

“The ultimate goal of farming is not the growing of crops, but the cultivation and perfection of human being.” _____ Masanobu Fukuoka.

CHAPTER VII: GOVERNANCE STRUCTURE OF THE VALUE CHAIN.

7.1. Introduction

This chapter discusses the governance structure of the value chain of five selected organic crops. This chapter consists of five sub-sections for the governance structure of each of the five selected organic crops. The first sub-section presents the governance structure for the organic pineapple value chain. The second, third, fourth, and fifth sub-sections present the governance structure for the value chain of organic pumpkin, organic non-basmati rice, organic red rice, and organic turmeric.

7.2 Governance Structure of the Organic Pineapple Value Chain.

This section discusses the governance structure of value chain of organic pineapple in Cachar district. Various parameters to study the existing governance structure like relationship and linkage, trust among chain actors, nature of governance structure, rules and regulation, determination of selling price and lastly the flow of information are shown in respective sub sections.

7.2.1 Relationship and Linkage.

All the farmers in the chain have verbal or written agreements with various actors. Chain actors have a written contract when they export organic pineapple and sell it to far-off merchants via FPC. Written agreements are also used to obtain credit by farmers from various sources like banks, Micro Finance Institutions, and Self-Help Groups. In addition to this, verbal transactions are carried out with different wholesalers, retailers, and commission agents. Farmers follow formal guidelines in the form of official legal standards established by the FPC. Apart from the FPC, all the other actors in the chain (commission agents, wholesalers, and retailers) have verbal contracts among themselves and follow informal rules as set by the market. The informal rules include the provision of credit purchase/ sell, provision of delay in payment, and social agreements. The FPC acts as the center of gravity in the organic pineapple value chain as it controls the information flows, provides the

necessary information to regulatory bodies and other chain actors, provides inputs and technical assistance, is involved in value chain upgradation and provides the market access for export and with the distant traders. The table below displays the specifics of the contract's terms for the farmers with the different actors.

Table 98: Showing Relationship and Linkage of Farmers with Various Actors in Organic Pineapple Value Chain

Nature of contract	Yes/No	Contract with
a. Provision for inputs (biofertilizer, biopesticides, vermicompost, etc)	Yes	FPC (Hmar Agro Organic Producer Company Ltd.)
b. Technical assistance for upgrading the value chain.	Yes	FPC (Hmar Agro Organic Producer Company Ltd.)
c. Processing of organic products	No	In progress with FPC.
d. Provision Storage for final output	Yes	Self-made.
e. Provision for Transportation	Yes	Outsourced
f. Provision of credit	Yes- 76 % No- 24%	All the farmers received subsidies from the Government through FPC. In addition to this following external sources of credit are used. <i>Micro Finance Institution: 58.70%</i> <i>Self Help Group: 4.00%</i> <i>Banks: 13.30%</i>

Source: Compiled by the author.

7.2.2 Trust Among Group Actors in Organic Pineapple Value Chain:

One important governance mechanism is trust, which is the confidence of one party in a two-way relationship. In a governance structure, when trust exists, farmers are willing to make marketing decisions based on the buyer's decision (Sharma et al., 2022). It was found that farmers strongly agreed about the trust with the Farmer Producer Company as compared to other actors like commission agents, government officials, retailers, and wholesalers. Farmer's decisions related to input procurement and production practices are mostly guided by the FPC. The farmers show moderate trust in wholesalers as compared to other chain actors. The details of the mean score of level of trust with standard deviation and verbal interpretation of the mean score are shown in the following table.

Table 99: Showing Farmer's Trust Level with Various Chain Actors.

Actors	N	Min	Max	Mean	Std. Deviation	Verbal Interpretation
Government officials	75	2.00	5.00	3.86	.759	Agree
Commission agents	75	3.00	5.00	3.73	.502	Agree
Retailers	75	3.00	5.00	3.56	.526	Agree
Wholesalers	75	2.00	4.00	3.17	.446	Moderately agree
FPC	75	4.00	5.00	4.58	.495	Strongly agree

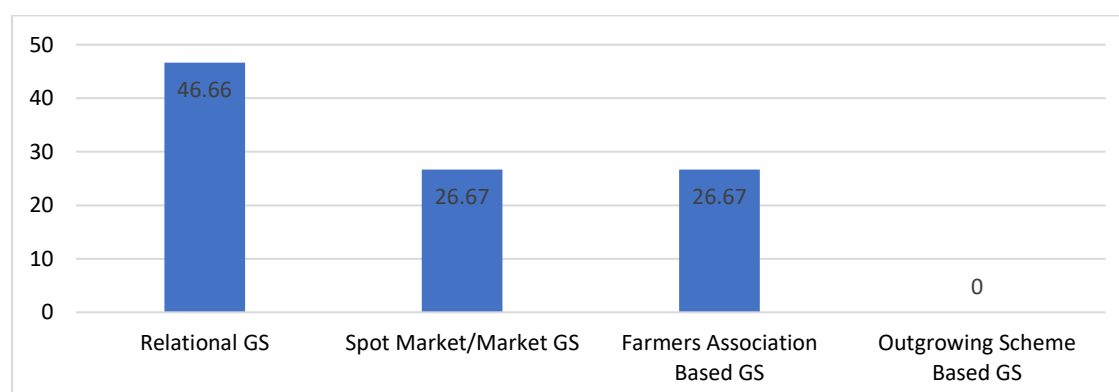
Source: Computed by authors.

