MARKET PERFORMANCE OF RED CHILI THROUGH SPOT AUCTION SYSTEM IN YOGYAKARTA PROVINCE

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Abstract

Red chili is one of horticulture commodity which has high economic value. The main problem of red chili marketing is the long of distribution channel that caused different of selling price between farmer and trader. In order to minimize that problem, its need spot auction system at farmer level. This distribution system is important to give best alternative in order increase red chili farmer income. Through this analysis, red chili's farmer gets opportunity to decrease long channel distribution and increase selling price. This research results show that marketing margin at spot auction market is more efficient, through monopoly index analysis show that how big dominances of marketing institute in red chili marketing chain influence bargaining position of red chili farmer.

Keywords: *Market Performance, Red Chili, Spot Auction Market.*

Introduction

Red Chili(*Capsicum Annuum l*) is one of important horticulture. Society requirement for Red Chili will always increase since Red Chili is required to a variety benefit. Red Chili is utilized as one of kitchen condiment component that there are many utilized by family. The requirement for Red Chili tend to stable but this conditions not always been escorted by accessibility and ability to buy. It was caused by price fluctuation are high and constitutes seasonal product.

Production center of Red Chili's at Yogyakarta Province is at Bantul's and Kulonprogo's Regency. Both of Regency it has to extend farm and production is outgrown as compared to the other regency. Base on BPS's data on 2009 therefore Red Chili's crop and production extent terminological regencies at Yogyakarta Province is as follows.

Table 1   Area of Red Chili Harvest dan Average Production of Red Chili at Yogyakarta Province According to Regency

Regency	Area of Harvest(Ha)	Productions (Kw)
Kulon Progo	845	43.572
Bantul	528	31.184
Gunung Kidul	79	2.437
Sleman	391	26.914
Yogyakarta	0	0
Total	1.843	104.107

Source: DIY Dalam Angka Tahun 2009

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Base on table 1 therefore gets to be known that sentra production of chilli at Yogyakarta Province are at Bantul's and Kulonprogo's Regency. Kulonprogo has to extend crop and production is outgrown as compared to four the other regency which is as big as each 845 Ha to its extents and 43.572 kW for its production. Outgrown both of is Regency Bantul where have crop extent as big as 528 Ha and productions as big as 31.184 kW.

Red Chili constitutes seasonal product therefore this trade goods fluctuations happening gristle price. According to Tomek and Robinson (1985), one that declares for that price fluctuation constitutes one of market phenomenon that oftentimes has to be faced by vegetable farmer.

Agricultural marketing can create value added by changing value of utilised, place, form and time. Agricultural produce marketing system is said efficient if available market information that is equal to, where does that information say accessibility good it if, market at territorial enough integrated production strong with market at territorial consumption. Prices changed thus get shortly acknowledged and eventual decision making processed by producer/farmer get to be put across and duly.

Weakness in marketing often happens by the domination of collecting trader in determine agricultural product sell price at level farmer. Market price doesn't undivided walking according to price mechanism in perfect emulation market which is offer zoom relationship and requisition. Distribution process and trading mechanism as above as will impact the agricultural product market type become oligopoly, so on this type intermediate business man constitute market price conditioner.

Auction market has aims to shortening chain distribution of producer farmer at sentra production activity gets to user consumer. Accordingly to the trade that is commercialized and fixs price forming transparent mechanism, producer/farmer get the better margin corresponds to its contribution and auction market mechanisme abolish to side intermediate that not necessarily. Producer with consumer as objective as is wended, getting fairly price with better bargaining position to the farmer, so its welfare increases.

This research is expected to get confirmation about performance of Red Chili auction market and Red Chilii's marketing efficiency at Yogyakarta's Province

Theory

Marketing Margin

Marketing margin is defined as (1) distinctive among price which paid by consumers and price that gotten by producer, or (2) gathered price of marketing service that constitutes to usufruct from requisition and service offer that.

