

# Farmer-trader relationships in the Indonesian chilli markets: the role of relationship quality in modern and traditional supply chains



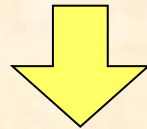
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# Background

- Transformation in Indonesia's food retail sector
- Reorganizing how food chains operate
  - ✓ Product homogeneity
  - ✓ New standards and grading
  - ✓ Consistency in supply



Changes market conditions facing small farmers

- ❖ Opportunities vs challenges

# Background

- Current literature:

Improving relationship quality among food chain actors enhances efficiency

- Coordinate supply and demand in the markets

→reduce transaction costs:

increase opportunity of small farmers to compete in markets

# Background

This study focuses on chilli farmers:

1. A priority crop → essential ingredient in the Indonesian daily diet
2. Produced by >400,000 small scale producers
3. Important cash flow income for small scale producers
4. Farmer-trader issues
  - weak bargaining position of farmers
  - limited commitment of farmers to provide consistent supply
  - payment delays

# The motivation of research

- An extensive literature focuses on the implications of modern markets  
→ without considering the level of RQ farmers-traders
- A lot of studies have been conducted to measure determinant factors in buyer-trader relationships  
→ limited study on farmer-trader relationships segmentation

# Objective

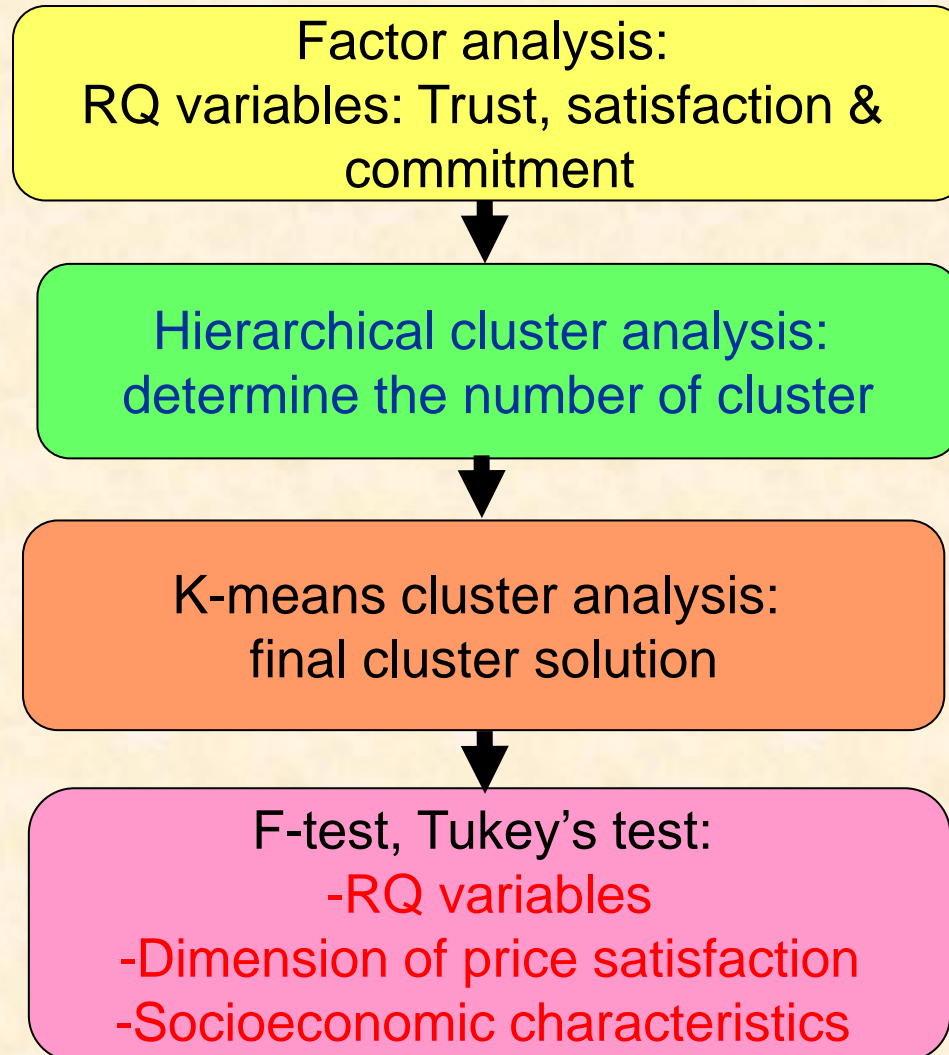
- to understand how chilli farmers differ in their perceptions of relationship quality with their buyers

