequally well to the optimization of the exchange relationship.

### Resource Sharing Structure

Operational resource sharing. Table 5a presents the distribution of respondents according to coordination mechanism. Majority of the trucker-wholesalers (36%), wholesalers (71%), wholesaler-retailers (34%), and retailers (56%) strongly disagreed that buyers support in procurement investment. However, there are respondents from all groups who are undecided. Looking into the average, some of the actors responded on the disagreement to such support for specific production/ procurement investment. It was further explained by the mean average of 2.4, statistically the result showed that there was insignificant differences (0.085). Therefore, this proves that the actors make investment for their business.

In the second statement validates statement no.1 whether the seller and buyer share investment, reveals that majority of the respondents strongly disagree in sharing investment production/procurement operation. Average reveals that all actors indicated their disagreement to such sharing investment production/procurement operation.



Table 5a. Coordination mechanisms along operational resource sharing

STATEMENT	1		2		3		4		5		AVE.
	N	%	N	%	N	%	N	%	N	%	
<b>A. Farmer</b>											
1. Buyer supports me for specific production/procurement investments.	7	23	10	33	9	30	1	3	3	10	2
2. We share investment in production/procurement operation.	12	40	9	30	7	0	1	3	1	3	2
3. I extend support to the buyer in our business operation.	4	13	7	23	9	30	7	23	3	10	3
4. The buyer extend credit assistance in the production/procurement of chayotes.	6	20	9	30	6	20	5	17	4	13	3
<b>B. Assembler-wholesaler</b>											
1. Buyer supports me for specific production/procurement investments.	3	16	6	32	6	32	3	16	1	5	3
2. We share investment in production/procurement operation.	4	21	6	32	5	26	3	16	1	5	3
3. I extend support to the buyer in our business operation.	1	5	4	21	7	37	4	21	3	16	3
4. The buyer extend credit assistance in the production/procurement of chayotes.	4	21	6	32	2	11	6	32	1	5	3
<b>C. Financier-Assembler-Wholesaler</b>											
1. Buyer supports me for specific production/procurement investments.	4	25	2	13	4	25	3	19	3	19	3
2. We share investment in production/procurement operation.	5	31	3	19	3	19	4	25	1	6	3
3. I extend support to the buyer in our business operation.	2	13	4	25	4	25	3	19	3	19	3
4. The buyer extend credit assistance in the production/procurement of chayotes.	7	44	2	13	4	25	1	6	2	13	2
<b>D. Trucker-wholesaler</b>											
1. Buyer supports me for specific production/procurement investments.	4	36	3	27	1	9	2	18	1	9	2
2. We share investment in production/procurement operation.	9	82	0	0	2	18	0	0	0	0	1
3. I extend support to the buyer in our business operation.	2	18	0	0	3	27	5	45	1	9	3
4. The buyer extend credit assistance in the production/procurement of chayotes.	4	36	1	9	3	27	3	27	0	0	2
Numerical value and descriptive equivalent 1 Strongly Disagree 2 Disagree 3 Undecided 4 Agree 5 Strongly Agree											



Table 5a. Continued . . .

STATEMENT	1		2		3		4		5		AVE.
	N	%	N	%	N	%	N	%	N	%	
<b>E. Wholesaler</b>											
1. Buyer supports me for specific production/procurement investments.	10	71	2	14	1	7	1	7	0	0	2
2. We share investment in production/procurement operation.	10	71	3	21	1	7	0	0	0	0	1
3. I extend support to the buyer in our business operation.	3	21	2	14	6	43	2	14	1	7	3
4. The buyer extend credit assistance in the production/procurement of chayotes.	6	43	2	14	3	21	2	14	1	7	2
<b>F. Wholesaler-retailer</b>											
1. Buyer supports me for specific production/procurement investments.	12	34	4	11	9	26	5	14	5	14	3
2. We share investment in production/procurement operation.	17	49	6	17	5	14	5	14	2	6	2
3. I extend support to the buyer in our business operation.	4	11	3	9	8	23	11	31	9	26	4
4. The buyer extend credit assistance in the production/procurement of chayotes.	10	29	6	17	4	11	8	23	7	20	3
<b>G. Retailer</b>											
1. Buyer supports me for specific production/procurement investments.	27	56	2	4	8	17	7	15	4	8	2
2. We share investment in production/procurement operation.	31	65	4	8	6	13	5	10	2	4	2
3. I extend support to the buyer in our business operation.	11	23	9	19	15	31	9	19	4	8	3
4. The buyer extend credit assistance in the production/procurement of chayotes.	24	50	5	10	8	17	6	13	3	6	2

Table 5b. Descriptive and test statistics of operational resource sharing

STATEMENT	MEAN	CHI-SQUARE	DF	ASYMP.SIG
1. The buyer and I jointly share production and marketing strategies.	2.57	7.003	3	0.072
2. We jointly share investment to attain our business goals.	1.94	16.94	3	0.001**
3. We plan/make strategies to improve our business operation.	2.57	6.971	3	0.073



Farmers (30%) are undecided in supporting buyers in their business operation and so with assembler-wholesalers (27%), financier-assembler-wholesalers (25%), wholesalers (43%), and retailers (31%) while the trucker-wholesalers (45%) and wholesaler-retailers (26%) agreed that actors support buyer in their business operation. Average reveals that actors differ in supporting their buyers. It specify by the mean average of 3.04 statistically. The finding showed that there was an insignificant difference (0.106) among the different actors in supporting buyers. Hence, this confirms that the actor supports buyers for their business.

In buyers' credit assistance, all of respondent's responses are undecided but wholesaler-retailers (31%) and retailers (31%) extend credit assistance by their buyer. However there was an extreme response of wholesalers. Furthermore, based on the descriptive statistics implies that respondents disagreed (2.00) that their buyer extend credit to the actors. There are significant differences (.004) among the different chain actors in sharing investment. This finding proves that actors extend credit assistant by their buyer.

Overall results confirm that the different actors are undecided concerning operational resource sharing and in production/procurement operation. From the statements asked, the situation evolving between assemblers and producer rely mainly/basically in statement that buyer supports in production procurement investment. The rationale, farmers seek for financial support from buyers due to lack of financial capability to support their farm operation; however, the relationship seems to be advantageous to farmers since the chayote production are financially secured in this



manner. More over for searching for a trader to sell their product was not the farmers' concern eventually.

Strategic resource sharing. As shown in Table 6a, the sharing of investment responses reveals that respondent's farmers (36%), assembler-wholesalers (32%), financier-assembler-wholesalers (38%), trucker-wholesalers (55%), wholesalers (71%), wholesaler-retailers (57%) and retailers strongly disagreed of sharing investment to attain their business goals. Looking into the frequency, all actors indicate disagreement to such sharing investment. It specifies by the mean average of 1.94; statistically the result showed that there were highly significant differences (0.001). This proves that some actors share investment. Farmers (47%) disagreed that they jointly share in production and marketing strategies, while trucker-wholesalers (36%), wholesalers (57%); retailers (38%) strongly disagreed. There are respondents from the groups who are undecided. Glancing into the average, some actors are undecided to such sharing of strategies. The mean average of 2.57 showed that there was no significant difference (0.072). Therefore, this confirms that the actors jointly share in production and marketing strategies'.

Making of strategies, all of the respondents never make strategies except to those financier-assembler-wholesalers (25%) who make strategies. Average shows that some actors sometimes plan/make strategies. It was indicated by the mean average of 2.57 and the finding showed that there was insignificant difference (0.073). This proves that some actors make strategies

Over all result showed that majority of the respondents are undecided in the different criteria of operational resource sharing and some respondents disagreed in actors who jointly share investment to attain their business goals.



It signifies that actors have not much acquainted in strategies to improve their business operation.