Base concept and lowered offer is analog for one does to see dammed hell first. Main supply, point on relationship at level producer. Empirical estimate to be gone upon on farmers level data. Supply relationship at retail indigenous subject relationship with add margin in point. Thus, formed retail price on the dot whereabouts primary requirement and proportioned familial supply equation (Picture 1).
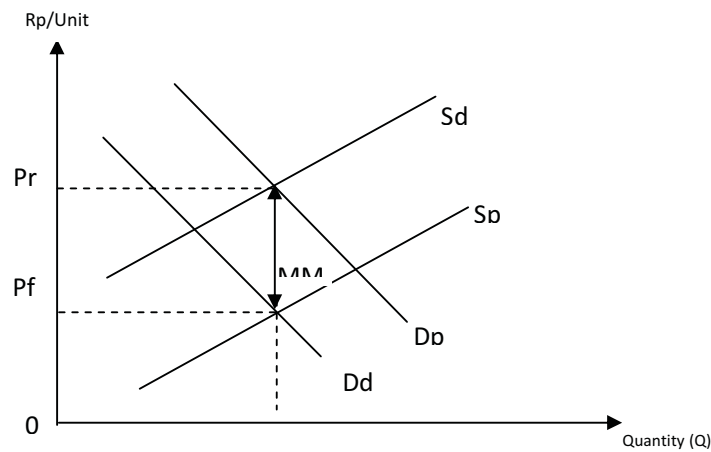
Picture 1. Marketing Margin

According to Tomek and Robinson (1977), marketing margin is:

MM=Pr Pf

Information:

MM : Marketing margin (IDR / kg)

Pr : Red Chili's price at increases consumer (IDR / kg)

Pf : Red Chili's price at increases farmer (IDR / kg)

Monopoly Index

Kuntjoro,et,al. (1996), name that marketing efficiency is reached if price information of fast consumer market gets to producer market, its marketing facility qualifies and infrastructure that is equal to.

According to Jamhari and Yonekura (2003) market structure can be studied from monopoly index or *monopoly indices* (MPI) each business man that engages in marketing network. Monopolistic index or *monopoly indices* constituting moderation of Lerner's Index. If p_b = price buys, q_b = total buy, p_s = price sells, q_s = total sell, and r = business man acceptance therefore MPI can be formulated as berikut :

$R = p_s q_s - p_b q_b.$ .... (1)

If $q_b = q_s = q$, $p_s - p_b = m$, m = d. (q), m = marketing margins

Therefore $r = p_s q - p_b q = (p_s - p_b)q = mq,$ .... (2)

If c_f = fixed cost and c_v = cost variable, marketing cost total is:

$C = C_f + C_v q.$ .... (3)

Meanwhile gain or profit is business man(p) adalah :

$p = R - c = mq - c_f - C_v q.$ .... (4)
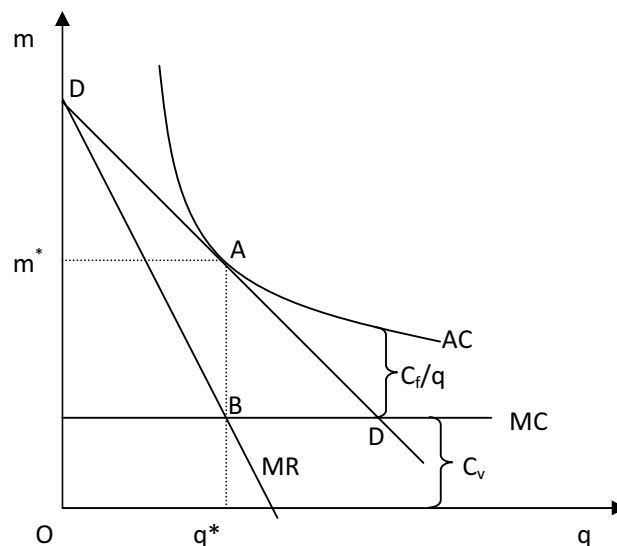
Picture 2. Monopolystic Market Model

Source: Jamhari and Yonekura (2003)