7.2.3 Governance Structure Followed by the Farmers in the Organic Pineapple Value Chain

The majority, i.e., 53.33% of the farmers, follow a relational governance structure as the farmers have agreements with wholesalers during the flowering season. In a relational governance structure, there is a mutual dependency between farmers and wholesalers, and it is characterized by a high level of trust and commitment. Wholesalers and farmers agree and follow the agreement before the harvesting season and pay the pre-determined price. Moreover, the information and knowledge sharing in the relational governance structure is dense, and the transaction between buyer and seller is based on past experiences.

Around 26.67% of the farmers choose a spot/ market governance structure and sell the organic pineapple to commission agents and retailers at market price. In the spot market, information and knowledge sharing were not so dense, and actors (farmers, commission agents, retailers) did not necessarily know each other. Both the farmers and commission agents/ retailers agree to pay the market price set by demand-supply forces. Here in the spot market, market price acts as central governance instead of a powerful lead actor (Giovannetti & Marvasi, 2018). Apart from the spot market and relational governance structure, around 26.67% of the farmers follow farmers association-based and outgrowing schemes. Although all the farmers received training, information, knowledge, and inputs from the FPC “Hmar Agro Organic Producer Company Ltd.”, only 26.67% of the farmers sell fresh organic pineapple to the FPC. The FPC explores new market opportunities and sells fresh organic pineapple to distant traders and exports it as per the organic standard. No farmers in the organic pineapple value chain are found to be in outgrowing scheme-based governance as no farmers have any contract with the actors (other than FPC) for financial assistance to buy inputs, in provides training, and monitor performance. The diagrammatic representation of the governance structure followed by the farmers is shown in figure below.

Figure 24: Showing Governance Structure Follows by the Farmer in Organic Pineapple Value Chain.



Source: Compiled by the author.

7.2.4 Rules and Regulations in the Organic Pineapple Value Chain

The rules and regulations in the value chain of organic pineapple is determined by the “Hmar Agro Organic Producer Company Limited”. The farmers have to comply with guideline as per the organic standard in cultivation of organic pineapple. The farmers activities during cultivation and harvesting are recorded in the diary of the farmers and are checked by the official of the FPC regularly. Farmers adhere to the rules and regulations when trade are executed through FPC for export transactions and trade with distant customers. Apart from this, farmers did not follow any rules and regulations with other actors like commission agents, wholesalers and retailers. Farmers prefers spot market transaction with commission agents/ consumers and contract agreement with the wholesalers. The farmers mostly sales the organic pineapple through conventional chain and has very less access to the premium organic market. For spot governance structure, selling price is determined by the farmers while for relational governance structure, selling price is set in advance with wholesalers during the flowering season. The FPC primarily deals in fresh organic pineapple; it does not engage in any operations that add value, and all transactions with exporter and distant traders are completed by written agreement only. The value chain of the organic pineapple is in its initial stage and governance structure in the chain is characterized by more informal rules, verbal contracts and farmers inclination with engagement in spot market transactions.

7.2.5 Selling Price Determination

For spot market, selling price is determined by the demand supply forces and farmers sells the fresh organic pineapple at market price to various actors (commission agents and

consumers). The FPC does not have much control as farmers and actors prefer the conventional chain in spot market transactions. For a relational market, the selling price is determined between farmers and wholesalers during the flowering time of pineapple. Price is based on the experience, transaction, and payment history of the wholesalers and is mostly determined by the farmer. The FPC decides the prices when the trade is executed through the FPC. At present the farmers prefer the conventional chain with the spot market as they receive higher prices as compared to the trade through FPC. The commission agents decide the selling price when the organic pineapple is sold to wholesalers and similarly, wholesalers fix the selling price when they are selling it to retailers. The farmers received the highest price margin in direct sales (sales to consumer) followed by commission agents and wholesalers, indicating strong bargaining power in the hands of the farmer in direct sales/spot market. The FPC has yet to establish the value-adding infrastructure and due to this, conventional chain is preferred by the farmer.

7.2.6. Flow of Information Among Chain Actors in Organic Pineapple Value Chain.

Farmers receive various information related to organic pineapple cultivation, and marketing from extension officers, farmers associations, and the FPC “Hmar Agro Organic Producer Company Limited”. Farmers understand and agree to the free flow of information about organic crop prices received from extension officers, as well as information about market input prices, marketplace information, buyer information, input provider location, organic crop processing, technical training from farmers associations, and the FPC. Farmers receive a moderate flow of various aspects of information like information about the production, organic crops marketing, standards of organic production, grading and delivery of products, packaging, and labeling with the mean score ranging from 2.50 to 3.51. The details of the information type, source of information farmers understand and knowledge level related to various types of information is shown in the following table.

Table 100: Showing Information Types and Farmer's Understanding and Knowledge Level Related to Various Information.