Table 6a. Coordination mechanisms along strategic resource sharing

STATEMENT	1		2		3		4		5		AVE.
	N	%	N	%	N	%	N	%	N	%	
<b>A. Farmer</b>											
1. The buyer and I jointly share production and marketing strategies.	1	3	14	47	9	30	4	13	2	7	3
2. We jointly share investment to attain our business goals.	8	27	11	37	9	30	2	7	0	0	2
3. We plan/make strategies to improve our business operation.	0	0	11	37	13	43	5	17	1	3	3
<b>B. Assembler-Wholesaler</b>											
1. The buyer and I jointly share production and marketing strategies.	3	16	1	5	8	42	6	32	1	5	3
2. We jointly share investment to attain our business goals.	6	32	4	21	5	26	3	16	1	5	2
3. We plan/make strategies to improve our business operation.	2	11	6	32	5	26	4	21	2	11	3
<b>C. Farmer-Assembler-Wholesaler</b>											
1. The buyer and I jointly share production and marketing strategies.	3	19	3	19	7	44	1	6	2	13	3
2. We jointly share investment to attain our business goals.	6	38	3	19	2	13	4	25	1	6	2
3. We plan/make strategies to improve our business operation.	4	25	2	13	4	25	4	25	2	13	3
<b>D. Trucker-Wholesaler</b>											
1. The buyer and I jointly share production and marketing strategies.	4	36	1	9	3	27	2	18	1	9	3
2. We jointly share investment to attain our business goals.	6	55	2	18	3	27	0	0	0	0	2
3. We plan/make strategies to improve our business operation.	5	45	1	9	3	27	1	9	1	9	2

Numerical value and descriptive equivalent 1 Strongly Disagree 2 Disagree 3 Undecided 4 Agree 5 Strongly Agree



Table 6a. Continued . . .

STATEMENT	1		2		3		4		5		AVE.
	N	%	N	%	N	%	N	%	N	%	
<b>E. Wholesaler</b>											
1. The buyer and I jointly share production and marketing strategies.	8	57	0	0	2	14	3	21	1	7	2
2. We jointly share investment to attain our business goals.	10	71	2	14	2	14	0	0	0	0	1
3. We plan/make strategies to improve our business operation.	9	64	0	0	1	7	3	21	1	7	2
<b>F. Wholesaler-Retailer</b>											
1. The buyer and I jointly share production and marketing strategies.	8	23	9	26	9	26	7	20	2	6	3
2. We jointly share investment to attain our business goals.	20	57	4	11	5	14	5	14	1	3	2
3. We plan/make strategies to improve our business operation.	9	26	8	23	8	23	6	17	4	11	3
<b>G. Retailer</b>											
1. The buyer and I jointly share production and marketing strategies.	18	38	12	25	9	19	4	8	5	10	2
2. We jointly share investment to attain our business goals.	33	69	7	15	4	8	4	8	0	0	2
3. We plan/make strategies to improve our business operation.	25	52	5	10	5	10	5	10	8	17	2

Table 6b. Descriptive and test statistics of strategic resource sharing

STATEMENT	MEAN	CHI- SQUARE	DF	ASYMP.SIGNIF.
1. The buyer and I jointly share production and marketing strategies.	2.57	7.003	3	0.072
2. We jointly share investment to attain our business goals.	1.94	16.935	3	0.001**
3. We plan/make strategies to improve our business operation.	2.57	6.971	3	0.730

\*\* Highly significant Numerical value and descriptive equivalent 1-1.8 Strongly Disagree 1.9-2.6 Disagree 2.7-3.4 Undecided 3.5-4.2 Agree 4.3-5 Strongly Agree





Information resource sharing. The findings in Table 7a, majority of the respondents agreed on sharing production/procurement to their buyer while sometimes for farmers (43%) and retailers (35%) strongly agreed. Glancing into the average frequency, most actors sometimes share information to the buyer but for wholesaler-retailers have an extreme point (agreed) to such sharing production/ procurement information. It was indicated by the mean average of 3.28 statistically. The results showed that there was insignificant difference. Therefore, this proves that actors sometimes share information to the buyer.

The second statement validated no.1 that majority of the farmers (56%), financier-assembler-wholesalers (31%), wholesalers (29%) and wholesaler-retailers (34%) are undecided while assembler-wholesalers (32%) and trucker-wholesalers (45%) agreed on sharing market information, however in frequency average there was extreme response of wholesaler-retailers. It was indicated in the mean average of 2.97. The result showed that there was highly significant difference (0.004). Therefore, this proves that some actors share information.

Result showed that farmers (33%), assembler-wholesalers (32%), trucker-wholesalers (36%) agreed, financier-assembler-wholesalers (56%) undecisive, wholesalers (29%) and wholesaler-retailers (29%), retailers (33%) strongly disagree in sharing information for their respective buyer. Looking into the average actors responded that there was sharing of information but not always. It indicated by the mean average of 3.02. The results showed there was highly significant difference (.008). As a result, confirm that some actors share information to their respective buyer.



Table 7a. Coordination mechanisms along information resource sharing

STATEMENT	1		2		3		4		5		AVE.
	N	%	N	%	N	%	N	%	N	%	
<b>A. Farmer</b>											
1. I share production/procurement information (volume, cost, production schedules) to the buyers.	1	3	6	20	13	43	6	20	4	13	3
2. The buyer always share market information (demand, supply, prices & cost).	0	0	4	12	19	56	3	10	4	13	3
3. We share information about production and marketing schedules.	0	0	7	21	11	32	10	33	2	7	3
<b>B. Assembler-Wholesaler</b>											
1. I share production/procurement information (volume, cost, production schedules) to the buyers.	2	11	2	11	4	21	7	37	4	21	3
2. The buyer always share market information (demand, supply, prices & cost).	2	11	2	11	5	26	6	32	4	21	3
3. We share information about production and marketing schedules.	2	11	0	0	6	32	6	32	5	26	4
<b>C. Financier-Assembler-Wholesaler</b>											
1. I share production/procurement information (volume, cost, production schedules) to the buyers.	0	0	3	19	4	25	6	38	3	19	4
2. The buyer always share market information (demand, supply, prices & cost).	0	0	3	19	5	31	5	31	3	19	4
3. We share information about production and marketing schedules.	0	0	2	13	9	56	2	13	3	19	3
<b>D. Trucker-Wholesaler</b>											
1. I share production/procurement information (volume, cost, production schedules) to the buyers.	2	18	2	18	2	18	0	0	5	45	3
2. The buyer always share market information (demand, supply, prices & cost).	2	18	2	18	2	18	3	27	2	18	3
3. We share information about production and marketing schedules.	2	18	2	18	0	0	4	36	3	27	3
<b>E. Wholesaler</b>											
1. I share production/procurement information (volume, cost, production schedules) to the buyers.	3	21	3	21	2	14	3	21	3	21	3
2. The buyer always share market information (demand, supply, prices & cost).	3	21	3	21	4	29	2	14	2	14	3
3. We share information about production and marketing schedules.	4	29	6	43	1	7	2	14	1	7	2
Numerical value and descriptive equivalent 1 Strongly Disagree 2 Disagree 3 Undecided 4 Agree 5 Strongly Agree											



Table 7a. Continued . . .

STATEMENT	1		2		3		4		5		AVE.
	N	%	N	%	N	%	N	%	N	%	
<b>F. Wholesaler-Retailer</b>											
1. I share production/procurement information (volume, cost, production schedules) to the buyers.	4	11	1	3	9	26	7	20	14	40	4
2. The buyer always share market information (demand, supply, prices & cost).	7	20	4	11	12	34	4	11	8	23	3
3. We share information about production and marketing schedules.	5	14	5	14	10	29	9	26	6	17	3
<b>G. Retailer</b>											
1. I share production/procurement information (volume, cost, production schedules) to the buyers.	17	35	5	10	4	8	12	25	10	21	3
2. The buyer always share market information (demand, supply, prices & cost).	19	40	5	10	12	25	8	17	4	8	2
3. We share information about production and marketing schedules.	16	33	9	19	10	21	7	15	6	13	3

Table 7b. Descriptive and test statistics

STATEMENT	MEAN	CHI- SQ.	DF	ASYMP. SIG.
1. I share production/procurement information (volume, cost, production schedules) to the buyers.	3.28	5.935	3	0.115
2. The buyer always share market information (demand, supply, prices & cost).	2.97	13.09	3	0.004**
3. We share information about production and marketing schedules.	3.02	11.89	3	0.008**

\*\* Highly significant  
 Numerical value and descriptive equivalent  
 1-1.8 Strongly Disagree  
 1.9-2.6 Disagree  
 2.7-3.4 Undecided  
 3.5-4.2 Agree  
 4.3-5 Strongly Agree



Risk and reward sharing. This portion discusses how the respondents divide risk and benefit. Most of the respondents, farmers (50%); assembler-wholesalers (42%); trucker-wholesalers (27%); wholesaler-retailers (31%) are undecided while, financier-assembler-wholesalers (37%), wholesalers (43%) and retailers (29%) agreed.