# Methods

Data	A chilli grower survey in March- April 2010 by International Food Policy Research Institute (IFPRI), The University of Adelaide and The Indonesian Centre for Agriculture Socio Economic and Policy Studies (ICASEPS)
Respondent	409: Traditional market channels 113: Supermarket channels → Total 602 respondents → After cleaning process: 599 respondents
Questionnaire	The-18 pages structured questionnaire To rate the level of relationship variables: Likert scale (1=strongly disagree - 5=strongly agree)
Location	3 districts: Garut, Tasikmalaya & Ciamis West Java province, Indonesia.



# Methods: Factor & Cluster Analysis

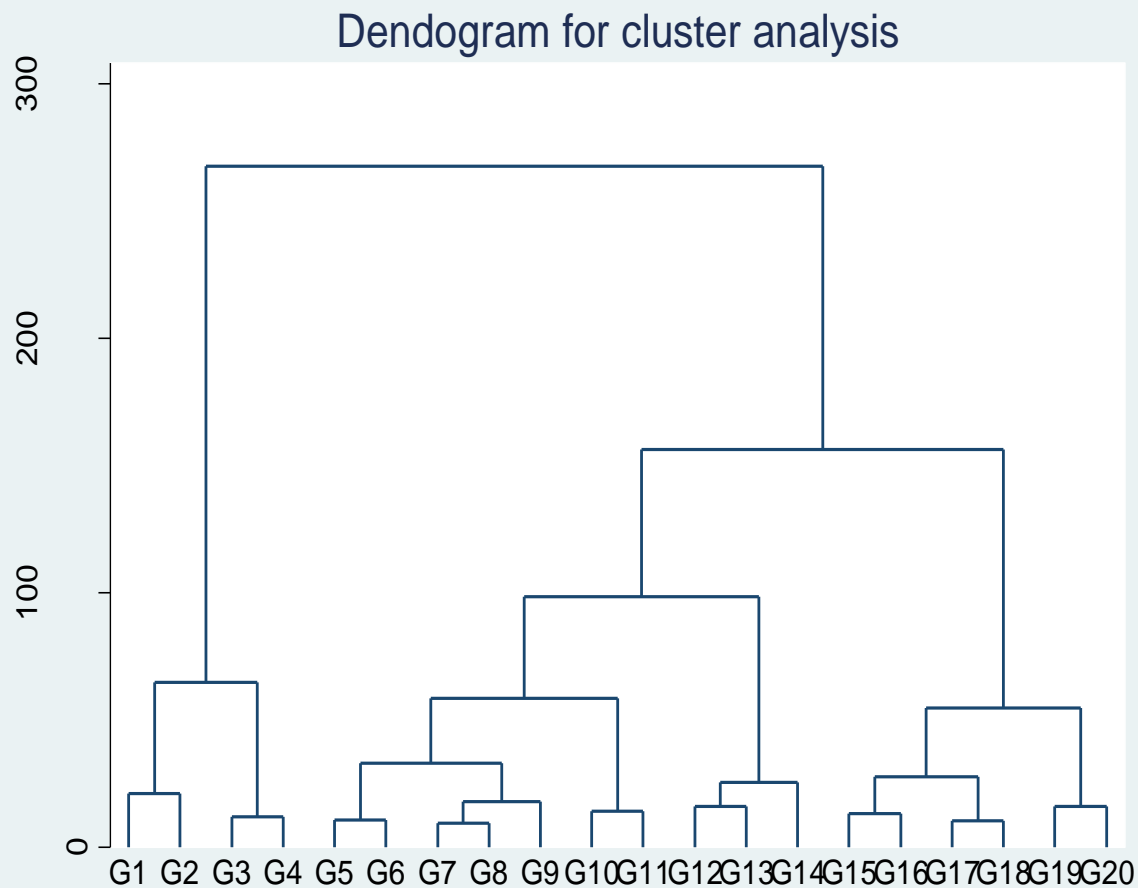


Source: Gloy, et al (1999)  
and Gyau, et al (2009)