Information Types	Sources of information	Min.	Max.	Mean	Std. Dev.	Verbal Interpretation
Organic crop prices	Extension officers	3	5	4.33	.553	Agree
Market price of inputs	Farmers Association and FPC	3	5	4.14	.425	Agree
Market place information	Farmers Association and FPC	3	5	4.14	.511	Agree
Buyers' information	Farmers Association and FPC	3	5	4.09	.470	Agree
Location of input providers	Farmers Association and FPC	3	5	3.98	.667	Agree
Organic crop processing	Farmers Association and FPC	2	5	3.65	.667	Agree
Technical Training	Farmers Association and FPC	2	5	3.52	.600	Agree
Information about production	Farmers Association and FPC	2	5	3.41	.659	Moderately agree
Organic crops marketing	Farmers Association and FPC	2	5	3.62	.631	Moderately agree
Standard of organic production	Farmers Association and FPC	2	5	3.36	.670	Moderately agree
Grading & delivery of products	Farmers Association and FPC	2	5	3.40	.677	Moderately agree
Packaging and labelling	Farmers Association and FPC	2	4	3.13	.684	Moderately agree

Source: Compiled by the author.

7.3 Governance Structure of the Organic Pumpkin Value Chain.

This section discusses the governance structure of value chain of organic pumpkin value chain in Nalbari district of Assam. Similar to organic pineapple, various parameters to know the the existing governance structure like relationship and linkage, trust among chain actors, nature of governance structure, rules and regulation, determination of selling price and lastly the flow of information are shown in respective sub sections.

7.3.1 Relationship and Linkage.

In the value chain of organic pumpkin, all the actors have some verbal or written agreement among themselves. The FPC provides input, training and ensures better market linkage for organic products. However, the FPC has yet to establish value-adding activities, and farmers prefer the conventional chain and sell the organic pumpkins through commission agents,

wholesalers, and directly to consumers. The FPC also receives special orders from distant states to supply organic pumpkin, and trade is executed through the FPC to distant traders (Orissa, West Bengal, New Delhi, and Nepal) as per organic standards. The FPC uses written and formal agreement is used for trade with the distant trader. Moreover, written agreements are also used to obtain credit from various sources like banks, Micro Finance Institutions, and Self-Help Groups. Like the governance structure of the organic pineapple value chain, verbal agreements and informal rules are most preferred by chain actors like wholesalers, retailers, and commission agents. The farmers also accustomed themselves to informal rules like delays in payment, provision of credit purchases/sales, in the existing pumpkin conventional value chain. The table below displays the specifics of the contract's terms for the farmers with the different actors.

Table 101: Showing Relationship and Linkage of Farmers with Various Actors in Organic Pumpkin Value Chain.

Nature of contract	Yes/No	Contract with
a. Provision for inputs (biofertilizer, biopesticides, vermicompost, etc)	Yes	FPC (Pagladiya Agro Organic Producer Company Ltd.) and Input Seller/ From Market.
b. Technical assistance for upgrading the value chain.	Yes	FPC (Pagladiya Agro Organic Producer Company Ltd.)
c. Processing of organic pumpkin	No	In progress with FPC. (Pagladiya Agro Organic Producer Company Ltd.)
d. Provision Storage for final output	Yes	In progress with FPC (Pagladiya Agro Organic Producer Company Ltd.)
e. Provision for Transportation	Yes	FPC (Pagladiya Agro Organic Producer Company Ltd.)
f. Provision of credit	Yes- 82.70 % No- 17.30%	All the farmers received subsidies from Government through FPC, in addition to this, 82.70% of the farmers obtained credit from external sources. <i>Micro Finance Institution: 46.70%</i> <i>Self Help Group: 24.00%</i> <i>Banks:16.00% : Money lenders: 1.30%</i>

Source: Compiled by the author

7.3.2 Trust Among Group Actors in the Organic Pumpkin Value Chain

Similar to the governance structure of organic pineapple, organic pumpkin farmers strongly agree with and have the highest level of trust in the FPC "Pagladiya Agro Organic Producer Company Limited" with a mean score of "4.66". The FPC is the center of gravity of the governance structure of the value chain and provides all the assistance to its member farmers, starting from providing input to market creation. The farmers show moderate trust in other

chain actors like government officials, commission agents, wholesalers, and retailers. The details of the trust of farmers with various chain actors are shown in the table below.

Table 102: Showing Farmer's Trust Level with Various Chain Actors.

Actors	N	Min	Max	Mean	Std. Deviation	Verbal Interpretation
Government officials	75	3.00	4.00	3.50	.503	Moderately agree
Commission agents	75	2.00	4.00	3.28	.605	Moderately agree
Retailers	75	3.00	5.00	3.45	.527	Moderately agree
Wholesalers	75	2.00	4.00	3.32	.549	Moderately agree
FPC	75	4.00	5.00	4.66	.474	Strongly agree