In the average, financier-assembler-wholesaler extremely agreed that they and the buyers share the same risk. It is further validated by the mean average of 2.94. The result showed that there is a significant difference (0.000) on the response on risk and reward sharing. Therefore, this proves that the some actors share same risk.

In sharing of equal benefits with the buyer, farmers (36%), trucker-wholesalers (45%), wholesalers (36%), retailers are indecisive but for assembler-wholesalers (47%), financier-assembler-wholesalers (31%) and wholesaler-retailers (37%) agreed that they and their buyers share equal benefits. The average shows that financier-assembler-wholesalers strongly agreed and further validated by the mean average of 3.14. The result showed that there is significant difference (0.019) among the different actors. Therefore, this proves that some of actors share equal benefits.

Almost all of the respondents were undecided in taking more risk than their buyer except for farmers (40%), wholesalers (36%) and wholesaler-retailers (34%) who agreed that they take more risk than the buyers. In the average, actors sometimes take more risk. It is further validated by the mean average of 3.36. The results showed that there is no significant difference (0.193). Therefore, this proves that the actors were undecided taking more risk that their buyer.



Majority of the respondents are indecisive that buyer derives more benefits while for farmers (37%), wholesalers (37%) and retailers (33%) agreed in this criteria. The average implied buyers sometimes derive more benefits.

The response of the different respondents is indicated in the mean average which is 3.27. The result showed that there was a insignificant difference (0.756). Therefore, some buyers derive more benefits from their business transaction.

Table 8a. Coordination mechanisms along risk and reward sharing

STATEMENT	1		2		3		4		5		AVE
	N	%	N	%	N	%	N	%	N	%	
<b>A. Farmer</b>											
1. The buyer and I share the same risks from the transaction we make.	1	3	10	33	15	50	3	10	1	3	3
2. The buyer and I share equal benefits from the transaction we make.	0	0	9	30	15	50	5	17	1	3	3
3. I take more risk from the transaction I make with buyers.	1	3	5	17	10	33	12	40	2	7	3
4. The buyer derives more benefits from the business operation.	1	3	4	13	10	33	11	37	4	13	3
5. I always control the pricing and grading of chayote.	6	20	8	27	13	43	2	7	1	3	2
<b>B. Assembler-Wholesaler</b>											
1. The buyer and I share the same risks from the transaction we make.	0	0	1	5	8	42	7	37	3	16	4
2. The buyer and I share equal benefits from the transaction we make.	0	0	3	16	5	26	9	47	2	11	4
3. I take more risk from the transaction I make with buyers.	0	0	3	16	7	37	6	32	3	16	3
4. The buyer derives more benefits from the business operation.	0	0	4	21	6	32	5	26	4	21	3
5. I always control the pricing and grading of chayote.	1	5	3	16	8	42	5	26	2	11	3
<b>C. Financier-assembler-wholesaler</b>											
1. The buyer and I share the same risks from the transaction we make.	0	0	1	6	5	31	6	38	4	25	4
2. The buyer and I share equal benefits from the transaction we make.	0	0	2	13	4	25	5	31	5	31	4
3. I take more risk from the transaction I make with buyers.	0	0	1	6	11	69	1	6	3	19	3
4. The buyer derives more benefits from the business operation.	0	0	0	0	10	63	6	38	0	0	3
5. I always control the pricing and grading of chayote.	0	0	3	19	8	50	2	13	3	19	3



Table 8a. Continued . . .

STATEMENT	1		2		3		4		5		AVE.
	N	%	N	%	N	%	N	%	N	%	
<b>D. Trucker-Wholesaler</b>											
1. The buyer and I share the same risks from the transaction we make.	1	9	2	18	3	27	2	18	1	9	2
2. The buyer and I share equal benefits from the transaction we make.	1	9	2	18	5	45	2	18	1	9	3
3. I take more risk from the transaction I make with buyers.	1	9	4	36	2	18	2	18	2	18	3
4. The buyer derives more benefits from the business operation.	1	9	3	27	4	36	2	18	1	9	3
5. I always control the pricing and grading of chayote.	1	9	2	18	1	9	5	45	2	18	3
<b>E. Wholesaler</b>											
1. The buyer and I share the same risks from the transaction we make.	6	43	1	7	3	21	1	7	3	21	3
2. The buyer and I share equal benefits from the transaction we make.	2	14	3	21	5	36	3	21	1	7	3
3. I take more risk from the transaction I make with buyers.	3	21	0	0	5	36	5	36	1	7	3
4. The buyer derives more benefits from the business operation.	3	21	1	7	7	50	2	14	1	7	3
5. I always control the pricing and grading of chayote.	2	14	2	14	4	29	5	36	1	7	3
<b>F. Wholesaler-Retailer</b>											
1. The buyer and I share the same risks from the transaction we make.	10	29	5	14	11	31	8	23	1	3	3
2. The buyer and I share equal benefits from the transaction we make.	6	17	4	11	8	23	13	37	4	11	3
3. I take more risk from the transaction I make with buyers.	1	3	2	6	9	26	11	31	12	34	4
4. The buyer derives more benefits from the business operation.	2	6	4	11	10	29	13	37	6	17	3
5. I always control the pricing and grading of chayote.	0	0	8	23	10	29	12	34	5	14	3



Table 8a. Continued . . .

STATEMENT	1		2		3		4		5		AVE.
	N	%	N	%	N	%	N	%	N	%	
G. Retailer											
1. The buyer and I share the same risks from the transaction we make.	9	19	14	29	12	25	6	13	7	15	3
2. The buyer and I share equal benefits from the transaction we make.	5	10	13	27	14	29	9	19	7	15	3
3. I take more risk from the transaction I make with buyers.	3	6	11	23	16	33	12	25	5	10	3
4. The buyer derives more benefits from the business operation.	4	8	9	19	15	31	16	33	4	8	3
5. I always control the pricing and grading of chayote.	2	4	5	10	22	46	13	27	6	13	3

Overall results show that majority of the respondents are undecided in the different criteria in risk and reward sharing. This implied that all of the actors share equal risks; in contrast to reward sharing where financier-assembler-wholesalers, trucker-wholesalers and wholesaler-retailers acquires greater benefit. The result validated the idea (Xu and Beamon, 2006) which describes the characteristics of the selected incentive system. There are two main types of sharing methods: fair and unfair.

Table 8b. Descriptive and test statistics of risk and reward sharing

STATEMENT	MEAN	CHI-SQUARE	DF	ASYMP. SIG.
1. The buyer and I share the same risks from the transaction we make.	2.94	18.52	3	0.000
2. The buyer and I share equal benefits from the transaction we make.	3.14	9.898	3	0.019
3. I take more risk from the transaction I make with buyers.	3.36	4.724	3	0.193
4. The buyer derives more benefits from the business operation.	3.27	1.188	3	0.756
5. I always control the pricing and grading of chayotes.	3.18	12.25	3	0.007

\* Moderately significant      \*\* Highly significant

Numerical value and descriptive equivalent

1-1.8 Strongly Disagree      1.9-2.6 Disagree      2.7-3.4 Undecided      3.5-4.2 Agree      4.3-5 Strongly Agree



### Decision Making Style

Centralized decision style. It means that one firm has primary control. Given the level of responses, from the statement that buyer never influences any decision they make. Majority of the farmers (70%), assembler-wholesalers (37%), financier-assembler-wholesalers (25%), wholesalers (29%), wholesaler-retailers were indecisive that buyer never influences decision actors make. There are respondents from all groups who agreed. Looking into the mean average (3.06), all the actors indicated indecisiveness to such buyer influences actors make. Statistical test showed that there is no significant difference. Therefore, buyers sometimes influence the decision of their supplier.