According to Jamhari and Yonekura (2003), at monopolistic's market, the trader maximalizing gain by equals marjinal's acceptance (MR) and marjinal's cost (MC)

$MR = MC$ .... (5)

$$MR = \frac{d(mq)}{dq} = m\frac{dq}{dq} + q\frac{dm}{dq} = m + q\frac{dm}{dq} = m(1 + \frac{dm/m}{dq/q}) \quad (6)$$

$$m(1 + \frac{dm/m}{dq/q}) = MC \quad (7)$$

If $\varepsilon = \dfrac{dq/q}{dm/m}$ are price elasticity therefore

$$m(1-\frac{1}{\varepsilon}) = MC$$

$$\frac{1}{\varepsilon} = 1 - \frac{MC}{m} \qquad ……….. \qquad (8)$$

$\dfrac{1}{\varepsilon}$ = Lerner's Index, $0 \le \dfrac{1}{\varepsilon} \le 1$.

$$\frac{1}{\varepsilon} \begin{cases} \text{If MC = m,} & \frac{1}{\varepsilon} = 0 \text{, perfect competition,} \\ \\ \text{If m > MC,} & 0 < \frac{1}{\varepsilon} < 1, \\ \\ \text{If m} \to \infty, & \frac{1}{\varepsilon} = 1 \text{, monopoly.} \end{cases}$$

Lerner's Index can be simplified by MPI as follows;

$$MPI = \frac{m}{MC} \qquad .... \qquad (9)$$

$$MC = \frac{dC}{dQ} = C_v ,$$

$$MPI = \frac{m}{C_v} \qquad .... \qquad (10)$$

Higher value of MPI points out to increase superordinate monopoly. Marketing level competition will be measured by monopoly index (MPI) as follows:

$$MPI = \frac{m}{C_v} \text{ .}$$

m = margins

Cv = variable cost

Marketing margin is accounted as follows:

m = Pe – Pf

where:

m = marketing margin at level farmer

Pe = price at level institutional marketing

Pf = price at level farmer

Margin on each marketing institute level can be accounted by account difference among price sells at the price buy on each marketing institute level. In simple mathematics form is formulated:

mi = Ps – Pb

where:

mi = marketing margin on each marketing institute level

Ps = price sells on each marketing institute level

Pb = price buys on each marketing institute level

Since in marketing margin exists two components which is cost component and institute gain components marketings, therefore:

m = c + π

Pe – Pf = c + π

Pf = Pe – c – π

where:

c = marketing costs

π = marketing institute gain

Methods

The method that is utilized in this research is analytic descriptive method (Nazir, 1999). This observational location is Kulonprogo's Regency and Bantul's Regency, Yogyakarta Province. Gathered data range kualitatif's data and quantitative stemmed one of primary and secondary data, primary data via methodics survai namely with interview respondent face to face with questionnaire help already been made ready (Singarimbun and Effendi, 1989).

Farmer sampling method is choose farmer's group to become sub population. In this research each region is taken one farmer's group as sub of population so does at Bantul Regency. Hereafter one part of population sub member is determined to amount to sample by *Random is Sampling* . This trick did by of each lot Red Chili's farmer population is chosen to amount to farmer to be made sample. Prescribed farmer sample is as much 30 % of total tani's agglomerate members at their territorial then prescribed at random farmer

sample that choose auction market and not choose auction market. There is distribution even farmer sample determination in observational it is as follows:

Analysis

Marketing Efficiency measurement Red Chili was utilized by formula count as follows:

1) Tomek and Robinson (1977), marketing margin is as follows:

Mp=Pr Pf

where:

Mp   : Marketing margin (IDR / kg)

Pr   : Red Chili's price at increases consumer (IDR / kg)

Pf   : Red Chili's price at increases farmer (IDR / kg)

Progressively little appreciative marketing margin points out that Red Chili's marketing at one particular efficient marketing chain.