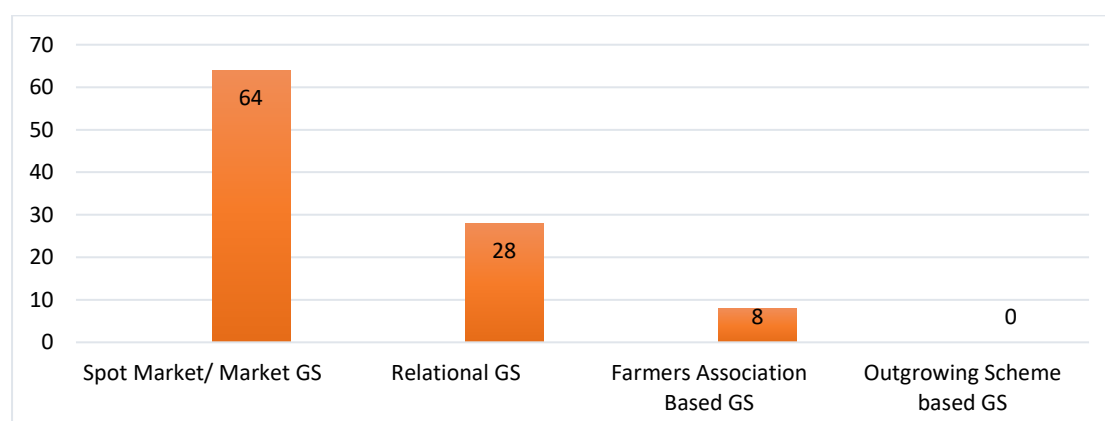
Source:. Compiled by the author.

7.3.3 Governance Structure Followed by the Farmers in the Organic Pumpkin Value Chain

The majority, i.e., 64% of the farmers, prefer a spot/ market governance structure and sell the organic pumpkin directly to consumer and through commission agents. Farmers have an edge of bargaining power in spot market and both the party agrees to pay the market price. The spot market-based governance structure is mostly informal, and farmers sell organic pumpkins in the spot market since FPC has yet to establish the value addition activities. Around 28% of the farmers follow the relational- based governance structure, as the organic pumpkins are directly sold to wholesalers. The wholesalers mostly decide the payment mechanism, quantity and price of the pumpkin and they have edge in the bargaining power as compared to farmers in relational structure.

Around 8% of the farmers choose a farmers' association-based governance structure. Although all the farmers received training, information, knowledge, and inputs from the FPC "Pagladiya Agro Organic Producer Company Ltd.", only 8% of the farmers sell the fresh organic pumpkin to the FPC. The FPC explores new market opportunities and sells fresh organic pumpkins to distant traders in West Bengal, Orissa, and Nepal as per the organic standard. The pictorial representation of the governance structure followed by the farmers is shown in the following figure.

Figure 25: Showing Governance Structure Follows by the Farmer in Organic Pumpkin Value Chain.



Source: Compiled by the author.

7.3.4 Rules and Regulations in the Organic Pumpkin Value Chain

All the farmers adhere to rules and regulation of organic farming and standard and the same is determined by the “Pagladiya Agro Organic Producer Company Ltd.” Similar to organic pineapple, farmers maintain and record the activities of organic practises in diary and the official of the FPC checks the same. Farmers prefer spot market structures, and transactions between actors such as farmers, commission agents, wholesalers, and retailers are governed by informal rules. The FPC has not yet established its processing unit, and on special orders from distant traders, it supplies fresh organic pumpkin in accordance with organic standards. The FPC sets the rules as per official legal standards which are strictly abide by its member farmers. In line with the governance structure of the organic pineapple, the value chain of the organic pumpkin is in its initial stage, and the governance structure in the chain is characterized by more informal rules, verbal contracts, and farmers inclination towards spot market transactions as FPC is yet to establish market linkage for organic products.

7.3.5 Selling Price Determination

FPC executes the trade with distant traders (outside state) are executed by FPC in accordance with the formal rules and selling price of the same is determined by both the parties. The FPC has more bargaining power and tries to obtain premium prices for its fresh organic pumpkin. For the spot market, the selling price is determined by the demand-supply forces, and FPC does not have much control as farmers and actors prefer the conventional chain in spot market transactions. For a relational market, the selling price is determined between farmers

and wholesalers, and the price is influenced by the quantity and market price. The farmers have an edge in the bargaining power in spot and relational markets.

7.3.6. Flow of Information Among Chain Actors in Organic Pumpkin Value Chain.

Information related to crop prices, marketplace, the market price of inputs, buyer's information, processing norms, training, etc, is received by farmers from various sources like extension officers, traders (wholesalers and retailers), farmers associations, and FPC. Farmers agree on free flow of information and show a greater understanding of various aspects of information related to organic crop prices, the market price of inputs, market place information, buyers' information, and location of input providers, with the mean score ranging from "3.51" to "4.50". Farmers moderately agree on the understanding and knowledge level of information received from extension officers and FPC related to organic crop processing, training, production, marketing, organic standards, grading, packaging, and labeling. The details of the various aspects and sources of information with farmers awareness regarding the flow of information are shown in the table below.

Table 103: Showing Information Types, Sources of Information and Farmers Knowledge Level Related to Various Information.

Information Types	Sources of information	Min	Max.	Mean	Std. Dev.	Verbal Interp.
Organic crop prices	Farmers Association & Extension Officers	3.00	5.00	4.03	.293	Agree
Market price of inputs	Farmers Association, Extension Officers and Traders	3.00	5.00	4.02	.339	Agree
Market place information	Farmers Association & Traders	3.00	5.00	3.98	.208	Agree
Buyer's information	Farmers Association & Traders	3.00	5.00	3.91	.370	Agree
Location of input providers	Farmers Association & Extension Officers	2.00	4.00	3.70	.491	Agree
Organic crop processing	Farmers Association & Extension officers	2.00	4.00	3.30	.729	M. agree
Technical Training	Extension officers & FPC	1.00	4.00	3.28	.870	M. agree
Information about production	Extension officers & FPC	1.00	4.00	3.24	.769	M. agree
Organic crops marketing	Extension officers & FPC	1.00	4.00	3.22	.783	M. agree
Standard of organic production	Extension officers & FPC	1.00	4.00	3.15	.845	M. agree
Grading & delivery of products	Extension officers & FPC	1.00	4.00	3.03	.908	M. agree
Packaging and labeling	Extension officers & FPC	1.00	4.00	2.95	.875	M. agree

Source: Compiled by the author. (Note: M. agree means Moderately agree).