The second statement validated statement number one whether the seller and buyer jointly share decision in procurement and delivery schedules reveals. Therefore it indicated that majority of the respondents were undecided as to this indicator.

Table 9a. Coordination mechanisms along centralized decision style

STATEMENT	1		2		3		4		5		AVE.
	N	%	N	%	N	%	N	%	N	%	
A. Farmer											
1. I decide at my own about the business operations.	0	0	5	17	4	13	6	20	15	50	4
2. The buyer dictates the decision I should undertake.	2	7	11	37	13	43	3	10	1	3	3
3. The buyer never influences any decision I make.	1	3	7	23	21	70	1	3	0	0	3
4. I am the one who decides the volume to be purchased.	2	7	6	20	7	23	6	20	9	30	3
5. I choose the size/variety/color to be procured.	1	3	6	20	6	20	6	20	11	37	4
6. We jointly share decision in procurement and delivery schedules.	0	0	8	27	9	30	10	33	3	10	3
Numerical value and descriptive equivalent											
1 Strongly Disagree	2 Disagree		3 Undecided		4 Agree		5 Strongly Agree				





Table 9a. Continued . . .

STATEMENT	1		2		3		4		5		AVE.
	N	%	N	%	N	%	N	%	N	%	
<b>B. Assembler-wholesaler</b>											
1. I decide at my own about the business operations.	0	0	0	0	5	26	5	26	9	47	4
2. The buyer dictates the decision I should undertake.	2	11	3	16	6	32	5	26	3	16	3
3. The buyer never influences any decision I make.	1	5	5	26	7	37	3	16	3	16	3
4. I am the one who decides the volume to be purchased.	1	5	3	16	4	21	7	37	4	21	4
5. I choose the size/variety/color to be procured.	1	5	2	11	3	16	8	42	5	26	4
6. We jointly share decision in procurement and delivery schedules.	2	11	1	5	2	11	9	47	5	26	4
<b>C. Financier-assembler-wholesaler</b>											
1. I decide at my own about the business operations.	0	0	1	6	4	25	4	25	7	44	4
2. The buyer dictates the decision I should undertake.	4	25	2	13	7	44	2	13	1	6	3
3. The buyer never influences any decision I make.	1	6	4	25	4	25	3	19	4	25	3
4. I am the one who decides the volume to be purchased.	0	0	1	6	3	19	3	19	9	56	4
5. I choose the size/variety/color to be procured.	0	0	0	0	4	25	3	19	9	56	4
6. We jointly share decision in procurement and delivery schedules.	1	6	3	19	3	19	5	31	4	25	4
<b>D. Trucker-wholesaler</b>											
1. I decide at my own about the business operations.	0	0	0	0	0	0	3	27	8	73	5
2. The buyer dictates the decision I should undertake.	4	36	3	27	2	18	0	0	2	18	2
3. The buyer never influences any decision I make.	2	18	5	45	0	0	1	9	3	27	3
4. I am the one who decides the volume to be purchased.	0	0	2	18	1	9	0	0	8	73	4
5. I choose the size/variety/color to be procured.	1	9	1	9	2	18	2	18	5	45	4
6. We jointly share decision in procurement and delivery schedules.	1	9	1	9	3	27	1	9	5	45	4



Table 9a. Continued . . .

STATEMENT	1		2		3		4		5		AVE.
	N	%	N	%	N	%	N	%	N	%	
<b>E. Wholesaler</b>											
1. I decide at my own about the business operations.	1	7	1	7	1	7	3	21	8	57	4
2. The buyer dictates the decision I should undertake.	7	50	4	29	2	14	0	0	1	7	2
3. The buyer never influences any decision I make.	1	7	3	21	4	29	4	29	2	14	3
4. I am the one who decides the volume to be purchased.	1	7	1	7	1	7	3	21	8	57	4
5. I choose the size/variety/color to be procured.	1	7	0	0	3	21	3	21	7	50	4
6. We jointly share decision in procurement and delivery schedules.	5	36	1	7	4	29	3	21	1	7	3
<b>F. Wholesaler-retailer</b>											
1. I decide at my own about the business operations.	0	0	2	6	4	11	7	20	22	63	4
2. The buyer dictates the decision I should undertake.	8	23	13	37	5	14	4	11	5	14	3
3. The buyer never influences any decision I make.	3	9	8	23	9	26	6	17	9	26	3
4. I am the one who decides the volume to be purchased.	0	0	1	3	5	14	7	20	22	63	4
5. I choose the size/variety/color to be procured.	1	3	2	6	5	14	10	29	17	49	4
6. We jointly share decision in procurement and delivery schedules.	7	20	9	26	6	17	7	20	6	17	3
<b>G. Retailer</b>											
1. I decide at my own about the business operations.	0	0	1	2	3	6	7	15	37	77	5
2. The buyer dictates the decision I should undertake.	20	42	12	25	7	15	4	8	5	10	2
3. The buyer never influences any decision I make.	5	10	13	27	12	25	13	27	5	10	3
4. I am the one who decides the volume to be purchased.	1	2	2	4	6	13	11	23	28	58	4
5. I choose the size/variety/color to be procured.	3	6	3	6	5	10	12	25	25	52	4
6. We jointly share decision in procurement and delivery schedules.	17	35	4	8	10	21	11	23	6	13	3



Table 9b. Descriptive and test statistics of centralized decision style

STATEMENT	MEAN	CHI-SQUARE	DF	ASYMP. SIGNIF.
1. I decide at my own about the business operations.	4.33	13.42	3	0.004**
2. The buyer dictates the decision I should undertake.	2.51	11.93	3	0.008**
3. The buyer never influences any decision I make.	3.06	2.873	3	0.417
4. I am the one who decides the volume to be purchased.	4.08	15.54	3	0.001**
5. I choose the size/variety/color to be procured.	3.99	3.74	3	0.291
6. We jointly share decision in procurement and delivery schedules.	3.08	10.61	3	0.018*

\* Moderately significant      \*\* highly significant  
Numerical value and descriptive equivalent  
1-1.8 Strongly Disagree      1.9-2.6 Disagree      2.7-3.4 Undecided      3.5-4.2 Agree      4.3-5 Strongly Agree

In different criteria under centralized decision style, result shows that respondents agreed to decide on their own business operations, on the volume to be purchased and choose the size/variety/color to be procured. Respondents are in doubt if a buyer dictates and influence the decision they undertake and if actors jointly share decision in procurement and delivery schedules. As to farm management and operation, decisions were all directed to farmers. For example in choosing the crop to be planted is influence of supplier/traders, while in marketing management decisions are influenced and controlled by the supplier/trader.

Decentralized decision style. It means that each firm makes its decisions autonomously. All of the respondents have their own decision in their business operation. Looking into the average, all the actors moderately agreed on the statement as further supported with the mean average. It is further validated by the mean average of 4.01. The result implies that there is significant difference. Therefore, it confirm that actors have own decision.