2) *Monopoly Indices* (MPI)

Monopolistic index or *monopoly indices* (MPI) each marketing institute is formulated as berikut :

$$MPI = \frac{m}{C_v}$$

where;

   m = margins

   Cv = variable cost

MPI'S point superordinate between another marketing institute in one marketing chain points out to mark sense monopoly or dominate by one marketing institute.

Results

Auction Market For Red Chili at Yogyakarta Province
1.   Auction Market of Red Chili at Kulonprogo Regency

Red Chili's farmer group at Kulonprogo regency is blazed the way on year 1998 one was pioneered by Sukarman, Sudiro, Sutar, Kadari, and Suradal. Person fifth this then bands together tani which is Beach Paranaji and Karyo's Build with they have member as much more or less 10 person. Therefore as *pioneer* Red Chili farm both of that group agrees to develop Red Chili at sand farm with ask out farmer at silvan other for foses.

On year 2002 over agglomerate deliberations, finally they sell by auction. Sell in this way first time done by Tani's group Pranaji's Beach. Since is assessed really advantages for farmer, therefore group another Red Chili farmers at coastwise that even follows it. Until with year 2006, available 12 group spot auction market at Kulonprogo Regency is as follows.

Table 2. Auction Market Groups at Kulonprogo Regency, 2006

No.	Name of Auction Group	Location
1	Gisik Pranaji	Bugel Kecamatan Panjatan
2	Bangun Karyo I	Garongan I, Kecamatan Panjatan
3	Tani Asri I	Garongan II, Kecamatan Panjatan
4	Tani Asri II	Garongan III, Kecamatan Panjatan
5	Mardi Makmur	Karangwuni I, Kecamatan Panjatan
6	Putra Samodra	Karangwuni II, Kecamatan Panjatan
7	Tani Raharjo	Karangwuni III, Kecamatan Panjatan
8	Roso Manunggal	Glagah I, Kecamatan Temon
9	Ngudi Bogo	Glagah II, Kecamatan Temon
10	Sidodadi	Glagah III, Kecamatan Temon
11	Mina Serang Sari	Glagah IV, Kecamatan Temon
12	Silir Agung	Siliran, Kecamatan Galur

Source: Primary Data, 2011

All farmer groups institutes spot auction market so available 12 auction spot at Kulonprogo Regency on 2009 thus far, total group becomes 21 groups. 21 that group is as follows.

Table 3. Auction Market Groups at Kulonprogo Regency, 2010

| No.	Name of Auction Group	Location
1	Gisik Pranaji	Bugel Kecamatan Panjatan
2	Bangun Karyo I	Garongan, Kecamatan Panjatan
3	Jangkang Wetan	Garongan, Kecamatan Panjatan
4	Jangkang Kulon	Garongan, Kecamatan Panjatan
5	Palem Sewu	Garongan, Kecamatan Panjatan
6	Ngudi Hasil	Garongan, Kecamatan Panjatan
7	Silir Agung	Siliran, Kecamatan Galur
8	Sewu Rejo	Siliran, Kecamatan Galur
9	Tani Sari	Siliran, Kecamatan Galur
10	Wahana Tani	Gupit, Karangsewu, Kecamatan Galur
11	Tani Maju	Trisik, Banaran, Kecamatan Galur
12	Alam Raya	Karangwuni, Kecamatan Wates
13	Maju Lancar	Karangwuni, Kecamatan Wates
14	Putro Samodra I	Karangwuni, Kecamatan Wates
15	Putro Samodra II	Karangwuni, Kecamatan Wates
16	Mardi Makmur	Karangwuni, Kecamatan Wates
17	Tani Raharjo	Karangwuni, Kecamatan Wates
18	Roso Manunggal	Glagah, Kecamatan Temon
19	Mina Serang Sari	Glagah, Kecamatan Temon
20	Sumber Rejeki	Glagah, Kecamatan Temon
21	Sidodadi	Glagah, Kecamatan Temon

Source: Priamry Data, 2011

On 2009 formed ASPARTAN (Farmer's Market Association) where Kulonprogo Regency is managing chilli associate unit. Until currently was gotten 21 spot's at Kulonprogo's Regency because each groups has own spot auction market.