7.4 Governance Structure of the Organic Non-Basmati Rice Value Chain.

This section discusses the governance structure of value chain of organic non-basmati rice of Sonitpur district of Assam. Similar to the parameters considered in previous section, the details of various parameters to study the governance structure are shown in respective sub sections.

7.4.1 Relationship and Linkage in Organic Non-Basmati Rice Value Chain

The FPC “Puthimari Agro Organic Producer Company Limited” is confined only to providing training and supplying inputs to organic farmers. All the farmers in the chain have verbal agreements with chain actors like commission agents, rice millers, etc. All the farmers choose the conventional chain as the FPC is not involved in any value-adding and marketing activities. Written agreements are only used to obtain credit from farmers from various sources like banks and Micro Finance Institutions. Farmers also sell the organic non-basmati paddy Food Corporation of India for paddy prices. However, across the entire chain, organic non-basmati paddy is mixed with conventional chain, and farmers do not benefit from the organic products. Other actors like commission agents, rice millers, rice wholesalers, and rice retailers have mutual verbal agreements and follow informal rules that exist in the chain. The informal rules include the provision of credit purchase/ sell, provision of delay in payment, and social agreements. The FPC does not operate as a center of gravity in the governance structure of organic non-basmati rice because the FPC does not provide any market linkage, and farmers must sell their organic produce through the conventional chain. The table below displays the specifics of the contract's terms for the farmers with the different actors.

Table 104: Showing Relationship and Linkage of Farmers with Various Actors in the Organic Non-Basmati Rice Value Chain

Nature of contract	Yes/No	Contract with
a. Provision for inputs (biofertilizer, biopesticides, vermicompost etc).	Yes	FPC (Puthimari Agro Organic Producer Company Ltd.).
b. Technical assistance for upgrading value chain.	Yes	None.
c. Processing of organic products	No	None.
d. Provision Storage for final output	Yes	Self-made.
e. Provision for Transportation	Yes	Outsourced.
f. Provision of credit	Yes- 60 % No- 40%	All the farmers received subsidies from the Government through FPC, in addition, 60% of the farmers obtained credit from external sources. <i>Micro Finance Institution: 64.40% Banks: 35.60%.</i>

Source: Compiled by the author.

7.4.2 Trust Among Group Actors in Organic Non-Basmati Value Chain

The survey found that the trust level of farmers with other chain actors in the organic non-basmati rice value chain is low compared to the organic pineapple and pumpkin value chain. The value chain of organic non-basmati rice is the same as the conventional chain, and farmers slightly agree with the level of trust with respect to Government officials, commission agents, retailers, wholesalers, and FPC. The details of the mean score with verbal interpretation of level of trust and standard deviation are shown in the below table.

Table 105: Showing Farmer's Trust Level with Various Chain Actors.

Actors	N	Min	Max	Mean	Std. Deviation	Verbal Interpretation
Government officials	75	1.00	5.00	2.45	.642	Slightly agree
Commission agents	75	1.00	4.00	2.24	.611	Slightly agree
Retailers	75	3.00	5.00	2.30	.636	Slightly agree
Wholesalers	75	1.00	3.00	2.08	.513	Slightly agree
FPC	75	2.00	4.00	2.41	.659	Slightly agree

Source:.Compiled by the author.

7.4.3 Governance Structure Followed by the Farmers in the Organic Non-Basmati Value Chain

All the farmers in the organic non-basmati rice value chain opted for the conventional value chain as no other option was available to sell their paddy. Spot market governance structure is followed by all farmers and demand supply forces set market price. No farmers are found to use relational-based, farmer association, and outgrowing scheme-based as the market linkage through FPC is not yet made. The farmers sell the organic paddy through commission agents, directly to rice millers, and to the Food Corporation of India. All the channels are governed by informal rules and verbal agreements. The market price acted as central governance, however, the actors (commission agents, rice millers, FCI) have the edge on bargaining power as compared to farmers and FPC.

7.4.4 Rules and Regulations in the Organic Non-Basmati Rice Value Chain

All the actors in the organic non-basmati rice value chain follow informal rules and have a verbal agreement. The farmers comply with the rules and regulations related to organic cultivation and harvesting framed by the FPC "Puthimari Agro Organic Producer Company Ltd. The farmer's activities during cultivation and harvesting are recorded in the farmer's diary and are checked by the official of the FPC regularly. As no separate value chain for organic non-basmati rice is maintained, and governance structure in the present conventional

chain is characterized by informal rules, verbal contracts and inclination towards spot market transactions.

7.4.5 Selling Price Determination

Market price determined by demand-supply forces is the basis of fixation of selling price for non- basmati organic paddy/ rice. The farmers received a lower margin for trade with commission agents compared to the direct sales of paddy to the rice millers. Farmers also sell paddy to the Food Corporation of India for better prices at predetermined prices set by FCI. The bargaining power in selling price is mostly influenced by strong actors like rice millers and wholesalers.