Table 10a. Coordination mechanisms along decentralized decision style

STATEMENT	1		2		3		4		5		AVE.			
	N	%	N	%	N	%	N	%	N	%				
<b>A. Farmer</b>														
1. I involved other people to decide for me in selling products and setting the price.	4	13	7	23	9	30	8	27	2	7	3			
2. The buyer and I have our own decision.	0	0	0	0	8	27	10	33	12	40	4			
<b>B. Assembler-wholesaler</b>														
1. I involved other people to decide for me in selling products and setting the price.	2	11	4	21	3	16	7	37	3	16	3			
2. The buyer and I have our own decision.	0	0	2	11	7	37	2	11	8	42	4			
<b>C. Financier-assembler-wholesaler</b>														
1. I involved other people to decide for me in selling products and setting the price.	4	25	4	25	3	19	3	19	2	13	3			
2. The buyer and I have our own decision.	1	6	3	19	1	6	3	19	8	50	4			
<b>D. Trucker-wholesaler</b>														
1. I involved other people to decide for me in selling products and setting the price.	5	45	3	27	1	9	1	9	1	9	2			
2. The buyer and I have our own decision.	0	0	1	9	1	9	2	18	7	64	4			
<b>E. Wholesaler</b>														
1. I involved other people to decide for me in selling products and setting the price.	5	36	4	29	0	0	2	14	3	21	3			
2. The buyer and I have our own decision.	1	7	2	13	4	29	1	7	6	43	4			
<b>F. Wholesaler-retailer</b>														
1. I involved other people to decide for me in selling products and setting the price.	11	31	6	17	4	11	7	20	7	20	3			
2. The buyer and I have our own decision.	2	6	3	9	4	11	11	31	15	43	4			
<b>G. Retailer</b>														
1. I involved other people to decide for me in selling products and setting the price.	22	46	11	23	6	13	8	17	1	2	2			
2. The buyer and I have our own decision.	1	2	6	13	5	10	9	19	27	56	4			
Numerical value and descriptive equivalent														
1 Strongly Disagree			2 Disagree			3 Undecided			4 Agree			5 Strongly Agree		



Table 10b. Descriptive and test statistics decentralized decision style

STATEMENT	MEAN	CHI- SQUARE	DF	ASYMP.SIGNI
1. I involved other people to decide for me in selling products and setting the price.	2.6	12.52	3	0.006**
2. The buyer and I have our own decision.	4.01	1.624	3	0.654

\*\* Highly significant

The second statement validated statement number one whether seller involved other people in decision making. The result (2.6) indicated that actors were undecided; hence, they seek advice from other people before making decision.

Level of Control. It can be drawn from the Table 11a that actors monitor buyers in their procurement/ production/ marketing schedule planned for the farmers (37%), assembler-wholesalers (32%), financier-assembler-wholesalers (31%) are undecided, wholesalers (43%), wholesaler-retailers (29%) and retailers (48%) strongly disagree in monitoring by their buyer while for the trucker-wholesalers strongly agreed in monitoring. Mean average (2.79) shows that buyers sometimes monitored by the sellers. The result showed that there is highly significant difference (.001). Therefore, the actors differ on the statement.

Farmers (21%) and retailers (48%) set rules in their business operation, however assembler-wholesalers (32%), financier-assembler-wholesalers (31%), trucker-wholesalers (27%) and wholesalers (21%) are indecisive and wholesaler-retailers (31%) moderate agreed. On the average they sometimes set rules in their business operation.

It indicated in the mean average 2.99 that the respondents are indecisive in setting rules.



The result implies that there is high significant difference at 0.002, which means the actors have varied opinions whether they set rules in their business operation or not.

Table 11a. Coordination mechanisms along level of control

STATEMENT	1		2		3		4		5		AVE.
	N	%	N	%	N	%	N	%	N	%	
<b>A. Farmer</b>											
1. I always monitor the buyer on the procurement/production/marketing schedules planned.	4	13	7	23	11	37	4	13	4	13	3
2. I set rules in our business operation.	7	21	11	37	6	20	4	13	2	7	2
3. The buyer sets rules in our business operation	5	15	9	30	11	37	4	13	1	3	3
<b>B. Assembler-wholesaler</b>											
1. I always monitor the buyer on the procurement/production/marketing schedules planned.	2	11	2	11	6	32	3	16	6	32	3
2. I set rules in our business operation.	2	11	2	11	9	47	2	11	4	21	3
3. The buyer sets rules in our business operation	3	16	4	21	7	37	2	11	3	16	3
<b>C. Financier-Assembler-Wholesaler</b>											
1. I always monitor the buyer on the procurement/production/marketing schedules planned.	2	13	2	13	5	31	4	25	3	19	3
2. I set rules in our business operation.	2	13	1	6	5	31	3	19	5	31	4
3. The buyer sets rules in our business operation	6	38	2	13	4	25	1	6	3	19	3

Numerical value and descriptive equivalent

1 Strongly Disagree

2 Disagree

3 Undecided

4 Agree

5 Strongly Agree



Table 11a. Continued. . .

STATEMENT	1		2		3		4		5		AVE.
	N	%	N	%	N	%	N	%	N	%	
<b>D. Trucker-wholesaler</b>											
1. I always monitor the buyer on the procurement/production/marketing schedules planned.	2	18	2	18	2	18	2	18	3	27	3
2. I set rules in our business operation.	2	18	3	27	1	9	3	27	2	18	3
3. The buyer sets rules in our business operation	4	36	5	45	0	0	1	9	1	9	2
<b>E. Wholesaler</b>											
1. I always monitor the buyer on the procurement/production/marketing scedules planned.	6	43	0	0	3	21	2	14	3	21	3
2. I set rules in our business operation.	3	21	3	21	2	14	3	21	3	21	3
3. The buyer sets rules in our business operation	7	50	1	7	2	14	1	7	3	21	2
<b>F. Wholesaler-retailer</b>											
1. I always monitor the buyer on the procurement/production/marketing scedules planned.	10	29	5	14	9	26	2	6	9	26	3
2. I set rules in our business operation.	5	14	5	14	6	17	8	23	11	31	3
3. The buyer sets rules in our business operation	11	31	11	31	5	14	2	6	6	17	2
<b>G. Retailer</b>											
1. I always monitor the buyer on the procurement/production/marketing scedules planned.	23	48	8	17	8	17	5	10	4	8	2
2. I set rules in our business operation.	16	33	7	15	6	13	12	25	7	15	3
3. The buyer sets rules in our business operation	24	50	4	8	6	13	8	17	6	11	2



Table 11b. Descriptive and test statistics of level of control

STATEMENT	MEAN	CHI- SQUARE	DF	ASYMP.SIGNIF
1. I always monitor the buyer on the procurement/production/marketing schedules planned.	2.79	16.187	3	0.001**
2. I set rules in our business operation.	2.99	9.797	3	0.002**
3. The buyer sets rules in our business operation	2.46	3.236	3	0.357
respondent group	2.73			

\*\* Highly significance

Numerical value and descriptive equivalent

1-1.8 Strongly Disagree 1.9-2.6 Disagree 2.7-3.4 Undecided 3.5-4.2 Agree 4.3-5 Strongly Agree

Majority farmers, assembler-wholesalers are indecisive in buyer set rules in their operation however some of the respondents are disagreed so there is no significant difference among the different actors, average shows that all of the respondents don't allows their buyer to set rules for their business operation.

In different criteria in level of control, result shows that respondents are undecided in monitoring the buyer on the procurement/production/marketing schedules planned, set rules in our business operation, and buyer sets rules in their business. It signifies that the levels of control of all respondents are low since they are not much aware in setting rules in their business operation.

Comprehensive Selection Procedure. Majority of the respondents strongly agreed that they select buyers who are trustworthy while for wholesalers (43%) and retailers (33%) strongly disagreed. Looking into the average, majority of all actors indicated that they select buyers who are trustworthy but some actors said as long as they paid their products. It is further validated by the mean average of 3.36.





The result showed that there is high significant difference (0.008) among the different actors in selecting buyers. Therefore, this showed that some actors differ in the selection of buyers with respect to trustworthy.

In the statement that buyers must willingly share market information, all the actors were indecisive and this could be reflected from the statistical test (0.002). Therefore, they have varied ideas from this condition.