2. Auction Market of Red Chili at Bantul Regency

Auction market at Bantul's Regency was started on 2004. In contrast to auction market at Kulonprogo Regency that as spot's auction market, at Bantul's Regency in the beginning was designed one place a sort STA (Sub Terminal Agribusinesses). Red Chili's auction just is done at one place which is building STA that give by Government with management did by farmer's group Singularity. On its beginning (2004) just followed by partly little membered agglomerate tani Singularity which is vicinity 10 until with 20 person. Its low gives a damn farmer for participates deep market put up for action because of payment system on auction market is done on next period auction. If did not through auction therefore constant previous auction payment is done at the moment necessarily

puts up for action it is done or around 3 4 days. Until currently which is since 2009 total participant at Bantul Regency reaches 75's person.

1. Red Chili's Volume at Auction Market at Kulonprogo Regency 2004-2010
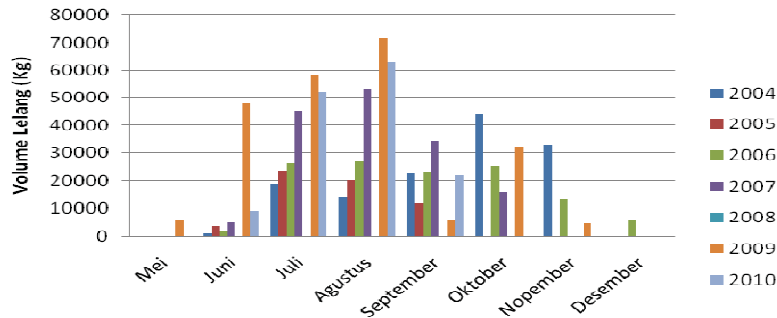
Picture 3.   Red Chili's Volume at Auction Market at Kulonprogo Regency 2004-2010

Base on picture 3 about Red Chili's volume on auction of May until with December 2010, at Kulonprogo's Regency points out that volume puts up for action to experience its top on year august 2009 which is as big as 71,582 tons and years 2008 which is as big as 63,004 tons. It because of crop raya that usually happens on that moon. In the early crop which is Red Chili's amount month of May that putting up for action to point out point 5,375 tons. So also while harvests nearly depleted which is month of November until ddengan is December, total Red Chili's volume at market just put up for action 4,593 tons. That point points out that amount amount puts up for action Red Chili really being regarded by season.

2. Red Chili's Price on Auction Market at Kulonprogo Regency, 2010
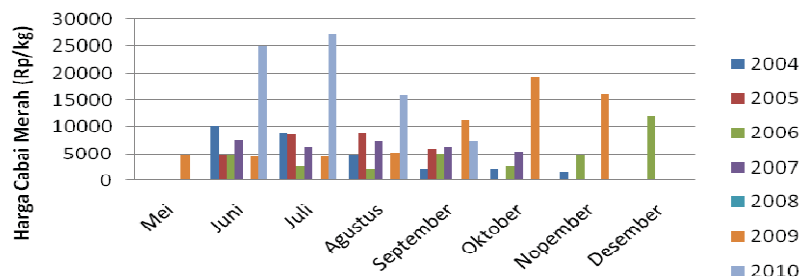
Picture 4. Red Chili's Price on Auction Market, 2004-2010

Base on image 4, about price developing on red chili auction market 2004 2010, at Kulonprogo's Regency points out that price puts up on August which is as big as IDR 27.349,20 per kg for auction market. It because of market requisition that Red Chili will on August is higher being appealed on the other moon on same year. In height that price progressively enforce requisition and offer law to agricultural trade goods that gets seasonal character.