7.4.6. Flow of Information Among Chain Actors in Organic Non-Basmati Value Chain.

Farmers received information about various aspects of organic farming and marketing of organic output mainly from extension officers and FPC. Farmers received various aspects of information like organic crop prices, the market price of inputs, marketplace information, buyer's information, and location of input providers from extension officers and agreed to understand the same with a mean score ranging from "3.51 to 4.50". Farmers show moderate understanding of information related to organic crop processing, marketing and technical training with mean score ranges from "2.51 to 3.50". Apart from the above-mentioned information, farmers slightly agree in the understanding of information about the production, organic crops marketing, the standard of organic production, grading and delivery of products and packaging and labelling received from FPC. The details of information types and farmer's understanding level of various information among the farmers of organic non-basmati paddy are shown in the following table.

Table 106: Showing Information Types, Sources of Information and Farmers Knowledge Level Related to Various Information in Organic Non-Basmati Rice Value Chain.

Information Types	Sources of information	Min	Max.	Mean	Std. deviation	Verbal interpretation
Organic crop prices	Extension officers	3	5	4.11	.352	Agree
Market price of inputs	Extension office	3	5	4.16	.050	Agree
Market place information	Extension officers	3	5	4.41	.547	Agree
Buyers' information	Extension officers	3	5	4.20	.545	Agree
Location of input providers	Extension officers	3	5	3.81	.537	Agree
Organic crop processing	FPC	2	5	3.20	.569	Moderately agree
Organic crops marketing	FPC	2	4	2.93	.445	Moderately agree
Technical Training	FPC	1	4	2.72	.558	Moderately agree
Information about production	FPC	1	4	2.41	.594	Slightly agree
Standard of organic production	FPC	1	4	2.05	.820	Slightly agree
Grading & delivery of products	FPC	1	4	2.20	.716	Slightly agree
Packaging and labeling	FPC	1	3	2.02	.716	Slightly agree

Source: Compiled by the author.

7.5 Governance Structure of the Organic Red Rice Value Chain.

This section discusses the governance structure of value chain of organic red rice of Dhemaji district of Assam. Similar to the parameters considered in previous section, the details of various parameters to study the governance structure are shown in respective sub sections.

7.5.1 Relationship and Linkage in Organic Red Rice Value Chain

The value chain of the organic red rice is more structured as all the member farmers sell organic paddy to the FPC “Dol Agro Organic Producer Company Ltd.”. The organic red paddy is processed by FPC and sold by organic standards. All the farmers in the chain have written agreements with FPC for inputs, technical training, processing of organic products, storage, and transportation. Written agreements are also used to obtain credit by farmers from various sources like banks, Micro Finance Institutions, and Self-Help Groups. The FPC is the

center of gravity of the governance structure of the value chain, and all the member farmers follow formal guidelines in the form of official legal standards.

The table below displays the specifics of the contract's terms for the farmers with the different actors.

Table 107: Showing Relationship and Linkage of Farmers with Various Actors in the Organic Red Rice Value Chain.

Nature of contract	Yes/No	Contract with
a. Provision for inputs (biofertilizer, biopesticides, vermicompost etc)	Yes	FPC (Dol Agro Organic Producer Company Ltd.)
b. Technical assistance for upgrading value chain.	Yes	FPC (Dol Agro Organic Producer Company Ltd.)
c. Processing of organic products	Yes	FPC (Dol Agro Organic Producer Company Ltd.)
d. Provision Storage for final output	Yes	FPC (Dol Agro Organic Producer Company Ltd.)
e. Provision for Transportation	Yes	FPC (Dol Agro Organic Producer Company Ltd.)
f. Provision of credit	Yes- 58.70 % No- 41.30%	All the farmers received subsidies from the Government through FPC, in addition to this, 58.70% of the farmers obtained credit from external sources. <i>Micro Finance Institution: 43.18%</i> <i>Self-Help Group: 4.54%</i> <i>Banks: 59.09%</i>

Source: Compiled by the author.

7.5.2 Trust Among Group Actors in Organic Red Rice Value Chain

From the study, it was found that farmers strongly agree with the trust level with FPC and always obey the decisions and guidelines of FPC. Apart from FPC, farmers also agree and have adequate trust with Government officials, group leaders of the Farmer Interest Group, and among group members. The details of the mean score of level of trust with verbal interpretation and standard deviation are shown in the table below.

Table 108: Showing Farmer's Trust Level with Various Chain Actors Inorganic Red Rice Value Chain.

Actors	N	Min.	Max.	Mean	Std. Deviation	Verbal Interpretation
Government officials	75	3.00	5.00	3.88	.492	Agree
Group leaders of FIG	75	3.00	5.00	4.41	.571	Agree
Group members	75	3.00	5.00	4.25	.659	Agree
FPC	75	4.00	5.00	4.82	.415	Strongly agree

Source: Compiled by the author.

7.5.3 Governance Structure Followed by the Farmers in the Organic Red Rice Value Chain

All the farmers in the organic red rice value chain follow a farmers' association-based governance structure where the farmers adhere to the rules and regulations set by the FPC. The FPC provides inputs for organic cultivation of red rice, financial assistance, technical training to its member farmers. All the farmers sell their paddy to FPC at a price above the market price. The FPC acts as center of gravity of the governance structure as it provides forward and backward market linkage.