Table 12a. Coordination mechanism along comprehensive selection procedure

STATEMENT	1		2		3		4		5		AVE.
	N	%	N	%	N	%	N	%	N	%	
<b>A. Farmer</b>											
1. I select the buyer who is trustworthy.	0	0	2	7	8	27	11	37	9	30	4
2. The buyer usually choose the sellers with good quality and adequate volume of chayote.	0	0	3	10	8	27	7	23	12	40	4
3. The buyer usually choose the sellers that offer lower price of chayote.	2	7	3	10	11	37	4	13	10	33	4
4. I choose buyers whom I know and trade with for a long, long time.	0	0	1	3	8	27	10	33	11	37	4
5. I choose buyers with adequate resources.	1	3	4	13	7	23	11	37	7	23	4
6. The buyer must willingly share market information.	0	0	4	13	5	17	13	43	8	27	4
<b>B. Assembler-wholesaler</b>											
1. I select the buyer who is trustworthy.	0	0	2	11	4	21	6	32	7	37	4
2. The buyer usually choose the sellers with good quality and adequate volume of chayote.	1	5	2	11	4	21	6	32	6	32	4
3. The buyer usually choose the sellers that offer lower price of chayote.	1	5	0	0	2	11	9	47	7	37	4
4. I choose buyers whom I know and trade with for a long, long time.	1	5	1	5	3	16	8	42	6	32	4
5. I choose buyers with adequate resources.	0	0	3	16	4	21	7	37	5	26	4
6. The buyer must willingly share market information.	1	5	2	11	7	37	3	16	6	32	4
Numerical value and descriptive equivalent 1 Strongly Disagree 2 Disagree 3 Undecided											
4 Agree 5 Strongly Agree											



Table 12a. Continued . . .

STATEMENT	1		2		3		4		5		AVE.
	N	%	N	%	N	%	N	%	N	%	
<b>C. Financier-Assembler-Wholesaler</b>											
1. I select the buyer who is trustworthy.	1	6	2	13	1	6	5	31	7	44	3
2. The buyer usually choose the sellers with good quality and adequate volume of chayote.	0	0	2	13	2	13	6	38	6	38	4
3. The buyer usually choose the sellers that offer lower price of chayote.	1	6	2	13	5	31	6	38	2	13	3
4. I choose buyers whom I know and trade with for a long, long time.	0	0	2	13	2	13	5	31	7	44	4
5. I choose buyers with adequate resources.	0	0	2	13	4	25	6	38	4	25	4
6. The buyer must willingly share market information.	1	6	3	19	4	25	4	25	4	25	3
<b>D. Trucker-wholesaler</b>											
1. I select the buyer who is trustworthy.	3	27	0	0	2	18	3	27	3	27	3
2. The buyer usually choose the sellers with good quality and adequate volume of chayote.	0	0	1	9	4	36	2	18	4	36	4
3. The buyer usually choose the sellers that offer lower price of chayotes.	0	0	0	0	1	9	8	73	2	18	4
4. I choose buyers whom I know and trade with for a long, long time.	2	18	1	9	1	9	4	36	3	27	3
5. I choose buyers with adequate resources.	2	18	2	18	4	36	2	18	1	9	3
6. The buyer must willingly share market information.	2	18	1	9	4	36	3	27	1	9	3
<b>E. Wholesaler</b>											
1. I select the buyer who is trustworthy.	6	43	2	14	4	29	0	0	2	14	2
2. The buyer usually choose the sellers with good quality and adequate volume of chayote.	1	7	1	7	4	29	2	14	6	43	4
3. The buyer usually choose the sellers that offer lower price of chayote.	1	7	0	0	3	21	3	2	7	50	4
4. I choose buyers whom I know and trade with for a long, long time.	3	21	0	0	5	36	2	14	4	29	3
5. I choose buyers with adequate resources.	4	29	4	29	2	14	2	14	2	14	3
6. The buyer must willingly share market information.	4	29	2	14	4	29	2	14	2	14	3



Table 12a. Continued . . .

STATEMENT	1		2		3		4		5		AVE.
	N	%	N	%	N	%	N	%	N	%	
<b>F. Wholesaler-retailer</b>											
1. I select the buyer who is trustworthy.	5	14	5	14	5	14	7	20	13	37	4
2. The buyer usually choose the sellers with good quality and adequate volume of chayote.	3	9	3	9	8	23	5	14	16	46	4
3. The buyer usually choose the sellers that offer lower price of chayote.	1	3	1	3	5	14	7	20	21	60	4
4. I choose buyers whom I know and trade with for a long, long time.	1	3	4	11	10	29	6	17	14	40	4
5. I choose buyers with adequate resources.	4	11	12	34	5	14	8	23	6	17	3
6. The buyer must willingly share market information.	8	23	3	9	11	31	4	11	9	26	3
<b>G. Retailer</b>											
1. I select the buyer who is trustworthy.	16	33	6	13	6	13	8	17	12	27	3
2. The buyer usually choose the sellers with good quality and adequate volume of chayote.	4	8	7	15	7	15	14	29	16	36	4
3. The buyer usually choose the sellers that offer lower price of chayote.	3	6	6	13	6	13	10	21	23	52	4
4. I choose buyers whom I know and trade with for a long, long time.	6	13	8	17	11	23	10	21	13	30	3
5. I choose buyers with adequate resources.	11	23	19	40	7	15	4	8	7	16	3
6. The buyer must willingly share market information.	13	27	11	23	6	13	12	25	6	14	3

Table 12b. Descriptive and test statistics of comprehensive selection procedure

STATEMENT	MEAN	CHI- SQUARE	DF	ASYMP. SIG.
1. I select the buyer who is trustworthy.	3.36	11.798	3	0.008**
2. The buyer usually choose the sellers with good quality and adequate volume of chayote.	3.79	0.755	3	0.860
3. The buyer usually choose the sellers that offer lower price of chayote.	3.93	7.824	3	0.050
4. I choose buyers whom I know and trade with for a long, long time.	3.68	6.496	3	0.090
5. I choose buyers with adequate resources.	3.08	23.71	3	0.000**
6. The buyer must willingly share market information.	3.17	14.404	3	0.002**

\*\* Highly significance



## Socialization

Natural socialization. Table 13a shows that majority of the respondents agreed that there is a constant communication with their buyer while for wholesalers who are undecided; the average shows that some of the respondents have their constant communication. It is further validated by the mean average of 3.97. The result implies that there is high significant difference (.008). Therefore, this proves that some actors have a constant communication to their buyer.

It validated statement one and statement two whether respondents established close personal relationship with their buyer that majority of the respondents agreed in this criteria.

In natural socialization, respondents agreed that farmers- supplier/ trader have been trading with the buyer for long period of time. Respondents are undecided communicate informally, established close personal relationship with the buyer of my chayote.

Table 13a. Coordination mechanism along natural socialization

STATEMENT	1		2		3		4		5		AVE.
	N	%	N	%	N	%	N	%	N	%	
A. Farmer											
1. The buyer and I have been trading with the buyer for long period of time.	0	0	2	7	6	20	10	33	12	40	4
2. We constantly communicate informally.	1	3	4	13	11	37	6	20	8	27	4
3. I have established close personal relationship with the buyer of my chayote.	1	3	6	20	13	43	7	23	3	10	3

Numerical value and descriptive equivalent

1 Strongly Disagree

2 Disagree

3 Undecided

4 Agree

5 Strongly Agree



Table 13a. Continued . . .

STATEMENT	1		2		3		4		5		AVE.
	N	%	N	%	N	%	N	%	N	%	
<b>B. Assembler-wholesaler</b>											
1. I transact with the buyer mainly for business.	0	0	1	5	2	11	7	37	8	42	4
2. I choose the buyer with good reputation.	1	5	0	0	3	16	9	47	6	32	4
3. The buyer negotiates with me fairly.	0	0	0	0	8	42	5	26	6	32	4
<b>C. Financier-Assembler-Wholesaler</b>											
1. I transact with the buyer mainly for business.	0	0	0	0	4	25	1	6	11	69	4
2. I choose the buyer with good reputation.	1	6	2	13	5	31	2	13	6	38	4
3. The buyer negotiates with me fairly.	0	0	1	6	7	44	2	13	6	38	4
<b>D. Trucker-wholesaler</b>											
1. I transact with the buyer mainly for business.	0	0	2	18	0	0	2	18	7	64	4
2. I choose the buyer with good reputation.	2	18	3	27	1	9	3	27	2	18	3
3. The buyer negotiates with me fairly.	0	0	0	0	4	36	3	27	4	36	4
<b>E. Wholesaler</b>											
1. I transact with the buyer mainly for business.	0	0	0	0	1	7	5	36	8	57	4
2. I choose the buyer with good reputation.	6	43	2	14	3	21	1	7	2	14	2
3. The buyer negotiates with me fairly.	1	7	2	14	7	50	1	7	3	21	3
<b>F. Wholesaler-Retailer</b>											
1. I transact with the buyer mainly for business.	0	0	2	6	5	14	4	11	24	69	4
2. I choose the buyer with good reputation.	5	14	4	11	12	34	5	14	9	26	3
3. The buyer negotiates with me fairly.	0	0	4	11	13	37	11	31	7	20	4
<b>G. Retailer</b>											
1. I transact with the buyer mainly for business.	0	0	1	2	7	14	8	17	32	67	4
2. I choose the buyer with good reputation.	10	21	12	25	13	27	6	13	7	15	3
3. The buyer negotiates with me fairly.	0	0	2	4	21	44	14	29	11	23	4