# Results: Factor analysis

	Factor Loading
<b>Commitment (1=Strongly disagree, 5=Strongly agree)</b>	
I would not sell to other buyers because I like being associated with my buyer.	0.72
Our relationship is something that we are very committed to.	0.82
I care about the long-term success of the relationship with my buyer.	0.82
Cronbach Alpha: 0.70	
<b>Trust (1=Strongly disagree, 5=Strongly agree)</b>	
My buyer always keeps his promises.	0.90
I receive payment on time.	0.90
I believe the technical and market information provided by my buyer .	
Cronbach Alpha: 0.76	
<b>Satisfaction (1=Strongly disagree, 5=Strongly agree)</b>	
The buyer offers me satisfactory prices for my chillies.	0.71
Based on the price my buyer offers me, I will not change buyers.	0.70
My buyer cares about my welfare (e.g. he will buy any volume I have).	0.67
My buyer is quick to handle my complaints.	0.72
Cronbach Alpha: 0.65	

# Hierarchical cluster analysis: number of cluster



Number of clusters	Calinski/Harabasz pseudo-F
2	270.05
3	259.68
<b>4</b>	<b>319.04</b>
5	278.91
6	259.26
7	309.35
8	292.80
9	291.72
10	306.97
11	286.02
12	277.52
13	284.18
14	289.61
15	279.58

## Mean of each statements on clustering variables (1=strongly disagree-5=strongly agree)

	Cluster 1 n=84/ 14%	Cluster 2 n=69/ 12%	Cluster 3 n=272/ 45%	Cluster 4 n=174/ 29%	F-Stat
<b>Commitment</b>					
I would not sell to other buyers because I like being associated with my buyer.	2.45 <sup>a</sup>	3.09 <sup>b</sup>	4.03 <sup>c</sup>	3.28 <sup>b</sup>	112.03*
Our relationship is something that we are very committed to.	2.79 <sup>a</sup>	3.72 <sup>b</sup>	4.08 <sup>c</sup>	3.88 <sup>b</sup>	131.79*
I care about the long-term success of the relationship with my buyer.	2.48 <sup>a</sup>	3.45 <sup>b</sup>	4.13 <sup>c</sup>	3.50 <sup>b</sup>	162.02*
<b>Trust</b>					
My buyer always keeps his promises.	3.88 <sup>a</sup>	2.57 <sup>b</sup>	4.15 <sup>c</sup>	3.98 <sup>a</sup>	250.82*
I receive payment on time.	3.88 <sup>a</sup>	2.41 <sup>b</sup>	4.07 <sup>c</sup>	4.01 <sup>ac</sup>	252.08*
<b>Satisfaction</b>					
The buyer offers me satisfactory prices for my chilies.	2.90 <sup>a</sup>	3.12 <sup>b</sup>	4.06 <sup>c</sup>	3.61 <sup>d</sup>	93.06*
Based on the price my buyer offers me, I will not change buyers.	2.09 <sup>a</sup>	2.88 <sup>b</sup>	3.96 <sup>c</sup>	2.87 <sup>b</sup>	197.22*
My buyer cares about my welfare (e.g. he will buy any volume I have).	2.81 <sup>a</sup>	3.58 <sup>b</sup>	4.12 <sup>c</sup>	3.58 <sup>b</sup>	84.85*
My buyer is quick to handle my complaints.	2.71 <sup>a</sup>	2.93 <sup>a</sup>	3.96 <sup>b</sup>	3.29 <sup>c</sup>	102.35*