7.5.4 Rules and Regulations in the Organic Red Rice Value Chain

The rules and regulations in the value chain of organic red rice are determined by the “Dol Agro Organic Producer Company Limited”. The farmers have to comply with guidelines as per the NPOP guidelines in the cultivation and processing of organic red paddy. The farmers activities during cultivation and harvesting are recorded in the diary of the farmers and are checked by the official of the FPC regularly. The FPC sells the output in two ways, i.e., supplies organic red paddy to distant traders in Haryana and supplies organic red rice with proper packaging and labeling to traders in Hyderabad. In both cases, FPC maintains written agreement and adheres to the rules and regulations.

7.5.5 Selling Price Determination

Farmer's sales of organic red paddy to the FPC and the price is set by the FPC, which is slightly above the market price. For selling the finished product, FPC set the selling prices by considering the growing demand for organic red rice. The bargaining power to fix the selling price is controlled by the FPC.

7.5.6. Flow of Information Among Chain Actors in Organic Red Rice Value Chain.

Farmers received various aspects of information on organic farming from the FPC “Dol Agro Organic Producer Company Limited” and extension officers. Farmers agree to understand various aspects of information, and a strong flow of information is found related to organic crop prices, market price of inputs, marketplace information, buyers' information, input providers, and technical training received mostly from FPC. Farmers moderately agree with the understanding of various aspects of the information related to marketing, production,

processing, and standards of organic crops with the mean score ranging from “2.51” to “3.50”. Farmers slightly agree with the understanding and have a weak flow of information related to the grading, packaging, and labeling aspects of the organic red rice value chain. The details of the source and flow of information for various aspects of organic farming are shown in the below table.

Table 109: Showing Information Types, Sources of Information, and Farmer's Knowledge Level Related to Various Information in Organic Red Rice Value Chain.

Information Types	Sources of information	Min	Max.	Mean	Std. Dev.	Verbal Interpretation
Organic crop prices	FPC	3	5	4.05	.364	Agree
Market price of inputs	Extension Officers	3	5	4.09	.497	Agree
Market place information	FPC	3	5	4.29	.513	Agree
Buyers' information	FPC	3	5	4.18	.511	Agree
Location of input providers	FPC	3	5	3.94	.431	Agree
Technical training	FPC	3	4	3.54	.501	Agree
Organic crops marketing	FPC	2	4	3.37	.539	Moderately agree
Information about production	FPC	2	4	3.30	.492	Moderately agree
Organic crop processing	FPC	2	5	3.29	.564	Moderately agree
Standard of organic production	FPC	2	4	2.86	.474	Moderately agree
Grading & delivery of products	FPC	1	4	2.42	.700	Slightly agree
Packaging and labelling	FPC	1	3	2.10	.689	Slightly agree

Source: Compiled by the author.

7.6 Governance Structure of the Organic Turmeric Value Chain.

This section discusses the governance structure of value chain of organic turmeric of Golaghat district of Assam. Similar to the parameters considered in previous section, the details of various parameters to study the governance structure are shown in respective sub sections.

7.6.1 Relationship and Linkage in Organic Turmeric Value Chain

Similar to the relationship and linkage in the organic red rice value chain, the value chain of the organic turmeric is structured as all the member farmers sell organic fresh turmeric to the FPC “Padumpathar Agro Organic Producer Company Ltd.”. The FPC sells organic turmeric

in three forms, which are as raw organic turmeric as seedlings, dry organic turmeric fingers, and organic turmeric powder. For all three channels, FPC has written agreements with respective actors. Moreover, all the farmers in the chain have written agreements with FPC for inputs, technical training, processing of organic products, storage, and transportation. Apart from this, written agreements are also used to obtain credit by farmers from various sources like banks, Micro Finance Institutions, and Self-Help Groups. The FPC “Padumpathar Agro Organic Producer Company Ltd” is the center of gravity of the governance structure of the value chain as all the member farmers and actors follow formal guidelines in the form of official legal standards.

The table below displays the specifics of the contract's terms for the farmers with the different actors.

Table 110: Showing Relationship and Linkage of Farmers with Various Actors in Organic Turmeric Value Chain

Nature of contract	Yes/No	Contract with
a. Provision for inputs (biofertilizer, biopesticides, vermicompost etc)	Yes	FPC (Padumpathar Agro Organic Producer Company Ltd.)
b. Technical assistance for upgrading value chain.	Yes	FPC (Padumpathar Agro Organic Producer Company Ltd.)
c. Processing of organic products	Yes	FPC (Padumpathar Agro Organic Producer Company Ltd.)
d. Provision Storage for final output	Yes	FPC (Padumpathar Agro Organic Producer Company Ltd.)
e. Provision for Transportation	Yes	FPC (Padumpathar Agro Organic Producer Company Ltd.)
f. Provision of credit	Yes- 81.30% No- 18.70%	All the farmers received subsidies from Government through FPC, in addition to this, 81.30% of the farmers obtained credit from external sources. <i>Micro Finance Institution: 18.03%</i> <i>Self Help Group: 9.83%</i> <i>Banks: 72.13 %</i>

Source:Compiled by the Author.