Table 13b. Descriptive and test statistics of natural socialization

STATEMENT	MEAN	CHI-SQUARE	DF	ASYMP.SIG.
1. I transact with the buyer mainly for business.	4.42	0.558	3	0.906
2. I choose the buyer with good reputation.	3.29	20.836	3	0.000**
3. The buyer negotiates with me fairly.	3.58	12.272	3	0.007**

\*\* Highly significant

Numerical value and descriptive equivalent

1-1.8 Strongly Disagree    1.9-2.6 Disagree    2.7-3.4 Undecided    3.5-4.2 Agree    4.3-5 Strongly Agree

Deliberate socialization. All of the respondents agreed in transacting buyer mainly for business average show that actors transact only for their business there are significant differences (.906) among the different actors.

In choosing buyer, farmers (40%), assembler-wholesalers (32%), financier-assembler-wholesalers (37%) agreed, trucker-wholesalers , wholesaler-retailer's and retailers who are undecided but wholesalers disagreed average shows that some of the actors sometimes choose buyers so there is insignificant difference among the different chain actors.

Farmers (53%) , assembler-wholesalers (42%), financier-assembler-wholesalers (44%), wholesaler (50%), wholesaler-retailers (37%), retailers (44%) are in doubt that their buyer negotiates with them fairly, but for, and trucker-wholesalers (36%) agreed average shows in frequency that there are some actors agreed that their buyer negotiates with them fairly. There is significant difference (.000) among the different chain actors in these criteria.



Table 14a. Coordination mechanism along deliberate socialization

STATEMENT	1		2		3		4		5		AVE.
	N	%	N	%	N	%	N	%	N	%	
<b>A. Farmer</b>											
1. I transact with the buyer mainly for business.	0	0	1	3	1	3	10	33	18	60	5
2. I choose the buyer with good reputation.	1	3	2	7	5	17	10	33	12	40	4
3. The buyer negotiates with me fairly.	0	0	6	20	16	53	7	23	1	3	3
<b>B. Assembler-wholesaler</b>											
1. I transact with the buyer mainly for business.	0	0	1	5	2	11	7	37	8	42	4
2. I choose the buyer with good reputation.	1	5	0	0	3	16	9	47	6	32	4
3. The buyer negotiates with me fairly.	0	0	0	0	8	42	5	26	6	32	4
<b>C. Financier-Assembler-Wholesaler</b>											
1. I transact with the buyer mainly for business.	0	0	0	0	4	25	1	6	11	69	4
2. I choose the buyer with good reputation.	1	6	2	13	5	31	2	13	6	38	4
3. The buyer negotiates with me fairly.	0	0	1	6	7	44	2	13	6	38	4
<b>D. Trucker-wholesaler</b>											
1. I transact with the buyer mainly for business.	0	0	2	18	0	0	2	18	7	64	4
2. I choose the buyer with good reputation.	2	18	3	27	1	9	3	27	2	18	3
3. The buyer negotiates with me fairly.	0	0	0	0	4	36	3	27	4	36	4
<b>E. Wholesaler</b>											
1. I transact with the buyer mainly for business.	0	0	0	0	1	7	5	36	8	57	4
2. I choose the buyer with good reputation.	6	43	2	14	3	21	1	7	2	14	2
3. The buyer negotiates with me fairly.	1	7	2	14	7	50	1	7	3	21	3
<b>F. Wholesaler-Retailer</b>											
1. I transact with the buyer mainly for business.	0	0	2	6	5	14	4	11	24	69	4
2. I choose the buyer with good reputation.	5	14	4	11	12	34	5	14	9	26	3
3. The buyer negotiates with me fairly.	0	0	4	11	13	37	11	31	7	20	4
<b>G. Retailer</b>											
1. I transact with the buyer mainly for business.	0	0	1	2	7	14	8	17	32	67	4
2. I choose the buyer with good reputation.	10	21	12	25	13	27	6	13	7	15	3
3. The buyer negotiates with me fairly.	0	0	2	4	21	44	14	29	11	23	4



Table 13b. Descriptive and test statistics of natural socialization

STATEMENT	MEAN	CHI-SQUARE	DF	ASYMP.SIG.
1. I transact with the buyer mainly for business.	4.42	0.558	3	0.906
2. I choose the buyer with good reputation.	3.29	20.836	3	0.000**
3. The buyer negotiates with me fairly.	3.58	12.272	3	0.007**

\*\*Highly significant

Numerical value and descriptive equivalent

1-1.8 Strongly Disagree    1.9-2.6 Disagree    2.7-3.4 Undecided    3.5-4.2 Agree    4.3-5 Strongly Agree





## SUMMARY, CONCLUSIONS AND RECOMMENDATION

### Summary

This study was conducted to determine the coordination mechanisms and attributes between actors in the spot market chain for chayote. A total of 173 respondents were interviewed from their respective respondent group: production group (farmer), assembly group ( assembler- wholesaler, financier- assembler- wholesaler), distribution group ( trucker- wholesaler, wholesaler, & wholesaler- retailer ) and retailing group (retailer) at the La Trinidad Benguet chayote trading post, Urdaneta, Pangasinan, Balintawak, Nepa Q, Kamuning, Novaliches, Libertad in Metro Manila.

There were 30 farmers under production group; 19 A-Ws and 16 F-A-Ws with a total of 35 under assembly group; 11 T-Ws, 14 wholesalers and 35 W-Rs with a total of 60 under distribution; and 48 retailers under retailing with a imposing total of 173 respondents. An interview schedule was used as a guide to collect the needed information. The information was organized, summarized and classified according to the objective of the study. The descriptive analyses used were: frequency counts, percentage, average and mean average. Moreover, as to statistical test, chi-square and kruskal-wallis.

There were several different chains for chayote identified. All of the chains started from the farmers in La Trinidad, Benguet and ended to the different consumers in La Trinidad, Benguet, Urdaneta City, Pangasinan and Metro, Manila.

Most of the respondents are aged within the bracket of 21-30 and 31-40 years old and majority is female. Most of them are married and have attained high school and



college level. Majority of the respondents were not affiliated in any organization related to vegetable trading business and most are engaged one to five years in business.

Most of the respondents were female. Majority of both farmer respondents and their respective suppliers were married. Almost all of the respondents were catholic. And most of the respondents was venturing 1-5 years in business.

Regarding resource sharing, in terms of operation, most of the respondents do not share investments in their business operation. As for strategic resource sharing, actors have not much acquainted in the strategies to improve their business operation. For the information sharing, majority of the respondents are undecided in the statement that actors share production/procurement information (volume, cost, production schedules) to the buyers and buyer always share market information (demand, supply, prices & cost) and share information about production and marketing schedules.

For risk and sharing, most of the respondents sometimes have equal sharing of risks and rewards. When it comes to decision making in decentralized as the different actors never coordinate decision to be undertaken. In level of control the respondents in business operation is low.

In comprehensive selection procedure, buyer choose suppliers who offered lower price and most of the clients of the traders were preferred buyers or 'suki' as to they know and trade them for long time. When in socialization, Most of the respondents correspond and socialize with their buyers mainly for business.



## Conclusion

Based on the results of the study, the following conclusions were draw

1. There are several chains of chayote in the spot market. It always starts with the farmers and ends with the consumers.

2. Resource sharing, there was operational resource sharing among the chain actors particularly to the assembler and the producers. That is the assembler inputs to farmers. However, to other resource attributes like the strategic resource and information, the chain actors indicated their individualistic interest for their own business.