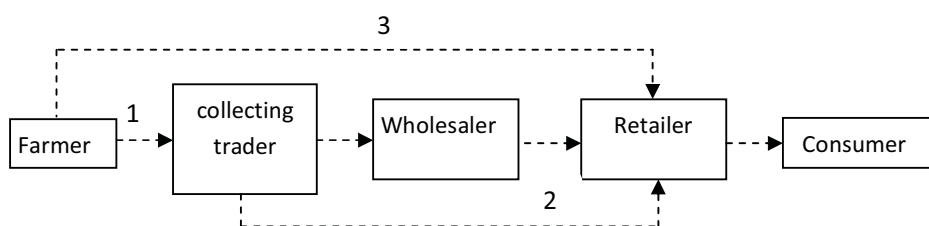### 3.   Red Chili Marketing Through Auction Market at Yogyakarta Province

Price sells red chilli which is as big as IDR 14.037,69 / kg for farmer that does choose auction market and IDR 11.138,89 / kg that doesn't choose auction markets. It points out that red chilli price at auction market higher than at collecting trader. Base result of t tests analysis show significant difference as big as 11,34 where assesses it bigger than point of t table which is 2,00 its mean price sells farmer red chilli that choose auction market and red chilli farmer that don't choose auction market signifikan different on level 1%. Average income of red chilli farmer that choose auction market is even bigger than red chilli farmer's income that don't choose auction market, which is each IDR252.226.902,80 and IDR193.530.651,09. Base on the result of difference test is gotten is as big as 3,70 where assesses it bigger than t table which is 2,00 its mean red chilli farmer's income that utilize auction market and red chilli farmer's income that don't utilize auction market are signifikan different on 1% level.

There are 2 (two) kind marketing chain of sand farm red chili, which is marketing chain through auction market and not through auction market. The marketing chain through auction market which is;
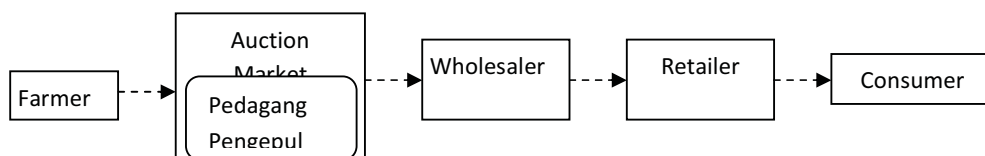
Picture 5. Marketing Channel Through Auction Market

Marketing chain not through auction market which is;

Picture 6. Channel Marketing Not Through Auction Markets

Marketing margin on marketing channel that pass through auction market is as big as IDR 13.150,00 per kilogram whereas marketing margin on 3 (three) marketing channel that doesn't pass through auction market each of IDR 14.650,00; IDR 13.600,00; and IDR 13.400,00 about kilogram. So red chilli marketing margin that pass through auction market is more efficient than red chilli marketing margin that doesn't pass through auction market because marketing margin point of its smaller.

Point of index monopolistic is showing how big dominances of marketing institute in red chili marketing chain. Index monopolize of marketing institute through auction market is 1,26 for collecting trader, 1,95 for wholesaler and 1,31 for retailer. Affiliates monopolistic index it be 1,51. Meanwhile monopoly index of marketing institute that doesn't pass through auction market is 1,87 for collecting trader, 1,78 for wholesaler and 1,31 for retailer. Affiliates monopolistic index it be 1,69. So red chili marketing through auction market is more efficient than red chili marketing not through auction market, meanwhile the point of index monopolizes auction market is smaller than not pass through auction market.

Conclusions

Base on the result to be gotten conclusion as follows:
1. Selling price and red chili farmer's income that through auction market higher than selling price and red chili farmer's income that not through auction market.
2. Red chili marketing through auction market is more efficient than red chili marketing that not pass through auction market.
3. The implementation of auction market in selling sand farm red chili can increase sell price and farmer income therefore needed share information to other farmer that not

utilized auction market yet through counseling about the useful of red chili auction market.

4. Priority to young and small farmer to give some information and counseling in order to implementing auction market.

5. Need make activity deliberation among farmer (auction market participant and also not participants) in order to mutually experience share and red chili price information to pull farmer that not implementing auction market yet.

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