\* significance at the 5%

## Mean of price satisfaction dimensions (1=Strongly disagree - 5=Strongly agree)

	Cluster				F-Stat
	1	2	3	4	
	n=84/ 14%	n=69/ 12%	n=272/ 45%	n=174/ 29%	
<b>Relative price</b>					
In comparison to other buyers, I am satisfied with the price my buyer offers.	3.40 <sup>a</sup>	3.22 <sup>a</sup>	4.02 <sup>b</sup>	3.70 <sup>c</sup>	33.13*
The prices I received from my buyer are similar to the prices other farmers.	3.57 <sup>a</sup>	3.39 <sup>a</sup>	3.84 <sup>b</sup>	3.52 <sup>a</sup>	10.26*
<b>Price transparency</b>					
Price information from my buyer is understandable and comprehensive.	3.45 <sup>ac</sup>	3.28 <sup>a</sup>	3.94 <sup>b</sup>	3.63 <sup>c</sup>	21.73*
The chili price information from my buyer is complete and correct.	3.25 <sup>a</sup>	2.87 <sup>b</sup>	3.63 <sup>c</sup>	3.33 <sup>ac</sup>	15.15*
<b>Price quality ratio</b>					
I receive a good price-quality ratio.	3.47 <sup>a</sup>	3.64 <sup>ac</sup>	3.98 <sup>b</sup>	3.83 <sup>bc</sup>	18.22*
I know that the price I received depend on the quality of my chilies.	3.02 <sup>a</sup>	3.41 <sup>b</sup>	3.61 <sup>b</sup>	3.30 <sup>ab</sup>	9.22*
<b>Price fairness</b>					
The chili prices I receive are fair.	3.20 <sup>a</sup>	3.22 <sup>a</sup>	3.96 <sup>b</sup>	3.65 <sup>c</sup>	37.15*
Regarding to the price I receive, my buyer seems does not take advantage on me .	3.55 <sup>a</sup>	3.61 <sup>a</sup>	3.99 <sup>b</sup>	3.71 <sup>a</sup>	18.68*
<b>Price reliability</b>					
The buyer always communicates properly if the price changes.	3.18 <sup>a</sup>	3.43 <sup>b</sup>	4.06 <sup>c</sup>	3.75 <sup>d</sup>	36.77*

\* significance at the 5%

## Mean of socioeconomic characteristics

	Cluster				F-Stat/ Chi2 test
	1	2	3	4	
	n=84/ 14%	n=69/ 12%	n=272/ 45%	n=174/ 29%	
Age of respondent (Years)					
HH member (person/s)					
Education (years)					
Productive labor (HH member 15-65 years)					
Mobile phone (unit)					
Motor bike (unit)					
Dry season I (ha)					
Dry season II (ha)					
Rainy season (ha)					
Chilli area (ha)					
Net chilli income (million IDR)	4.35 <sup>a</sup>	5.67 <sup>ab</sup>	9.11 <sup>b</sup>	7.37 <sup>ab</sup>	2.56 <sup>**</sup>
Experience (years)	10.57 <sup>a</sup>	9.07 <sup>ab</sup>	8.22 <sup>b</sup>	9.07 <sup>ab</sup>	3.35 <sup>*</sup>
Distance (km)	6.15 <sup>a</sup>	9.06 <sup>b</sup>	5.23 <sup>c</sup>	5.75 <sup>ac</sup>	10.75 <sup>*</sup>
Sort into different groups by size (% Yes)	6	15	20	9	14.64 <sup>*</sup>
Sort into different color (% Yes)	12	35	28	13	24.27 <sup>*</sup>
Supermarket channel (%)	2	23	25	16	23.09 <sup>*</sup>

# Conclusions and implications

- Cluster 1:
  - A low level of satisfaction & commitment
  - A moderate level of price satisfaction dimensions
  - The most experience in chilli production
  - Much less interested in sorting values
- Cluster 2:
  - Low levels of trust, satisfaction and price transparency
  - More interested in sorting activities

# Conclusions and implications

- Cluster 3:
  - High levels of relationship quality variables
  - Relatively moderate perceptions of price transparency & price quality ratio
  - The least experience in chilli production
  - The highest net chilli income
- Cluster 4:
  - High levels of trust
  - Moderate levels of commitment, satisfaction & price satisfaction dimensions
  - Much less interested in sorting activities

# Conclusions and implications

Cluster 1	<ul style="list-style-type: none"><li>-Improve the level of satisfaction: price transparency and communicate current market prices</li><li>-Encourage farmers to sort and grade</li><li>-Offer quick responses in handling farmers' complaints</li></ul>
Cluster 2	<ul style="list-style-type: none"><li>-Improve the level of trust: provide timely payment &amp; follow through with their promises</li><li>-Provide correct price information</li><li>-Offer quick responses in handling farmers' complaints</li></ul>
Cluster 3	<ul style="list-style-type: none"><li>-Maintain the relationship</li><li>-Provide more accurate price information</li><li>-Offer prices based on chilli quality</li></ul>
Cluster 4	<ul style="list-style-type: none"><li>-Encourage farmers to sort and grade</li><li>-Provide price transparency</li></ul>

# Future research

- Consider the factors influence RQ
- The perception of RQ from traders

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