3. Risk sharing, all of the actors share equal risks; in contrast to reward sharing where financier-assembler-wholesalers, trucker-wholesalers and wholesaler derived more benefits.

4. As to decision style, most of the respondents decide more for themselves about their business operation. Thus, in some cases, involved other people.

5. The level of control is low, as a result indicated that actors signified disagreement about the criteria. Therefore, the actors would rather exercise their power to control over the other actors.

6. Comprehensive selection procedure, all the respondents agree to the different criteria used in choosing the seller or buyer of chayote.

7. In socialization, communication to buyers is mainly for business.

## Recommendation

1. In the decision making, the production and marketing areas ( farmer, assembly, distribution and retailing ), all the respondents should plan and worked together inorder to obtain and to improve efficient and effective production and marketing operation



2. Financier-assembler-wholesalers extend more support to the farmers especially on financial and other operational resource. To set the level of control on the actors should strengthen communication between buyers and sellers.

3. To avoid such situation, actors should build business-to-business relationship (B2B) to strengthen and improve efficient (flow of production) and effective (transaction). The actors should deal from deliberate and natural socialization in order to minimize business gaps in business operation



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**APPENDICES**

## APPENDIX A

Letter to the Respondents

Benguet State University  
COLLEGE OF AGRICULTURE  
La Trinidad, Benguet

November 2010

Sir/ Madam,

The undersigned fourth year student taking up Bachelor of Science in Agribusiness majoring in Enterprise Management at Benguet State University is conducting a researched entitled “COORDINATION MECHANISMS AND ATTRIBUTES BETWEEN ACTORS IN THE SPOT MARKET CHAINS FOR CHAYOTE”.

In this connection, I’m soliciting your full cooperation by answering this questionnaire honestly and completely. I assure you that your answers will be kept strictly confidential.

Your honest and complete response will make the study successful.

Thank you very much and God bless.

Very truly yours,

RONAH LYN S. MEJIA  
Researcher

Noted:



LEOPOLDO N. TAGARINO

Adviser

## APPENDIX B

## Interview Schedule

This research aims to investigate the fresh chayote supply networks specifically on the coordination mechanism and attributes adopted in chayote spot market. All information solicited will be treated with confidentiality. Please answer the questions honestly by putting X mark in the appropriate space provided for. Thank you very much!

Respondent's Name: \_\_\_\_\_ No. \_\_\_\_\_

- Farmers  Wholesaler  
 Assembler-Wholesaler  Wholesaler-Retailer  
 Financier- Assembler-Wholesaler  Retailers  
 Trucker-Wholesaler

## A. RESPONDENT'S PROFILE

- A.1 Age \_\_\_\_\_  
A.2 Gender: \_\_\_\_\_ Female \_\_\_\_\_ Male  
A.3 Marital status: \_\_\_\_\_ Single \_\_\_\_\_ Married \_\_\_\_\_ Separated \_\_\_\_\_ Widowed  
A.4 Educational Attainment  
\_\_\_\_\_ No formal education \_\_\_\_\_ College undergraduate  
\_\_\_\_\_ Elementary graduate \_\_\_\_\_ College graduate  
\_\_\_\_\_ High school undergraduate \_\_\_\_\_ Vocational/technical graduate  
\_\_\_\_\_ High school graduate \_\_\_\_\_ Postgraduate  
A.5 Number of years engaged in cabbage farming business: \_\_\_\_\_  
A.6 Other sources of income: \_\_\_\_\_  
Ave. monthly income: \_\_\_\_\_  
A.8 Organizational affiliation: \_\_\_\_\_ Farmers' association \_\_\_\_\_ Cooperatives  
\_\_\_\_\_ Others, specify \_\_\_\_\_





## B. COORDINATION MECHANISMS

A. Assess the coordination mechanisms adopted in dealing with the buyers of your chayote.

B.1 Resource Sharing Structure - how the buyer and the seller share resources such as information and capital in the business operation.

B.1.1 Operational resource sharing - resources shared are capital, facilities, equipment in the business operation.

1 2 3 4 5

1. I invest large amount of capital in my business operation.

Not at all Very much

2. Buyer supports me for specific production investments.

Not at all Very much

3. I share information about my production/procurement operation.

Not at all Very much

4. Buyer always shares marketing information.

Not at all Very much

5. The buyer and I jointly make production and marketing decisions.

Not at all Very much

B.1.2 Strategic resource sharing - the buyer and the seller make or plan for actions to achieve or improve their goals.

1 2 3 4 5

1. The buyer and I have established good business partnership.

Not at all Very much

2. The buyer and I jointly formulate production and marketing strategies.

Not at all Very much

3. We jointly share investment to attain our business goals.

Not at all Very much

4. We plan strategies to improve our the business operation.

Not at all Very much

5. We always communicate sharing information about our business operation.

Not at all Very much

B.1.3 Information Sharing - the buyer and the seller share marketing/ production information.

1 2 3 4 5

1. I share production information (volume, cost, production schedules) to the buyers.

Not at all Very much

2. The buyer always share market information (demand, supply, prices and cost).

Not at all Very much

3. We share information about production and marketing schedules.

Not at all Very much

4. The buyer and I jointly make production and marketing decisions.

Not at all Very much



5. The buyer and I have constant business communication.

Not at all      Very much

C. Risk and Reward Sharing - the buyer and the seller share risk and reward sharing/ benefits fairly or unfairly.

1 2 3 4 5

1. The buyer and I share the same risks from the transaction we make.

Not at all      Very much

2. The buyer and I share equal benefits from the transaction we make.

Not at all      Very much

3. I take more risk from the transaction I make with buyers.

Not at all      Very much

4. The buyer derives more benefits from the business operation.

Not at all      Very much

5. The buyer controls the pricing and grading of chayotes.

Not at all      Very much

D. Decision Style - how the actors decide in their operation.

D.1. Centralized- one actor has primary control in their operation or buyer and seller jointly have control.

1 2 3 4 5

1. I decide at my own about the business operations.

Not at all      Very much

2. The buyer dictates the decision I should undertake.

Not at all      Very much

3. The buyer never influences any decision I make. Not at all      Very much

4. We jointly share decision in procurement and delivery schedules.

Not at all      Very much

5. I am the one who sets the price .

Not at all      Very much

6. I am the one who decides how many cabbage to purchase.

Not at all      Very much

7. I am the one who decides what variety to purchase. Not at all      Very much

D.2. Decentralized- the buyer and the seller have control or other party have control.

1 2 3 4 5

1. I involved other people to decide for me in

selling products and setting the price.

Strongly Disagree      Strongly Agree



2. The buyer and I have our own decision. Strongly Disagree  Strongly Agree

E. Level of Control- the buyer or the seller have high or low control

1 2 3 4 5

1. I always abide by the target agreement. Not at all  Very much

2. The buyer decides as to the procurement and selling schedules.  
Not at all  Very much

3. The buyer controls the pricing and grading of chayotes.  
Not at all  Very much

4. I am flexible to my procurement and delivery schedules.  
Not at all  Very much

5. I follow the procurement and delivery schedules.  
Not at all  Very much

F. Comprehensive Selection Procedures

1 2 3 4 5

1. I select the buyer who is trustworthy. Not at all  Very much

2. The buyer must demonstrate effective cooperation. Not at all  Very much

3. I choose buyers with adequate resources. Not at all  Very much

4. The buyer extend credit assistance in the production/procurement of chayotes.  
Not at all  Very much

5. The buyer must willingly share market information. Not at all  Very much

G. Socialization

G.1 Natural Socialization

1 2 3 4 5

1. The buyer and I have been trading with the buyer for long  
period of time. Not at all  Very much

2. We constantly communicate informally. Not at all  Very much

3. I have established close personal relationship with  
the buyer of my chayotes. Not at all  Very much



## G.2. Deliberate Socialization

1 2 3 4 5

1. I transact with the buyer mainly for business. Not at all      Very much
2. I choose the buyer with good reputation. Not at all      Very much
3. The buyer negotiates with me fairly. Not at all      Very much