7.6.2 Trust Among Group Actors in Organic Turmeric Value Chain

According to the findings of the survey, farmers have a high level of faith in the FPC and always follow its decisions and directions. Apart from FPC, farmers agree and have appropriate faith in government officials, Farmer Interest Group leaders, and group members, with the mean score ranging from “3.51” to “4.50”. The table below shows the mean score for the level of trust with verbal interpretation, as well as the standard deviation.

Table 111: Showing Farmer's Trust Level with Various Chain Actors in Organic Turmeric Value Chain

Actors	N	Min.	Max.	Mean	Std. Deviation	Verbal Interpretation
Government officials	75	3.00	5.00	3.70	.486	Agree
Group leaders of FIG	75	3.00	5.00	3.92	.394	Agree
Group members	75	3.00	5.00	3.73	.622	Agree
FPC	75	4.00	5.00	4.88	.327	Strongly agree

Source: Compiled by the author.

7.6.3 Governance Structure Followed by the Farmers in the Organic Turmeric Value Chain.

Similar to the governance structure of organic red rice, all the farmers in the organic turmeric value chain follow a farmer's association-based governance structure where the farmers adhere to the rules and regulations set by the FPC. The FPC acts as the center of gravity of the governance structure by providing forward and backward market linkage. The FPC provides inputs for the organic cultivation of turmeric, financial assistance, and technical training to its member farmers.

7.6.4 Rules and Regulations in the Organic Turmeric Value Chain.

The "Padumpathar Agro Organic Producer Company Limited" sets the guidelines and policies for the organic turmeric value chain. The farmer must follow the NPOP requirements to cultivate and process organic turmeric. The farmers document their cultivation and harvesting activities, which are periodically inspected by an FPC official. Currently, the FPC sells its produce in three ways: organic turmeric seedlings, organic dry turmeric fingers, and turmeric powder. FPC maintains written agreement in all the cases.

7.6.5 Selling Price Determination

Farmers sell organic raw turmeric to the FPC, and the price is fixed by the FPC which is somewhat above the market price. FPC determines selling prices and controls the bargaining power for organic turmeric seedlings and organic dry turmeric fingers. However, for organic turmeric powder, the customer determines the selling price and controls the bargaining power.

7.6.6. Flow of Information Among Chain Actors in Organic Turmeric Value Chain.

All the Farmers received various aspects of information related to the production and processing of organic turmeric from the FPC “Padumpathar Agro Organic Producer Company Limited”. Farmers strongly agree and ensure a strong flow and understanding of the information received from FPC on technical training and standard of organic production with the mean score of “4.77” and “4.65” respectively. Apart from these two, the mean score of other aspects of information was found to range from “3.51” to “4.50” and farmers agree to the understanding and have adequate knowledge of the same. The details of the source and flow of information for various aspects of organic turmeric production and processing activities are shown in the following table.

Table 112: Showing Information Types, Sources of Information, and Farmers Knowledge Level Related to Various Information in the Organic Turmeric Value Chain.

Information Types	Sources of information	Min	Max.	Mean	Std. Dev.	Verbal Interpretation
Technical Training	FPC	3	5	4.77	.452	Strongly agree
Standard of organic production	FPC	3	5	4.65	.532	Strongly agree
Packaging and labelling	FPC	3	5	4.44	1.04	Agree
Organic crop prices	FPC	3	5	4.39	.590	Agree
Grading & delivery of products	FPC	3	5	4.30	.837	Agree
Location of input providers	FPC	3	5	4.26	.776	Agree
Market place information	FPC	3	5	4.24	.785	Agree
Market price of inputs	FPC	3	5	4.14	.710	Agree
Information about production	FPC	3	5	4.14	.849	Agree
Organic crop processing	FPC	3	5	4.13	.827	Agree
Organic crops marketing	FPC	3	5	4.09	.774	Agree

Source: Compiled by the author.

7.7 Chapter Summary

This chapter discusses the governance structure of the value chain of five selected organic crops considered for the study i.e., organic pineapple, organic pumpkin, organic non-basmati rice, organic red rice, and organic turmeric. Various aspects of the governance structure like relationship, linkage, nature of the contract, trust, selling price determination, and information flow are discussed. The actors, particularly farmers follow both formal rules set up by FPC and informal rules that exist in the chain. Similarly, formal contracts and contracts contract

based on mutual trust are prioritized as relationships based on trust are very important. From the study, it was found that farmers have strong trust in the Farmer Producer Company as compared to other actors like commission agents, government officials, retailers, and wholesalers. However, for organic non-basmati rice, the farmer's trust level in the FPC “Puthimari Agro Organic Producer Company Ltd” is found to be very low as compared to others. This is due to the non-involvement of the FPC in market linkage activities and could not provide the farmers a platform to sell their organic products. For the organic products (organic pineapple, organic pumpkin, and organic non-basmati rice), where trade is mostly done through a conventional chain, it was found that farmers prefer spot market transactions. The governance structure of organic red rice and organic turmeric is more formal, farmers here opted for a farmers association-based governance structure which is more structured as compared to the other three. The farmers for these two crops (organic turmeric and organic red rice) have agreements with FPC related to various aspects like provision for inputs, technical assistance, processing, storage, and transportation. The FPC has more power in the chain as it initiates the development of the chain. The next chapter which is chapter eight will discuss objective five which is a comparative analysis of government and non-government-sponsored organic firms.